# **Air Emissions Guide for Air Force Mobile Sources**

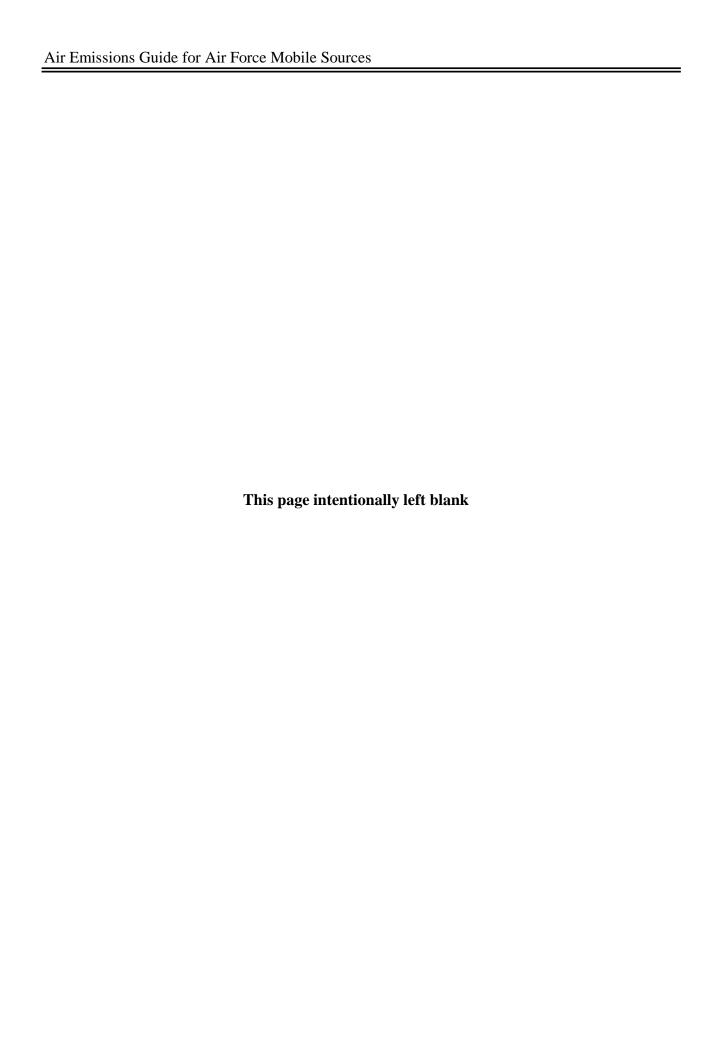
# Methods for Estimating Emissions of Air Pollutants For Mobile Sources at U.S. Air Force Installations



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## **ACRONYMS** (Words formed from the initial letters of a name or parts of a series of words.)

AAFES Army & Air Force Exchange Service
AFCEC Air Force Civil Engineer Center
AGE Aerospace Ground Equipment

ALAPCO Association of Local Air Pollution Control Officials

AMX Aircraft Maintenance Squadron
BEE Bioenvironmental Engineer
BOOS Burners Out Of Service
CAIR Clean Air Interstate Rule
CAS Chemical Abstracts Service
CONUS Continental United States
DAC Defense Ammunition Center

EPAct Energy Policy Act

EPCRA Emergency Planning and Community Right-to-Know Act

FESOP Federally Enforceable State Operating Permit

FIRE Factor Information Retrieval System

HAP Hazardous Air Pollutant HAZMAT Hazardous Materials

HEPA High Efficiency Particulate Air

HVAC Heating, Ventilating, and Air Conditioning ICAO International Civil Aviation Organization

MAJCOM Major Command

MEM Mass of Energetic Material

MIDAS Munitions Items Disposition Action System NAAQS National Ambient Air Quality Standards

NAICS North American Industry Classification System NASA National Aeronautics and Space Administration

NEPA National Environmental Policy Act

NESHAP National Emission Standards for Hazardous Air Pollutants

OCONUS Outside Continental United States

OTAQ Office of Transportation and Air Quality PEMS Predictive Emission Monitoring System

RAP Reclaimed Asphalt Pavement SAR Second Assessment Report SAW Submerged Arc Welding

SIC Standard Industrial Classification

SIP State Implementation Plan SMAW Shielded Metal Arc Welding

STAPPA State and Territorial Air Pollution Program Administrators

TAR Third Assessment Report USAF United States Air Force

VIN Vehicle Identification Number

**BREVITY CODES** (Shortened form of a frequently used group of words, phrase, or sentence consisting of entirely upper case letters. Each letter is spoken individually.)

AB Afterburner

AEI Air Emissions Inventory

AFB Air Force Base

AFI Air Force Instruction

AFRL Air Force Research Laboratory

AGSE Aerospace Ground Support Equipment

APU Auxiliary Power Unit AVGAS Aviation Gasoline

BMP Best Management Practices

BSFC Brake-Specific Fuel Consumption

CAA Clean Air Act

CAAA Clean Air Act Amendments (of 1990)
CBPO Consolidated Base Personnel Office

CE Civil Engineering

CEMS Continuous Emission Monitoring System

CEV Civil Engineering Environmental

CFC Chlorofluorocarbon

CFR Code of Federal Regulations
CFRM Continuous Flow Rate Monitor

CI Compression Ignition
CNG Compressed Natural Gas
DCA Defense Commissary Agency
DESC Defense Energy Support Center
DLA Defense Logistics Agency
DNA Defense Nuclear Agency

DNA Defense Nuclear Agency
DOD Department of Defense
DOE Department of Energy
EA Environmental Assessment

EDMS Emissions and Dispersion Modeling System

EDP Electrodeposition EF Emission Factor

EGBE Ethylene Glycol Butyl Ether

EIIP Emissions Inventory Improvement Program

EIP Emissions Inventory Plan
EIR Emissions Inventory Report
EIS Environmental Impact Statement
EOD Explosive Ordnance Disposal

EPA Environmental Protection Agency

EPAct Energy Policy Act

ERC Emission Reduction Credit ESP Electrostatic Precipitator

ESTCP Environmental Security Technology Certification Program

FAA Federal Aviation Administration

FBC Fluidized Bed Combustor FCAW Flux-Cored Arc Welding

FF Fabric Filter

FFV Flexible Fuel Vehicles
FGD Flue Gas Desulphurization
FGR Flue Gas Recirculation

FT Fischer-Tropsch GHG Greenhouse Gas

GMAW Gas Metal Arc Welding
GOV Government Owned Vehicles
GSA General Services Administration
GSE Ground Support Equipment
GVW Gross Vehicle Weight

HBFC Hydrobromofluorocarbons

HC Hydrocarbon

HCFC Hydrochlorofluorocarbons HCP Hard Chrome Plating

HEI High Explosive Incendiary HEV Hybrid Electric Vehicles

HHV High Heat Value HMA Hot Mix Asphalt

HVLP High Volume Low Pressure HVOF High Velocity Oxy-Fuel IC Internal Combustion

ICAO International Civil Aviation Organization IPCC Intergovernmental Panel on Climate Change

IRP Installation Restoration Program

LDF Liquid Drift Factors
LEL Lower Explosive Limit

LFB Low Flyby LFG Landfill Gas

LFP Low Flight Pattern

LGRVM Vehicle Management Flight Vehicle Maintenance

LNB Low NOX Burner

LPG Liquefied Petroleum Gas
LTO Landing and Takeoff
MB Material Burned
MC Medium Cure

MEK Methyl Ethyl Ketone

Mg Megagram(s) [i.e., metric ton]

mg Milligram(s)

MIDAS Munitions Items Disposition Action System

MEK Methyl Ethyl Ketone MM Minutemen Missiles

MMBtu Million British Thermal Units

Mn Manganese

MPF Military Personnel Flight
MPO Metropolitan Planning Office
MSDS Material Safety Data Sheet
MSW Municipal Solid Waste

NACAA National Association of Clean Air Agencies

NDI Non-destructive Inspection
NEI National Emission Inventory
NMHC Non-methane Hydrocarbons

NMOC Non-methane Organic Compounds
NSCR Nonselective Catalytic Reduction
NSPS New Source Performance Standards

NSR New Source Review

OB/OD Open Burning/Open Detonation

OBODM Open Burning/Open Detonation Model

OCA Off-Site Consequences Analysis
ODS Ozone Depleting Substances

OIAI Once In Always In

OLVIMS On-line Vehicle Interactive Management System

P2 Pollution Prevention

PAH Polycyclic Aromatic Hydrocarbon
PBT Persistent Bioaccumulative and Toxic
PEMS Predictive Emission Monitoring System

PM Particulate Matter – Aerodynamic diameter unspecified

 $PM_{10}$  Particulate Matter – Aerodynamic diameter < 10 micrometers  $PM_{2.5}$  Particulate Matter – Aerodynamic diameter < 2.5 micrometers

POM Polycyclic Organic Matter

POTW Publicly Owned Treatment Works

POV Privately Owned Vehicles

PTE Potential-To-Emit

RC Rapid Cure

REO Regional Environmental Offices

REEDM Rocket Exhaust Effluent Diffusion Model

RMP Risk Management Plan RVP Reid Vapor Pressure

SC Slow Cure

SCC Source Classification Code SCR Selective Catalytic Reduction

SI Spark Ignition

SOCMI Synthetic Organic Chemical Manufacturing Industry

SVE Soil Vapor Extraction

TCLP Toxicity Characteristics Leaching Procedure

TDS Total Dissolved Solids

TGO Touch-and-Go
THC Total Hydrocarbons
TIM Time In Mode
TLG Total Landfill Gas

TNMOC Total Non-methane Organic Compounds

T.O. Technical Order

TOC Total Organic Compounds
TRI Toxic Release Inventory

TSD Treatment, Storage, & Disposal
TSP Total Suspended Particulate
ULSD Ultra Low Sulfur Diesel

U.S. United States

UST Underground Storage Tanks
VKT Vehicle Kilometers Traveled
VMIF Vehicle Maintenance Index File

VMT Vehicle Miles Traveled

VOC Volatile Organic Compound

# **ABBREVIATIONS** (Shortened form of a word or phrase)

μg Microgram(s)μm Micrometer(s)A-hr Ampere-hours

Btu British Thermal Unit °C Degrees Celsius

CH<sub>4</sub> Methane

CO Carbon Monoxide

Co Cobalt
Cr Chromium

dscf Dry Standard Cubic Feet

dscfm Dry Standard Cubic Feet per Minute

EtO Ethylene Oxide °F Degrees Fahrenheit

ft. Foot (Feet) g/L Grams per Liter

gal Gallon(s)

HCl Hydrochloric Acid

hp Horse Power

hr Hour(s)
kW Kilowatt(s)
lb Pound(s)

Mg Megagram(s) [i.e., metric ton]

mg Milligram(s)

MMBtu Million British Thermal Units

Mn Manganese NH<sub>3</sub> Ammonia Ni Nickel

N<sub>2</sub>ONitrous OxideNO<sub>2</sub>Nitrogen DioxideNO<sub>X</sub>Nitrogen Oxides

Pb Lead

ppm Parts per Million

ppmv Parts per Million by Volume psi Pounds per Square Inch

°R Degrees Rankin scf Standard Cubic Foot

SO<sub>2</sub> Sulfur Dioxide SO<sub>X</sub> Sulfur Oxides tpy Tons per Year

yr Year(s)



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#### 1 INTRODUCTION

# 1.1 Background and Purpose

The Clean Air Act (CAA) established the requirements to quantify and report air pollutant emissions from mobile and stationary sources. The purpose of the CAA was to protect public health by addressing the risks posed by certain air pollutants. The EPA has established National Ambient Air Quality Standards (NAAQS) which require facility managers to know at all times if they are in compliance with air regulations. The EPA regulates most mobile sources of air pollution (e.g., automobiles at 40 CFR 85-86, airplanes at 40 CFR 87, etc.) under Title II of the CAA. Performance standards issued by the EPA limit the emissions of certain pollutants from these sources. Fuel-related requirements under Title II at 40 CFR 79-80 are designed to further reduce emissions from mobile sources.

For an installation, such as an Air Force base, the total air pollutant emissions are determined by conducting an air emissions inventory (AEI). An air emissions inventory is the sum of all air pollutant emissions from each source (both mobile and stationary) over a stated period of time, typically one year. Air quality regulations vary from region to region and the local regulatory agency should be consulted prior to conducting an AEI since some local agencies have specific data reporting requirements or protocols that the installation must obey. An AEI must be periodically updated as required by federal, state, and local regulations. Each installation must record the collected data and calculations must be performed in the Air Program Information Management System (APIMS). Installations located in a foreign territory must abide by the requirements of the host government. If there is not a regulatory periodic emission inventory requirement, then APIMS must be updated no less than every three years to accurately reflect the current emissions. Additionally, AEIs must be updated any time there is a change in mission, equipment, and/or operating procedures that result in a substantial change (approximately 5%) in air emissions.

The purpose of this document is to provide a uniform approach to calculating air pollutant emissions for the most common mobile sources found at Air Force installations. This guide is the Air Force's single authoritative resource for mobile source emission estimating algorithms and emission factors.

Any questions concerning this document, and/or requests for additional information pertaining to Air Force air emission inventories, should be directed to the Air Quality Subject Matter Expert; AFCEC Compliance Technical Support Branch (AFCEC/CZTQ); 250 Goodrich Drive; Building #1650 San Antonio, TX 78226.

#### 1.2 Mobile Sources

A mobile source is defined as any type of non-stationary equipment that may emit an air pollutant subject to regulation by the CAA. These mobile sources include aircraft and aircraft support equipment, on-road vehicles, and non-road engines. This document only addresses mobile emission sources typically found on Air Force installations. Description of stationary sources contributing to air emissions and the method for calculating these emissions may be found in the stationary source guide.

## 1.3 Air Emissions Inventories (AEIs)

AFI 32-7040, Air Quality Compliance And Resource Management, states the following: "Prepare and periodically update an AEI of all installation stationary and Air Force owned or operated mobile sources at the frequency required by federal, state and local regulations, via APIMS." If no periodic emission inventory requirements apply, it is recommended that APIMS be updated no less frequently than every three years to accurately reflect current emissions. Overseas installations shall conduct AEIs in accordance with Foreign Governing Standards or Host Nation agreements. Mandatory emissions reports will be provided to federal, state and local (including Metropolitan Planning Organization or other regional) regulatory agencies as required. GHG reporting mandated by Executive Order (E.O.) 13514, Federal Leadership in Environmental, Energy, and Economic Performance, will be accomplished at the SAF/HAF level. GHG reporting mandated by Title 40, Code of Federal Regulations, Part 98, Mandatory Reporting of Greenhouse Gases, shall be accomplished by the affected installations. Installation AEI data must be stored in APIMS and available for use as needed by Air Force Civil Engineer Center (AFCEC) and higher headquarters.

This document is concerned with "actual emissions" (i.e., from existing sources) and projected emissions (i.e., from projected federal actions). AEIs of these emissions may be required to fulfill a requirement for reporting for a certain period and frequency (e.g., reported for the previous calendar year on an annual basis). AEIs are usually accomplished to meet one or more regulatory requirement(s). The most common regulatory requirements for conducting a mobile source AEI are summarized below:

#### 1.3.1 Title II - Emission Standards for Moving Sources

The EPA regulates most mobile sources of air pollution (e.g., automobiles at 40 CFR 85-86, airplanes at 40 CFR 87, etc.) under Title II of the CAA which sets the standards for motor vehicle and aircraft emissions. Under Title II, the standards are set in order to control emissions that may endanger public health and welfare and that these standards may be amended, as needed, after being carefully considered. Title II goes on to state that for motor vehicles, it is the manufacturer's

responsibility to establish and perform tests which evaluate the emissions from the device. All testing results are to be maintained and must be made available to any agent of the enforcement authority when requested. Similarly, Title II of the CAA states that the Secretary of Transportation will work to ensure that all aircraft emissions are in compliance with the established air pollution standards.

### 1.3.2 General Conformity

The general conformity program (found in 40 CFR 93) requires all significant Federal actions in nonattainment and maintenance areas to comply with the applicable State or Federal Implementation Plan. The Federal agency responsible for the action is required to perform a determination to verify that the action(s) conform. An emissions inventory is usually required as part of the conformity determination to identify/quantify air emissions associated with the Federal action(s). An air emissions inventory conducted as part of a conformity determination usually addresses both direct and indirect emissions from all pollutant sources (i.e., stationary and mobile) associated with the Federal action(s).

#### 1.3.3 Implementation Plans

As specified under Section 110 of the Clean Air Act, all States are required to submit a plan to the EPA which provides for the protection and enhancement of air quality so as to promote public health and welfare. This plan, called a State Implementation Plan (SIP), provides for implementation, maintenance, and enforcement of the National Ambient Air Quality Standards (NAAQS). For areas in the State that are classified as nonattainment with any NAAQS, the SIP must provide strategies for obtaining attainment. For areas in the State that are already classified as being in attainment, the SIP must provide strategies for maintaining attainment status. All SIPs and SIP revisions must be reviewed and approved by the EPA. If the EPA considers a SIP to be incomplete or inadequate, they may issue their own plan called a Federal Implementation Plan (FIP).

Historically, most control strategies incorporated into implementation plans have targeted stationary sources. However, due to the constant increase in the number of air pollution sources, the issuance of new ambient air quality standards, and the fact that mobile sources emit a majority of the overall emissions, more control strategies targeting mobile sources are now being incorporated into implementation plans. Since air emission inventories are typically used to assess the effect of control strategies, an increase in the number of control strategies pertaining to mobile sources will result in an increase in requirements to conduct mobile source air emission inventories.

#### 1.3.4 National Environmental Policy Act (NEPA)

NEPA requires Federal agencies to evaluate the environmental impacts associated with major actions that they either fund, support, permit, or implement. As part of the NEPA process, an Environmental Assessment (EA) is required if it is determined that the Federal action may potentially have a significant effect on the environment (i.e., cannot be categorically excluded).

An EA is a study that provides background information and preliminary analyses of the potential impact of a proposed Federal action. If the results of the EA indicate that further study of the proposed action is necessary (i.e., a Finding of No Significant Impact is not warranted), then a more comprehensive Environmental Impact Statement (EIS) must be prepared. The EIS addresses all possible impacts (both beneficial and adverse) which may result from the proposed action as well as possible alternatives to the action. Data from air emissions inventories can be used in EAs and EISs to help identify possible environmental consequences associated with air emissions from proposed Federal actions. Typically, all possible sources of air emissions (stationary and mobile) must be evaluated.

#### 1.3.5 Other Inventory Uses

Complying with environmental regulations is not the only reason air emissions inventories are conducted. An air emissions inventory can be a useful tool in helping industrial facilities implement various environmental programs. The most common programs that may involve mobile source emission inventories are summarized below:

## 1.3.5.1 Pollution Prevention (P2) Opportunities

An air emissions inventory can be a useful tool in identifying air-related P2 opportunities on military installations. The inventory identifies the types of air pollution sources on base and their accompanying emissions. Due to the large amount of emissions produced from mobile sources, as well as emerging technologies/strategies for reducing mobile source emissions, implementing P2 opportunities for mobile sources is becoming more commonplace.

#### 1.3.5.2 Emissions Trading

Some States have adopted emissions trading programs that apply to mobile sources. These programs are usually applicable to fleet vehicles in nonattainment areas. The emissions trading programs allow entities to generate emission reduction credits by converting to low emission vehicles. The credits may be banked, purchased, sold, or traded to meet clean air mandates for specified air programs. Mobile source air emissions inventories provide important data needed for calculating mobile emission reduction credits.

#### 1.3.5.3 Risk Assessments

In certain cases it may be necessary to assess the risk(s) that air emissions from a military installation pose to specific public receptors. Data from air emissions inventories can be used in conjunction with approved dispersion models to perform these risk assessments. Due to the large amount of emissions from mobile sources (especially from installations with a high amount of aircraft traffic), as well as the fact that many Air Force installations are located near high population areas, some installations may have a need to conduct risk assessments which include mobile sources.

### 1.3.5.4 Environmental Auditing

An environmental audit is an objective review of a facility's operations and practices done in order to determine if the facility is meeting its environmental requirements. Audits can be designed to verify compliance with environmental requirements, evaluate the effectiveness of environmental management systems already in place, or assess risks from regulated and unregulated materials and practices. In addition, the audit can be used by management to plan environmental activities for the future. Data from air emissions inventories, including inventories for mobile sources, can be used in the audit process to help identify current and/or potential air pollution problems associated with a facility's operations and practices.

# 1.4 Emissions Inventory Methodologies

When conducting an AEI, the quantity of regulated pollutants emitted from all emission sources located on an Air Force installation (except those sources which are specifically exempt) must be determined. Several methods can be used to quantify air pollutants from emission sources. Data from source-specific emission tests or continuous emission monitors are usually preferred for estimating a source's emissions because that data provides the best representation of the tested source's emissions. However, source-specific emission tests or continuous emission monitoring of mobile sources at a large installation, such as an Air Force base, may be impractical. Therefore, emission factors and/or material balance calculations are frequently the best or only method available for estimating emissions, despite their limitations.

An emission factor is a representative value that attempts to relate the quantity of a pollutant released with the activity associated with the release of that pollutant. These factors are usually expressed as the weight of pollutant released per a unit weight, volume, distance, or duration of the activity emitting the pollutant (e.g., pounds of a pollutant emitted per 1000 pounds of fuel burned). In most cases, these factors are simply averages of all available data of acceptable quality, and are generally assumed to be representative of long-term averages for all processes in the source category (i.e., a population average).

The general equation for emission estimation using an emission factor is:

$$E = A \times EF \times N$$

**Equation 1-1** 

Where,

E = Emissions
 A = Activity rate
 EF = Emission factor

N = Number of engines/aircraft/equipment

For some sources, a mass balance approach may provide a better, more accurate estimate of emissions than emission tests would. In general, material balances are appropriate for use in situations where a high percentage of material is lost to the atmosphere (e.g., sulfur in fuel). As the term implies, all the materials going into and coming out of the process must be taken into account to allow an emission estimation to be credible.

#### 1.5 Pollutants

Although there are several types (groups/classes) of federal and state regulated pollutants which may be addressed in an air emissions inventory, this document focuses on criteria pollutants, hazardous air pollutants (HAPs), and volatile organic compounds (VOCs). The document also addresses greenhouse gases (GHGs) to a lesser degree.

#### 1.5.1 Criteria Pollutants

In 1971, the EPA established National Ambient Air Quality Standards (NAAQS) for six pollutants which are termed criteria pollutants. These include carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, lead, and particulate matter. These pollutants can harm your health and the environment, and cause property damage. EPA calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria (science-based guidelines) for setting permissible levels. These criteria pollutants are:

#### Particle Pollution (often referred to as particulate matter):

- Includes the very fine dust, soot, smoke, and droplets formed from chemical reactions and incomplete burning of fuels.
- The fine particles can get deep into the lungs, causing increased respiratory illnesses and tens of thousands of deaths each year.
- Particulate matter is defined as any particle with an equivalent diameter which is  $\leq 10$  microns (**PM**<sub>10</sub>) and is further subdivided to include a separate standard for particles with an equivalent aerodynamic diameter of  $\leq 2.5$  microns (**PM**<sub>2.5</sub>).

#### **Ground-Level Ozone (O3):**

- A primary component of smog that can cause human health problems and damage forests and agricultural crops.
- Repeated exposure to ozone can make people more susceptible to respiratory infections and lung inflammation.
- Though there is a NAAQS, ozone is not emitted directly into the air.
- Two types of chemicals that are the main ingredients (precursors) in forming ground-level ozone
  - Volatile organic compounds (VOCs): Sources include vehicles burning gasoline, petroleum refineries, chemical manufacturing plants, industrial plants, solvents used in paints, and an assortment of consumer and business products.
  - o **Nitrogen oxides (NOx):** Produced when vehicles and other sources like power plants and industrial boilers burn fuels such as gasoline, coal, or oil. Nitrogen Oxides produce the reddish-brown tint in smog.

#### **Carbon Monoxide (CO):**

- Produced when fossil fuel burns incompletely due to insufficient oxygen.
- Wood/coal/charcoal fires and gasoline engines always produce carbon monoxide.
- Nationally, particularly in urban areas, the majority of CO air emissions are from mobile sources.
- Can cause harmful health effects by reducing oxygen delivery to the body's organs (like the heart and brain) and tissues.

#### Sulfur oxides $(SO_X)$ :

- A group of highly reactive gases known as "oxides of sulfur".
- Emissions are produced from fossil fuel combustion at power plants (73%) and other industrial facilities (20%).
- SO<sub>2</sub> is linked to a number of adverse effects on the respiratory system.
- SO<sub>2</sub> in the ambient air is just one of several oxides of sulfur that contribute to air quality issues.

#### Nitrogen oxides (NOx):

- A subgroup of nitrogen oxides, NO<sub>2</sub> is the component of greatest interest and the indicator for the larger group of nitrogen oxides.
- NO<sub>2</sub> forms quickly from vehicle emissions, power plants, and off-road equipment.
- Also contribute to the formation of ground-level ozone, and fine particle pollution.
- Linked with a number of adverse effects on the respiratory system.
- NO<sub>2</sub> in the ambient air is just one of several oxides of nitrogen that contribute to air quality issues.

#### Lead (Pb):

- A metal found naturally in the environment as well as in manufactured products.
- Prior to 1980, the major source of Pb was vehicles; as a result EPA removed Pb from gasoline.
- Pb emissions from vehicles declined by 95% between 1980 and 1999.
- Today, the major sources of Pb are ore and metals processing (e.g. lead smelters).
- Depending on the level of exposure, Pb can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system.

#### 1.5.2 Hazardous Air Pollutants (HAPs)

According to the EPA (USEPA 2000), "Toxic air pollutants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects to humans or the environment, such as reproductive effects or birth defects, or adverse environmental effects." Unlike criteria pollutants, HAPs are primarily chemical-specific pollutants (versus classes of pollutants) and many of the HAPs are actually constituent chemicals that are a subset of a criteria pollutant. This is found primarily with the VOCs (numerous constituent chemicals considered HAPs) and  $PM_{10}$  (primarily heavy metals). Pb is both a criteria pollutant and HAP.

HAPs include the toxic compounds regulated under Section 112(b) of the CAA. The EPA has been charged with continually analyzing available data on HAPs and revising the regulated list. There are established procedures for both "listing" and "delisting" compounds. In fact, when the amendments were originally promulgated in 1990, there were 189 chemical compounds listed as HAPs. Since then, four have been removed from this list: Hydrogen Sulfide in December 1991, Caprolactam in June 1996 (61FR30816), Ethylene Glycol Monobutyl Ether (EGBE) in November 2004 (69FR69320), and Methyl Ethyl Ketone (MEK) in December 2005 (70FR75047). Changes to the HAPs list are found in 40 CFR Part 63, subpart C.

#### SEE CORRECTIONS ADDENDUM TO 2014 MOBILE GUIDE

#### 1.5.3 Greenhouse Gases (GHGs)

Global climate change is becoming one of the most important and discussed issues of the 21st century. Some GHGs, such as carbon dioxide, occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHGs (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHGs that enter the atmosphere because of human activities are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O), and fluorinated gases.

- CO<sub>2</sub> enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement). CO<sub>2</sub> is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
- CH<sub>4</sub> is emitted during the production and transport of coal, natural gas, and oil. CH<sub>4</sub> emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- N<sub>2</sub>O is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
- Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances discussed earlier (i.e., CFCs, HCFCs, and halons). These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as High Global Warming Potential gases ("High GWP gases").

The EPA is diligently attempting to have more accurate estimations and reporting of GHG emissions. The Emission Inventory Improvement Program, Technical Report Series Volume 8, "Estimating Greenhouse Gas Emissions" is undergoing revision to (1) increase consistency with the national inventory of GHG emissions and sinks, (2) incorporate state level data sources, methods and emission factors where applicable, (3) update the text and examples for clarity, and (4) to include references to a MS Excel® based tool designed to assist states in the estimation of emissions. The revisions include a number of methodological improvements and improved compatibility with international inventory guidelines and the Good Practice Guidance published by the Intergovernmental Panel on Climate Change (IPCC).

# 1.6 References

USEPA 2000, "Taking Toxics Out of the Air." United States Environmental Protection Agency, Office of Air Quality, Planning and Standards, August 2000

# 2 AIRCRAFT FLIGHT OPERATIONS (AOPS)

#### 2.1 Introduction

Emissions from based aircraft and transient aircraft operations typically account for the bulk of the mobile source emissions associated with an Air Force base. Emissions from aircraft operations include emissions from aircraft training and flight operations, engine testing, and emissions from each aircraft's associated auxiliary power units (APUs). Aircraft operations result in the release of criteria pollutants, greenhouse gases (GHGs), and HAPs to the atmosphere.

Aircraft emissions can be classified as being either stationary or mobile in nature depending upon whether the engine is physically attached to the aircraft, or removed from the aircraft and secured to a stationary device such as a test stand. Emissions from Air Force aircraft training and flight operations, as well as trim pad and on-wing engine testing, are considered mobile in nature because the engine is secured to a mobile source (the aircraft). Operations in which the engine is removed from the aircraft and secured to a non-mobile device (i.e. in engine test cells or on outdoor test pads) result in emissions which are regarded as stationary. Calculations of these emissions are described in the Stationary Guide.

Additionally, aircraft are also outfitted with small turbine engines known as auxiliary power units that provide auxiliary power to the aircraft while on the ground, and occasionally through takeoff and climb out. These APUs are air pollution emission sources and, unless physically removed from an aircraft and operated in a test cell or on an outdoor trim pad, emissions from the operation of APUs should be treated as mobile sources for inventory purposes.

## 2.1.1 Landing and Takeoff Cycle (LTO)

The Environmental Protection Agency (EPA) has established formal procedures for calculating exhaust emissions associated with aircraft operations based on a Landing and Takeoff (LTO) cycle (USEPA 1992). Under the EPA procedures, an emissions inventory for aircraft operations focuses on the emissions in the vertical column of air referred to as the "mixing zone" or "inversion layer". Exhaust emissions occurring within this area are calculated for one complete LTO cycle for each aircraft type by applying aircraft engine-specific emission factors derived from fuel flow rates, the period of time (or time-in-mode, TIM) that each engine operates at a particular power setting during an LTO, and activity based operational data such as the number of aircraft, the number of engines per aircraft, the annual number of sorties or LTOs, etc. Emissions occurring above the mixing zone are typically not considered during the emissions inventory process.

Each LTO cycle is comprised of five operating modes/power settings: approach, taxi/idle-in, taxi/idle out, takeoff, and climb out. The five operating modes and corresponding TIM are:

- **Approach:** The period of time from the moment the aircraft enters the mixing zone until the aircraft lands
- **Taxi/Idle In:** The period of time spent after landing until the aircraft is parked and the engines are turned off
- Taxi/Idle Out: The period of time from engine startup to takeoff
- **Takeoff:** Characterized by full engine thrust, the period of time it takes the aircraft to reach between 500 and 1000 feet above ground level. This transition height is fairly standard and does not vary much from location to location or among aircraft categories
- **Climb Out:** The period of time following takeoff that concludes when an aircraft exits the mixing zone and continues on to cruise altitude

Due to operational safety considerations, commercial aircraft may sometimes apply engine thrust reversal for 15-20 seconds upon landing as a means of quickly slowing down an aircraft to a safe taxi speed. Thus a sixth operating mode, reverse thrust, may need to be included when estimating emissions for an LTO cycle for commercial aircraft. Military aircraft do not typically employ reverse thrusters for deceleration, but use aerodynamic braking and wheel brakes to slow down. Some aircraft may, however, employ reverse thrusters as a means of backing up when on the ground. Reverse thrust should only be included in emission calculation procedures as a sixth operating mode if the practice is commonly applied by the aircraft in question. Engine operating conditions for reverse thrust are similar to those occurring during takeoff, thus TIM for reverse thrust should be combined with takeoff mode emission factors and fuel flow as a means of accounting for reverse thrust mode emissions.

The fuel flow rate of each engine power setting is the fuel rate used during emissions sampling and emission factor development. Average power settings of Air Force turbofan engines used on high performance jet aircraft and turboprop engines used on transport and cargo aircraft vary slightly during the takeoff mode. While Air Force jet aircraft typically use 100% of the engine's rated thrust during takeoff, some high-performance aircraft will takeoff using the full afterburner setting, which introduces fuel at a substantially higher rate. By contrast, turboprop aircraft typically employ a de-rated takeoff procedure that uses less than full power. Commercial and Military LTO cycle modes and typical Air Force aircraft engine power settings are presented in Table 2-1.

Engine Type	Commercial LTO Cycle Modes	Military LTO Cycle Modes	Typical Engine Power Setting (%)
	Taxi/Idle-out	Idle	7
	Takeoff	Military or Afterburner (AB)	100 or 110-150 <sup>(1)</sup>
Turbofan	Climb out	Intermediate	70-85 <sup>(1)</sup>
	Approach	Approach	30
	Taxi/Idle-in	Idle	7
	Taxi/Idle-out	Idle	7
	Takeoff	Military	90
Turboprop	Climb out	Intermediate	70-85 <sup>(1)</sup>
	Approach	Approach	30
	Taxi/Idle-in	Idle	7

Table 2-1. Comparison of Commercial and Military LTO Cycle Modes

SOURCE: Airport Air Quality Manual, International Civil Aviation Organization, 2011, except where noted.

Helicopter engines are typically operated at settings that, while similar, reflect operational differences between fixed-wing aircraft and rotorcraft. These settings may include ground idle, flight idle, normal, and military (and sometimes overspeed) power settings. APUs, however, operate either under a no load or a constant load (typically maximum load) power setting.

### 2.1.2 Touch and Go (TGO) and Low Fly By (LFB) Cycles

Training operations and other contingencies at Air Force installations may dictate the need to conduct aircraft operations that deviate from a standard LTO cycle. For purposes of developing a comprehensive inventory, emissions should also be calculated for these military operations and training procedures. A Touch and Go (TGO) cycle is similar to an LTO cycle, but does not include taxi time. It includes the TIM when an aircraft enters the atmospheric mixing zone, briefly lands, then immediately takes off, and climbs out through the atmospheric mixing zone.

A Low Flyby (LFB) cycle is similar to an LTO and TGO cycle, but less time is spent in the takeoff mode, and the aircraft stays in approach mode below the mixing zone height for a longer period of time. For the purpose of developing a base emission inventory, only that portion of an LFB cycle that occurs within the actual air space of the Air Force base is of concern. If, however, the emission inventory is being created as part of a "regional" inventory development effort by regulators, it may also be necessary to estimate aircraft emissions that occur outside of a base's air space but under the mixing zone height.

<sup>1.</sup> Power setting percentage from *Air Emissions Factor Guide to Air Force Mobile Sources*, 2009 which cites Emissions and Dispersion Modeling System (EDMS) as the original source.

## 2.2 Mixing Zone Height and Time in Mode (TIM)

Under the EPA procedures, an emissions inventory for aircraft operations focuses on the emissions in the vertical column of air where pollutant chemical reactions occur. This portion of the atmosphere, which begins at the earth's surface and can range from several hundred to several thousand feet in altitude, is commonly referred to as the "mixing zone" or "inversion layer". Because estimating emissions using an LTO approach accounts for exhaust emissions associated with aircraft operations occurring both on the ground and up to the mixing zone height, the choice of a mixing zone height will have a direct impact on total emissions. Mixing zone height is used to adjust the TIM during the approach and climb out modes of an LTO when calculating emissions. Thus a shallow mixing zone height will result in a shorter TIM (and fewer emissions), and a high mixing zone height will result in a longer TIM (and more emissions). While emissions occurring anywhere within this zone will impact ground-level pollutant concentrations, emissions occurring above it will generally not be mixed to the ground. Because atmospheric stability (and hence inversions) is a function of temperature, mixing zone height depends on location, hour, and season, and is affected by local topography, time of day, and time of year. Per EPA guidance, a default mixing zone height of 3000 feet should be used. However, if NO<sub>X</sub> emissions are considered an important component of the emission inventory, specific mixing height data may be gathered and applied (Procedures for Emission Inventory Preparation-Volume IV: Mobile Sources). Federal Aviation Administration (FAA) has adopted this EPA default value in its recommended procedures (FAA 2000). To maximize the accuracy of the inventory through use of specific mixing height data, contact the AFCEC Air Quality Subject Matter Expert to obtain approval and location-specific meteorological data for seasonal or annual average mixing heights. Typical TIM estimates are provided in Table 2-4 for different types of commercial and military aircraft that may be used when base-specific data is unavailable.

#### 2.3 Fuel Flow Rate

It is also important to note that emission factors are derived for specific fuel flow rates, not power settings, and that actual fuel flow rates used during aircraft operation and testing at different installations may vary from those used to derive emission factors. If available, aircraft- and base-specific TIM data and fuel flow rates (using the emission factor for the closest engine-specific fuel flow rate) should be used to enhance the accuracy of the emissions inventory. Once all necessary operating parameters are identified, total emissions from aggregated aircraft operations may be calculated.

#### **2.3.1** Jet Fuel

Military turbofan and turboprop engines and APUs consume JP-8 fuel, while their commercial counterparts consume a nearly identical fuel known as Jet-A. While the vast majority of aircraft operations involve engines that use either JP-8 or Jet-A fuel, small, piston engine-driven planes that consume aviation grade gasoline, or AVGAS, may periodically operate on an Air Force installation. In addition, recent Air Force and commercial initiatives are expected to result in the increased use of so-called synthetic aviation fuel or "synfuel" over the next several years. These "synfuels" are derived from either coal or natural gas using the Fischer-Tropsch process and burn much cleaner than fuels produced from crude oil. Regardless of fuel type, emissions of concern from aircraft operations include the criteria pollutants (VOC, CO, NO<sub>X</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, and SO<sub>2</sub>), and HAPs that are commonly associated with fuel combustion processes (including, but not limited to, benzene, 1, 3-butadiene and naphthalene).

### 2.3.2 Synthetic Aviation Fuel

On-going DoD and Air Force initiatives to reduce dependency on foreign petroleum sources are developing battlefield fuels with essentially no sulfur and reduced aromatic content using Fischer-Tropsch (FT) gasification technology on domestic energy sources such as coal and natural gas. These "synthetic" fuels will increasingly be used to offset conventional JP-8 and diesel fuels in Air Force equipment, particularly aircraft. Testing and certification of 50-50 blends of petroleum-and FT-based JP-8 in B-52s has recently been completed by the Air Force Research Laboratory (AFRL), and data indicates the 50-50 blend reduces SO<sub>2</sub>, CO<sub>2</sub>, and PM emissions considerably (USAF 2007). When collecting information on aircraft operations, if synthetic fuel blended with petroleum JP-8 was used, the following emission reduction factors should be applied when calculating emissions:

Table 2-2. Fuel Emission Reduction Factors (FERFs) for JP-8/Synthetic Fuel Blends

Pollutant	Reduction Factor (%)
PM	35
$SO_2$	50
$CO_2$	1.8

SOURCE: USAF Air Force Alternative Fuels Program, AFRL/WS/06-0078. 22nd Annual UC Symposium on Aviation Noise and Air Quality. March 2007.

#### 2.4 Emission Factors

Air emission factors for aircraft operations include emissions from the aircraft engines (either fixed wing or rotary) and any APUs used on the airframe. The emission factors have been developed through testing from a variety of sources including the engine manufacturers themselves. Criteria pollutant emission factors for each engine are provided in Table 2-8 while speciated VOC and HAP emission factors are given in Table 2-9. Similarly, for APUs, criteria pollutant emission factors are provided in Table 2-10.

#### 2.5 Emissions Calculation

Emission calculation procedures for different aircraft operations under various operational cycles and mobile testing conditions are described in the following paragraphs. Default data for calculating emissions for specific aircraft engines can be found in Table 2-8. For engine models not in Table 2-8, contact the Air Quality Subject Matter Expert for assistance in selecting a representative surrogate engine.

#### 2.5.1 Aircraft Emissions

Emissions from an aircraft engine are based on that engine's emission factors for each pollutant. These emission factors have been determined through testing and may be found in a variety of sources. It is important to note that some sources, such as the Airport Air Quality Manual and International Civil Aviation Organization (ICAO) do not provide PM<sub>10</sub> and PM<sub>2.5</sub> emission factors directly (ICAO 2011). For those sources, the total particulate matter was calculated and was conservatively assumed to be equal to PM<sub>10</sub>. A similarly conservative estimate was made for PM<sub>2.5</sub> by assuming that 90% of the total PM<sub>10</sub> is composed of PM<sub>2.5</sub>. These assumptions are noted in the appropriate tables. Additionally, there are several engines for which some emission factor data may have been missing. For these engines, either the emission factors from a surrogate were used or the missing data was interpolated. These values are clearly marked in the tables with an (S) for emission factors in which a surrogate was used or a (C) when the values were calculated. The engines used as surrogates are clearly stated in the notes for that engine.

#### 2.5.1.1 Land and Takeoff Cycle (LTO)

LTO emissions are calculated based on the type of aircraft, the engine model, the operational mode and TIM for each mode, the power setting associated with each operational mode, the fuel flow rate associated with each power setting, engine-specific emission factors, the mixing zone height, and the number of LTO cycles conducted during the course of a year. As TIM and fuel flow rate for each power setting varies among aircraft engines and airframes, the calculation procedure will need to be repeated for individual aircraft types.

To calculate LTO emissions using base- and aircraft-specific data, the following data is required: the average TIM spent in each LTO cycle mode, the average fuel flow rate associated with each mode (based on engine power setting), the fuel used (if synthetic fuel, apply fuel reduction factors), and the base's mixing zone height. Every effort should be made to use more accurate, base-specific data, however, in the absence of available data, default values such as EPA and Air Force established TIM (Table 2-4), fuel flow rates (Table 2-8), and an average mixing zone height of 3000 feet may be used.

Emissions are calculated using a three step approach that consists of: 1) calculating pollutant emissions for each applicable mode of the LTO cycle; 2) summing emissions from each mode to obtain a LTO cycle value; and 3) multiplying the LTO emissions by the number of annual LTO cycles to obtain annual emissions. The following equations are applied to each individual aircraft and pollutant for which emissions are being calculated:

### **Step 1** - Calculate pollutant emissions for individual LTO cycle modes:

$$E(Pol)_{Mode} = \frac{TIM}{60} \times \frac{FFR}{1000} \times EF(Pol) \times \frac{FERF(Pol)}{100} \times N$$

**Equation 2-1** 

Where,

 $\mathbf{E}(\mathbf{Pol})_{\mathbf{Mode}}$  = Pollutant emissions for the operational mode per cycle (lb/cycle)

TIM = Time spent in each mode per LTO cycle (min/cycle)

= Factor converting minutes into hours (min/hr)

**FFR** = Fuel flow rate during operational mode per aircraft engine (lb/hr)

**1000** = Factor for converting lb to 10<sup>3</sup> lb (lb/10<sup>3</sup> lb) **EF(Pol)** = Pollutant emission factor (lb/10<sup>3</sup> lb fuel burned)

**FERF(Pol)** = Fuel emission reduction factor (%). In cases where the vehicle does not use

alternative fuel, then a value of 100% must be used.

= Factor to convert percent to a fraction (%)

N = Number of engines per aircraft

#### **Step 2** - Calculate the pollutant emissions for a single LTO:

$$E(Pol)_{LTO} = \sum_{i=1}^{n} [E(Pol)_{Mode_i} + \dots + E(Pol)_{Mode_n}]$$

**Equation 2-2** 

Where,

 $E(Pol)_{LTO}$  = Emissions of individual pollutant per LTO (lb/cycle)

**E(Pol)**<sub>Mode i/n</sub> = Sum of pollutant emissions across operational modes, i.e. approach, idle-in/out, takeoff, and climb out (lb/cycle)

# <u>Step 3</u> – Calculate the total pollutant emissions from the annual operations of a particular aircraft:

$$E(Pol)_{LTO-Total} = E(Pol)_{LTO} \times NC_{LTO}$$

**Equation 2-3** 

Where,

E(Pol)<sub>LTO-Total</sub> = Annual emissions of pollutant from LTO cycles (lb/yr) E(Pol)<sub>LTO</sub> = Emissions of individual pollutant per LTO (lb/cycle)

NC<sub>LTO</sub> = Number of LTO cycles conducted during the year (cycles/yr)

The standard values required to calculate emissions per LTO cycle may be found in the following tables:

- TIM spent in each LTO cycle mode is found in Table 2-4
- Fuel flow rates for each LTO cycle mode and associated engine-specific emission factors are found in Table 2-8 and Table 2-9

## 2.5.1.2 Touch and Go (TGO) and Low Fly By (LFB)

TGO and LFB emissions are calculated in essentially the same manner as LTO emissions. Due to the nature of the operational and training requirements for the cycle, however, **the taxi/idle-in and taxi/idle-out modes are excluded**. Also, the TIM may vary from a typical LTO and should be adjusted accordingly whenever possible.

## 2.5.1.3 Low Flight Pattern (LFP)

LFP emissions that occur within the airspace of a base are calculated in essentially the same manner as TGO emissions. Due to the nature of the operational and training requirements for the cycle, however, typically less time is spent in the takeoff mode and more time is spent in the approach mode. Some regulatory authorities may also require emissions from LFP operations to be calculated for that period of time when aircraft are operating outside of, but adjacent to, the airspace of the base. In such instances, the average time the aircraft spends in the mixing zone in the additional non-base airspace is used to adjust TIM. When calculating emissions in this manner, one must know both the number of flights per year and the average time each flight operates in the base's airspace. The following equation is used:

$$E(Pol)_{LFP} = \frac{AT}{60} \times NF_{LFP} \times \frac{FFR}{1000} \times EF(Pol) \times N$$

**Equation 2-4** 

Where,

 $E(Pol)_{LFP}$  = Annual emissions of pollutant from LFP (lb/yr)

**AT** = Average time per LFP flight by applicable aircraft within base airspace

(min/flight)

= Factor converting minutes into hours (min/hr)

 $NF_{LFP}$  = Number of LFP flights within base airspace (flight/yr)

**FFR** = Fuel flow rate per engine (lb/hr)

**1000** = Factor for converting lb to 10<sup>3</sup> lb (lb/10<sup>3</sup> lb) **EF(Pol)** = Pollutant emission factor (lb/10<sup>3</sup> lb fuel burned)

N = Number of engines per aircraft

The fuel flow rates and engine-specific emission factors required to calculate emissions using Equation 2-4 may be found in Table 2-8 and Table 2-9.

## 2.5.2 Auxiliary Power Units

APU emissions are based on the APU model associated with each aircraft type, emission factors, and the length of time the APU was operating during an LTO cycle. The emission factors for APUs are presented in units of lb/hr, so the operating time for each APU must be known. When conducting an AEI, one must gather specific information about the APU's used on each aircraft and the time each APU was in operation for the most accurate emissions calculations possible. In the absence of available data, common aircraft/APU combinations and the typical APU operating times are found in Table 2-5, Table 2-6, and Table 2-7. The following equations and steps are used to calculate the total emissions from an APU:

#### **Step 1** - Calculate pollutant emissions for a single LTO Cycle:

$$E(Pol)_{APU} = OT \times EF(Pol) \times N$$

**Equation 2-5** 

Where.

**E(Pol)**<sub>APU</sub> = Emissions for each individual pollutant produced by the APU model installed on each aircraft type for one LTO cycle (lb/cycle)

**OT** = Operating time per LTO cycle (hr/cycle)

**EF(Pol)** = APU-specific emission factor for each pollutant (lb/hr)

N = Number of APUs on each aircraft

## **Step 2** – Calculate the pollutant emissions from annual APU operations:

$$E(Pol)_{APU-Total} = E(Pol)_{APU} \times NC_{LTO}$$

**Equation 2-6** 

Where,

**E(Pol)**<sub>APU-Total</sub> = Total annual emissions of each individual pollutant (lb/yr)

 $E(Pol)_{APII}$  = Emissions for each individual pollutant produced by the APU model

installed on each aircraft type for one LTO cycle (lb/cycle)

NCLTO = Number of LTO cycles conducted during the year (cycles/yr)

### 2.5.3 Trim Pad and On-Wing Testing

Emissions associated with trim pad and on-wing testing are calculated based on the type of aircraft, engine model, testing times, the power settings and associated fuel flow rate, and engine-specific emission factors. Emissions are calculated by multiplying the fuel flow rate at the selected power setting by the amount of time the engine is operated at that power setting, and applying pollutant-specific emission factors. After the emissions are calculated for a particular pollutant at each power setting, the values are summed to obtain the total annual emissions for that pollutant. For this method, one must know both the duration of the test at each power setting and the number of tests performed over the calculation period (i.e. over the course of one year). The following equations are used:

#### **Step 1** - Calculate annual operating times:

$$T_{test} = N_{Test} \times \sum \left(\frac{D_{Test}}{60}\right)$$

**Equation 2-7** 

Where,

 $T_{Test}$  = Total annual time engine testing occurred at specific power setting (hr/yr)

N<sub>Test</sub> = Number of tests performed annually (tests/yr) D<sub>Test</sub> = Duration of tests at each power setting (min/test)

**60** = Factor for converting minutes to hours (min/hr)

### **Step 2** – Calculate pollutant emissions:

$$E(Pol)_{Setting} = \frac{(FFR \times T_{Test})}{1000} \times EF(Pol)$$

**Equation 2-8** 

Where,

**E(Pol)**<sub>Setting</sub> = Emissions of each pollutant at a specific power setting (lb/yr)

**FFR** = Fuel flow rate per engine (lb/hr)

 $T_{\text{test}}$  = Total annual time engine testing occurred at specified power setting (hr/yr)

1000 = Factor for converting lb to  $10^3$  lb (lb/ $10^3$  lb)

**EF(Pol)** = Emission factor (lb/ $10^3$  lb fuel burned)

The fuel flow rate and engine-specific emission factors required to calculate emissions using Equation 2-8 may be found in Table 2-8 and Table 2-9.

### 2.5.4 Calculating SO<sub>2</sub> Emissions

SO<sub>2</sub> emissions are created when sulfur in the fuel reacts and combines with oxygen during the combustion process. Fuels with higher sulfur contents will produce higher amounts of SO<sub>2</sub> than low-sulfur fuels. It is generally assumed that during combustion, all sulfur in the fuel reacts to form SO<sub>2</sub> or sulfates. The sulfur content in commercial jet fuel is limited to 0.3 weight percent (wt. %); however, the sulfur content for most in-use fuel is significantly less than this limit. The national average sulfur content for JP-8 is 0.053 wt. %, based on values obtained from Defense Logistics Agency, Defense Energy Support Center, *Petroleum Quality Information System Fuels Data* (1998-2009). Based on this national weighted-average, a national emission factor was derived at 1.06 lb SO<sub>x</sub> per 1,000 lb fuel burned (1.06lb/10<sup>3</sup> lb), which is used as the default value for all aircraft engines within the continental United States.

For OCONUS AEIs and NEPA/General Conformity assessments, it may be more appropriate to derive a SO<sub>2</sub> emission factor specific for the JP-8 at the installation's geographic location. Since the sulfur content varies from supplier to supplier and the geographic location where the fuel is produced, it is possible for one to calculate a more accurate sulfur emission factor in cases when greater accuracy is needed. In these instances, the national or regional average sulfur content value for the most appropriate geographic area listed in Table 2-3 may be used. For enhanced accuracy, the sulfur content of the fuel may also be obtained directly from the fuel supplier. With the sulfur content provided, and the assumption that all sulfur in the fuel is converted to SO<sub>2</sub> during the combustion process, the SO<sub>X</sub> emission factor may be calculated using the following equation:

$$EF(SO_X) = S \times 20$$

**Equation 2-9** 

Where,

 $EF(SO_X) = SO_X$  emission factor (lb  $SO_2/10^3$  lb fuel burned)

S = Weight percent sulfur content of the fuel

20 = Conversion factor derived by converting the weight percent of sulfur to a weight fraction, converting this into units of lb/1000lb, and then multiplying by the ratio of the molecular weight of SO<sub>2</sub> to the molecular weight of sulfur.

Table 2-3. Average Sulfur Content of JP-8

Geographic Region	States or Countries	Weighted- Average Sulfur Content (Weight %)	Emission Factor (lb/10 <sup>3</sup> lb fuel)
National Average	5 4 2 1	0.053	1.06
1. East Coast U.S.	ME, VT, NH, MA, RI, CT, NY, PA, NJ, DE, MD, VA, WV, NC, SC, GA, FL	0.051	1.02
2. East Central U.S.	ND, SD, MN, IA, NE, WI, MI, OH, KY, TN, IN, IL, MO, KS, OK	0.080	1.60
3. Gulf Coast U.S.	AL, MS, AR, LA, TX, NM, AZ	0.048	0.96
4. West Central U.S.	MT, ID, WY, UT, CO	0.025	0.50
5. West Coast U.S.	WA, OR, CA, NV	0.055	1.10
Middle East	Kuwait, Bahrain, Pakistan, United Arab Emirates	0.090	1.80
European	Europe, Israel, Turkey	0.089	1.78
Pacific	Korea, Japan, HI, AK, Australia, Russia, Singapore	0.078	1.56
Caribbean	Coastal Aruba	0.045	0.90

Source: "Petroleum Quality Information System Fuels Data." Defense Logistics Agency, Defense Energy Support Center, April 2006

#### 2.5.5 Calculating HAP Emissions

There is not an abundance of information available for aircraft engine-specific or APU-specific HAP emissions. This document provides HAP emission factors for several engines and APUs in Table 2-9. In instances where determination of a particular HAP is required for an engine or APU not listed in the table, then it is recommended that a thorough review of current data be made to determine if any new documentation regarding HAPs emissions exists. In the absence of such data, then an appropriate engine or APU should be selected as a surrogate. The method for calculation is the same as outlined above using Equation 2-1 and Equation 2-8.

## 2.5.6 Lead (Pb) Emissions

Prolonged exposure to high levels of lead may result in harmful health effects, especially in young children. Though lead is a criteria pollutant, this document does not provide any lead emission factors for aircraft and APUs since the transition to unleaded aviation fuel.

### 2.5.7 Greenhouse Gas (GHG) Emissions

Since greenhouse gas (GHG) emissions are becoming increasingly more important, it is becoming more common to record the CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O produced when measuring emissions from mobile and stationary sources. It is also common practice to report GHG emissions in terms of equivalent CO<sub>2</sub> (CO<sub>2</sub>e). Each greenhouse gas has a global warming potential (GWP) which is a measure of the heat that gas traps in the atmosphere over a determined time period. A carbon dioxide equivalent is the quantity of CO<sub>2</sub> needed to equal the same GWP as the greenhouse gas in question. For CH<sub>4</sub> and N<sub>2</sub>O, the GWP used to calculate CO<sub>2</sub>e are 25 and 298 respectively for a 100 year time period. This document provides a total GHG composite emission factor consisting of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O presented in CO<sub>2</sub>e for aircraft engines in Table 2-8 and Table 2-10 for APUs. The total greenhouse gas emissions may then be calculated using Equation 2-1, Equation 2-5, or Equation 2-8.

## 2.5.8 VOC Speciation (Addendum)

Though VOC emissions have been speciated for some engines, there is very little data available for most aircraft engines likely found at air force installations. Whenever the quantity of speciated compounds is required to be calculated, the average percentage of each species within the total VOC may be used as a gross estimate of the emissions of that compound. This section should only be used if an aircraft engine used on an Air Force base does not have any EF data or surrogate EF data listed in Table 2-9. The percentages for VOC emissions are based on the following categories: Turbofan, large aircraft Turboprop, small aircraft Turboprop, and Turbojet.

The following equations were used to calculate the weighted percentage of each pollutant based on the total or the average volatile organic compounds (VOCs) from those engines which had speciation data. To compute the average VOC percentage, first the average of all reported emission factors for each pollutant was calculated (Equation 2-10) for each engine at each mode. Second, a total of the average VOCs was calculated using the average from each pollutant (Equation 2-11). Finally, the average for each pollutant was divided by the average VOC total to derive each pollutants percentage of total VOCs (Equation 2-12).

$$EF(Pol)_{Avg.} = \frac{1}{n} \times \sum_{i=1}^{n} [EF(Pol)_i + \dots + EF(Pol)_n]$$

**Equation 2-10** 

Where,

**EF(Pol)**<sub>Avg.</sub> = Average emission factors for a pollutant at a specified mode/power setting ( $lb/10^3$  lb fuel burned)

 $\mathbf{EF(Pol)_{i/n}}$  = Reported emission factor for the  $i/n^{th}$  engine at a specified

mode/power setting (lb/10<sup>3</sup> lb fuel burned)

**n** = Number of emission factors calculated at that mode

$$EF(VOC)_{Total} = \sum_{i=1}^{n} [EF(Pol_i)_{Avg.} + ... + EF(Pol_n)_{Avg.}]$$

**Equation 2-11** 

Where,

 $EF(VOC)_{Total}$  = Sum of the average emission factors for all pollutants classified as VOCs. (lb/10<sup>3</sup> lb fuel burned)

 $\mathbf{EF(Pol_{i/n})_{Avg.}}$  = Average of emission factor for pollutant i/n classified as VOC as calculated in Equation 2-10.

$$P(Pol) = \frac{EF(Pol)_{Avg.}}{EF(VOC)_{Total}}$$

**Equation 2-12** 

Where,

**P(Pol)** = Weighted percentage of a given pollutant (%)

Finally, speciated VOCs are calculated by taking the product of the total VOCs and the weighted percentage of the individual VOC as follows:

$$E(Pol) = E(VOC) \times \frac{P(Pol)}{100}$$

**Equation 2-13** 

Where,

 $\mathbf{E}(\mathbf{Pol}) = \mathbf{Emissions}$  of speciated VOC (lb/yr)

**100** = Factor for converting percent to a fraction (%)

**Evoc** -= Emissions of total VOC (lb/yr)

The percentages of each VOC to total VOC based on engine type (Turbofan, large aircraft Turboprop, small aircraft Turboprop, and Turbojet) are provided in Table 2-11, Table 2-12, Table 2-13, and Table 2-14.

# 2.5.9 International Civil Aviation Organization (ICAO) Emission Factors (Addendum)

The International Civil Aviation Organization (ICAO) is a United Nations Specialized Agency that was created in 1944, with the goal of encouraging the safe and orderly development of international civil aviation. The organization develops and maintains safety standards, practices, and procedures for a safe and efficient air transport network that supports global, social, and economic priorities. As the need to develop aviation security policies and measures arose in the late 1960s, ICAO developed enhanced, uniform security measures, policies, and guidelines to address any acts of unlawful interference within the aviation system. All security initiatives placed by ICAO rely on the cooperation and commitment among all of the member states.

To make advances in environmental stewardship, ICAO has developed additional standards, policies and guidance material to specifically address aircraft noise and engine emissions. Most of ICAO's work within the environmental field is undertaken by the ICAO Committee on Aviation Environmental Protection (CAEP), including the collection of aircraft exhaust data from engine manufacturers for engines that have entered production. Many of these engines are used on military aircraft found at Air Force bases, and are often given a military designation to differentiate them from their civilian engine counterparts. Frequently, military-sponsored emissions tests have not been conducted on these engines and emission factors have not been developed for them. The data collected by CAEP may then be utilized to assist in the calculation of aircraft engine emissions. This document includes emission factors that have been developed from various studies as well as those provided by ICAO. This section of this document serves to briefly describe how the ICAO emission factors were calculated so they may be used to calculate emissions from aircraft flight operations.

The aircraft exhaust data gathered by CAEP has been standardized per engine based on percent engine thrust. These values are used with the emission data sheets provided by ICAO to calculate aircraft engine emissions. ICAO emissions data sheets provide NO<sub>x</sub> and CO emission indices but do not provide VOC or PM emission indices directly. Rather, ICAO provides hydrocarbon emission indices which are multiplied by a scaling factor of 1.15 to estimate VOCs. This scaling factor is provided by a combined Federal Aviation Administration (FAA) and US Environmental Protection Agency (EPA) report titled *Recommended Best Practice for Quantifying Speciated Organic Gas Emissions from Aircraft Equipped with Turbofan, Turbojet, and Turboprop Engines*.

ICAO does not directly provide Particulate Matter (PM) emissions, but the organization is currently developing PM standards which will drive manufacturers to test their engines and develop PM emission indices. Until ICAO has adopted and implemented a PM standard, ICAO has provided a method for calculating the emission index of PM in the interim. ICAO describes three types of PM, and outlines a method to calculate each. The first type of PM consists mainly of black carbon and is designated as non-volatile (EI(PM)<sub>nvol</sub>). The second type of PM is designated volatile sulfate (EI(PM)<sub>vol-FSC</sub>) and is dependent on the sulfur content of the fuel burned in the engine. The last type of PM is designated organic volatiles (EI(PM)<sub>vol-FuelOrganics</sub>) and results from the incomplete combustion of fuel. The sum of these three values is assumed to equal PM<sub>10</sub>, and PM<sub>2.5</sub> is then assumed to equal 90% of the PM<sub>10</sub> total.

When calculating the non-volatile portion of the PM emissions indices, the first step is to verify that a smoke number (SN) has been provided for each mode. If not, the *ICAO Airport Air Quality Manual* may be consulted to estimate those SNs that are missing. Next, calculate the carbon index (CI), which is "a measure of the black carbon mass per standard volume of flow" (ICAO 2011). Depending on the value of the SN, two different equations are used to calculate CI. For those smoke numbers  $\leq$ 30, Equation 2-14 should be used, while Equation 2-15 should be used for those smoke numbers  $\geq$ 30.

$$CI = 0.6949(SN)^{1.234}$$

**Equation 2-14** 

$$CI = 0.0297(SN)^2 - 1.803(SN) + 31.94$$

**Equation 2-15** 

Where,

CI = Carbon Index (mg/m<sup>3</sup>)

**SN** = Smoke Number

The volumetric flow rate may then be calculated according to the engine type reported on the ICAO data sheet, or in the database. For engines listed as TF,  $Q_{Core}$  is calculated using Equation 2-16. For those listed as MTF,  $Q_{Mixed}$  may be calculated using Equation 2-17. The Air-Fuel Ratio

(AFR) used in calculations is usually proprietary information, but ICAO has developed average AFR values that may be used, which are provided in the *ICAO Airport Air Quality Manual*.

$$Q_{core} = 0.776(AFR) + 0.877$$

**Equation 2-16** 

$$Q_{Mixed} = 0.7769(AFR)(1 + BPR) + 0.877$$

**Equation 2-17** 

Where,

Q<sub>Core</sub> = Volumetric flow rate for TF engine (m<sup>3</sup>/kg) Q<sub>Mixed</sub> = Volumetric flow rate for MTF engine (m<sup>3</sup>/kg)

**AFR** = Air-fuel ratio as given in ICAO

**BPR** = Bypass Ratio as provided on ICAO datasheet or in ICAO database

Finally, the emission index for non-volatile PM (EI(PM)<sub>nvol</sub>) is calculated by multiplying the CI found in either Equation 2-14 or Equation 2-15 by the volumetric flow rate calculated from either Equation 2-16 or Equation 2-17, as shown in Equation 2-18.

$$EI(PM)_{nvol} = CI \times Q$$

**Equation 2-18** 

Where,

**EI(PM)**<sub>nvol</sub> = Emission Index for non-volatile PM (mg/kg)

**CI** = Carbon Index calculated from either Equation 2-14 or Equation 2-15

 ${f Q}$  = Volumetric flow rate; either  ${f Q}_{Core}$  from Equation 2-16 or  ${f Q}_{Mixed}$  from Equation 2-17

The volatile PM sulfate portion of the PM emission index (EI(PM)<sub>vol-FSC</sub>) is a function of the fuel sulfur content and the fuel sulfur conversion efficiency. If the sulfur content is unknown, a national average value of 0.053 wt.% may be used in the calculations. Similarly, if the fuel sulfur conversion efficiency is unknown, ICAO recommends that a median value of 2.4 wt.% be used. Equation 2-19 may then be employed to determine EI(PM)<sub>vol-FSC</sub>.

$$EI(PM)_{vol-FSC} = (10)^6 \times \left[ \frac{(^{FSC}/_{100}) \times (^{\varepsilon}/_{100}) \times 96}{32} \right]$$

**Equation 2-19** 

Where,

EI(PM)<sub>vol-FSC</sub> = Emission index for volatile sulfate PM (mg/kg) FSC = Fuel sulfur content. Use 0.053 if unknown (%)

 $(10)^6$  = Factor for converting units to mg/kg

= Factor converting percent to a fraction (%)

ε = Fuel sulfur conversion efficiency. Use 2.4 if unknown (%)

96 = Molecular weight of sulfate (g/mol)
 32 = Molecular weight of sulfur (g/mol)

Finally, the organic volatiles (EI(PM)<sub>vol-FuelOrganics</sub>) portion of the PM emission indices is calculated using the hydrocarbon (HC) emission indices provided by ICAO. These HC emission indices are multiplied by the ratio of EI(PM)<sub>vol-FuelOrganics</sub> to the HC EI of a reference engine. ICAO uses the CFM56-2-C1 as the reference engine for this ratio. The calculation of EI(PM)<sub>vol-FuelOrganics</sub> is shown in Equation 2-20.

$$EI(PM)_{vol-FuelOrganics} = \delta \times EI_{HC}$$

**Equation 2-20** 

Where,

**EI(PM)**<sub>vol-FuelOrganics</sub> = Emission index for PM from fuel organics (mg/kg)

δ = Ratio of EI<sub>PMvol-FuelOrganics</sub> to EI<sub>HC</sub> for the CFM56-2-C1 engine

**EI**<sub>HC</sub> = Hydrocarbon emission index of the engine

After EI(PM)<sub>nvol</sub>, EI(PM)<sub>vol-FSC</sub>, and EI(PM)<sub>vol-FuelOrganics</sub> are calculated, the emission index for PM<sub>10</sub> may then be estimated by summing these values and converting into the correct units, as shown in Equation 2-21:

$$EI(PM_{10}) = \frac{[EI(PM)_{nvol} + EI(PM)_{vol-FSC} + EI(PM)_{vol-FuelOrganics}]}{1000}$$

**Equation 2-21** 

Where,

 $EI(PM_{10})$  = Emission index for  $PM_{10}$  (g/kg)

EI(PM)<sub>nvol</sub> = Emission index for non-volatile PM (mg/kg) EI(PM)<sub>vol-FuelOrganics</sub> = Emission index for volatile sulfate PM (mg/kg) EI(PM)<sub>vol-FuelOrganics</sub> = Emission index for volatile fuel organic PM (mg/kg)

1000 = Factor to convert units from mg to g (g/mg)

 $PM_{2.5}$  may then been determined from  $PM_{10}$  by assuming  $PM_{2.5}$  is equal to 90% of the  $PM_{10}$  value, as shown in Equation 2-22.

$$EI(PM_{2.5}) = EI(PM_{10}) \times 0.90$$

**Equation 2-22** 

Where,

 $EI(PM_{2.5}) = Emission index for PM_{2.5} (g/kg)$   $EI(PM_{10}) = Emission index for PM_{10} (g/kg)$  $0.90 = Fraction of total PM_{2.5} to PM_{10}$ 

Emission factors have been calculated using ICAO data for engines that are most likely to be found at Air Force installations. These have been added to emission factors that have already been developed from government-subsidized studies. For any engine whose emission factor is not listed, if ICAO emissions data is available, the emission factors may be calculated as described in this section as needed.

#### 2.6 Information Resources

The Flightline Operations Group and aircraft pilots should be contacted to obtain the information required to calculate emissions from aircraft flying operations (i.e., the number of LTOs, TGOs, LFBs, TIM, etc.). The Aircraft Maintenance organization should be contacted to obtain the information needed to calculate emissions from on-wing engine testing operations, including the types of engines tested, the number of tests conducted during the year on each engine type, the average time spent at each power setting during a typical test, and the associated fuel flow rate at each power setting. Finally, the base's Weather Detachment should be contacted to obtain the average mixing zone height for the base.

# 2.7 Example Calculations

The following section provides example calculations for aircraft operations.

### 2.7.1 Problem 1 - Landing and Takeoff Cycle Emissions

Anytown AFB needs to calculate the annual CO and benzene emissions from LTO operations associated with their F-15D aircraft. The following information was obtained from the base:

Aircraft Model: F-15D

Engine Model: F100-PW-220

Number of Engines 2

Number of Annual LTOs 2500

Anytown AFB gathered the Time-in-Mode data for this aircraft so estimates from Table 2-4 are not needed. This data and the mode specific fuel flow rates and emission factors from Table 2-8 for the F-100-PW-220 engine are presented below:

	Average	Typical	Average Fuel	CO Emission
LTO Mode	TIM	Power	Flow Rate	Factor
	(min.)	Setting	(lb/hr)	$(lb/1000lb_{fuel})$
Taxi/Idle-out	30	Idle	1084	35.30
Takeoff	1.0	Military	9679	0.86
Climb out	0.5	Intermediate	5770	0.86
Approach	3.0	Approach	3837	1.92
Taxi/Idle-in	10	Idle	1084	35.30

**Step 1 – Calculate CO pollutant emissions for each mode in the LTO cycle.** Using Equation 2-1 this is accomplished as follows:

$$E(Pol)_{mode} = \frac{TIM}{60} \times \frac{FFR}{1000} \times EF(Pol) \times N$$

$$E(CO)_{Approach} = \frac{3.0 \left(\frac{min}{cycle}\right)}{60 \left(\frac{min}{hr}\right)} \times \frac{3837 \left(\frac{lb \text{ fuel}}{hr}\right)}{1000 \left(\frac{lb \text{ fuel}}{10^3 \text{ lb fuel}}\right)} \times 1.92 \left(\frac{lb}{10^3 \text{ lb fuel}}\right) \times 2 = 0.74 \frac{lb}{cycle}$$

$$E(CO)_{Idle-In} = \frac{10\left(\frac{min}{cycle}\right)}{60\left(\frac{min}{hr}\right)} \times \frac{1084\left(\frac{lb \text{ fuel}}{hr}\right)}{1000\left(\frac{lb \text{ fuel}}{10^3 lb \text{ fuel}}\right)} \times 35.30\left(\frac{lb}{10^3 lb \text{ fuel}}\right) \times 2 = 12.76 \frac{lb}{cycle}$$

$$E(CO)_{Idle-Out} = \frac{\frac{30\left(\frac{min}{cycle}\right)}{60\left(\frac{min}{hr}\right)} \times \frac{1084\left(\frac{lb \text{ fuel}}{hr}\right)}{1000\left(\frac{lb \text{ fuel}}{10^2 \text{ lb fuel}}\right)} \times 35.30\left(\frac{lb}{10^3 \text{ lb fuel}}\right) \times 2 = 38.27 \frac{lb}{cycle}$$

$$E(CO)_{Takeoff} = \frac{1.0 \left(\frac{min}{cycle}\right)}{60 \left(\frac{min}{hr}\right)} \times \frac{9679 \left(\frac{lb \text{ fuel}}{hr}\right)}{1000 \left(\frac{lb \text{ fuel}}{10^3 \text{ lb fuel}}\right)} \times 0.86 \left(\frac{lb}{10^3 \text{ lb fuel}}\right) \times 2 = 0.28 \frac{lb}{cycle}$$

$$E(CO)_{Climb \ out} = \frac{0.5 \left(\frac{min}{cycle}\right)}{60 \left(\frac{min}{hx}\right)} \times \frac{5770 \left(\frac{lb \ fuel}{hx}\right)}{1000 \left(\frac{lb \ fuel}{10^3 \ lb \ fuel}\right)} \times 0.86 \left(\frac{lb}{10^3 \ lb \ fuel}\right) \times 2 = 0.08 \frac{lb}{cycle}$$

<u>Step 2</u>– Calculate the total CO emissions for a single F-15D LTO. Using Equation 2-2, the total CO emissions is calculated as follows:

$$E(Pol)_{LTO} = \sum_{i=1}^{n} [E(Pol)_{Mode_i} + \dots + E(Pol)_{Mode_n}]$$

$$E(CO)_{LTO} = (0.74 + 12.76 + 38.27 + 0.28 + 0.08) \frac{lb}{cycle} = 52.13 \frac{lb}{cycle}$$

<u>Step 3</u> – Determine the total CO emissions from annual F-15D operations. The total CO emissions is the product of the total emissions per LTO and the total LTO's per year as demonstrated in Equation 2-3:

$$E(Pol)_{Total} = E(Pol)_{LTO} \times NC_{LTO}$$

$$E(CO)_{Total} = 52.13 \left(\frac{lb}{eyele}\right) \times 2500 \left(\frac{eyeles}{yr}\right)$$

$$E(CO)_{Total} = 130,325 \frac{lb}{yr}$$

Since not all aircraft engines have had HAP emission factors, it may be necessary to choose a surrogate engine with similar fuel flow rates. Table 2-9 does not provide the HAP speciation profile for the F100-PW-220 engine. For this example, the F100-PW-200 engine is selected as the surrogate since it: 1) is an engine made by the same manufacturer, 2) is in the same family as the F100-PW-220, 3) has similar fuel flow rates, and 4) is used on the same aircraft.

<u>Step 4</u> – Record the benzene emission factors for each LTO cycle mode. For idle, approach, intermediate, and military power settings, the emission factors are **0.047**, **0.000387**, **0.000189**, and **0.000490 lb/1000 lb fuel** respectively.

<u>Step 5</u> – Calculate benzene emissions for individual F-15D LTO cycle modes. This is accomplished using the emission factors recorded in step 4 and Equation 2-1:

$$E(Pol)_{mode} = \frac{TIM}{60} \times \frac{FFR}{1000} \times EF(Pol) \times N$$

$$E(Benzene)_{Approach} = \frac{\frac{3.0\left(\frac{min}{cycle}\right)}{60\left(\frac{min}{hr}\right)} \times \frac{\frac{3251\left(\frac{lb \text{ fuel}}{hr}\right)}{1000\left(\frac{lb \text{ fuel}}{10^3 lb \text{ fuel}}\right)}}{1000\left(\frac{lb \text{ fuel}}{10^3 lb \text{ fuel}}\right)} \times 0.000387\left(\frac{lb}{10^3 lb \text{ fuel}}\right) \times 2 = 0.00013 \frac{lb}{cycle}$$

$$E(Benzene)_{Idle-In} = \frac{10\left(\frac{min}{cycle}\right)}{60\left(\frac{min}{hr}\right)} \times \frac{1006\left(\frac{lb fuel}{hr}\right)}{1000\left(\frac{lb fuel}{10^3 lb fuel}\right)} \times 0.047\left(\frac{lb}{10^3 lb fuel}\right) \times 2 = 0.016\frac{lb}{cycle}$$

$$E(Benzene)_{Idle-Out} = \frac{30\left(\frac{min}{cycle}\right)}{60\left(\frac{min}{hr}\right)} \times \frac{1006\left(\frac{lb \text{ fuel}}{hr}\right)}{1000\left(\frac{lb \text{ fuel}}{10^3 \text{ lb fuel}}\right)} \times 0.047\left(\frac{lb}{10^3 \text{ lb fuel}}\right) \times 2 = 0.047\left(\frac{lb}{cycle}\right)$$

$$E(Benzene)_{Military} = \frac{1\left(\frac{min}{cycle}\right)}{60\left(\frac{min}{hr}\right)} \times \frac{8888\left(\frac{lb \, fuel}{hr}\right)}{1000\left(\frac{lb \, fuel}{10^2 \, lb \, fuel}\right)} \times 0.000490\left(\frac{lb}{10^3 \, lb \, fuel}\right) \times 2 = 0.00015 \frac{lb}{cycle}$$

$$E(Benzene)_{Intermediate} = \frac{0.5 \left(\frac{min}{cycle}\right)}{60 \left(\frac{min}{hr}\right)} \times \frac{5651 \left(\frac{lb \text{ fuel}}{hr}\right)}{1000 \left(\frac{lb \text{ fuel}}{10^3 \text{ lb fuel}}\right)} \times 0.000189 \left(\frac{lb}{10^3 \text{ lb fuel}}\right) \times 2 = 0.000018 \times 10^{-3} \times$$

<u>Step 5</u> – Calculate the total benzene pollutant emissions for a single F-15D LTO. This is accomplished using Equation 2-2:

$$E(Pol)_{LTO} = \sum_{i=1}^{n} [E(Pol)_{Mode_i} + \dots + E(Pol)_{Mode_n}]$$

$$E_{LTO} = (0.00013 + 0.016 + 0.047 + 0.00015 + 0.000018) \frac{lb}{cycle} = 0.063 \frac{lb}{cycle}$$

<u>Step 6</u> – Calculate total benzene pollutant emissions from annual F-15D operations. The total benzene emitted is calculated using Equation 2-3 and the benzene emitted per LTO as calculated in step 5 above:

$$E(Pol)_{Total} = E(Pol)_{LTO} \times NC_{LTO}$$

$$E(Benzene)_{Total} = 0.063 \left(\frac{lb}{cycle}\right) \times 2500 \left(\frac{cycle}{yr}\right)$$

$$E(Benzene)_{Total} = 157.5 \frac{lb}{yr}$$

#### 2.7.2 Problem 2 - Auxiliary Power Unit Emissions

Anytown AFB also needs to calculate the annual  $NO_X$  and styrene emissions associated with the operation of the APUs on their aircraft. The following information was obtained:

APU Model	GTCP165-1
# APU per aircraft	1
Power Setting	Constant
Operating Time per LTO	15 minutes
Number of Aircraft	130

<u>Step 1</u> – Convert the operating time into the correct units. The operating time is provided in minutes, so first convert this to units of hours as follows:

$$OT = 15 \left( \frac{min}{cycle} \right) \times \frac{1}{60} \left( \frac{hr}{min} \right) = 0.25 \frac{hr}{cycle}$$

<u>Step 2</u> – Record the NO<sub>X</sub> emission factor for the GTCP165-1. Table 2-10 lists the  $NO_X$  emission factor as 1.22lb/hr.

<u>Step 3</u> - Calculate  $NO_X$  pollutant emissions for a single LTO cycle. Use Equation 2-5 and the emission factor recorded in Step 2 as follows:

$$E(Pol)_{APU} = OT \times EF(Pol) \times N$$

$$E(NO_X)_{APU} = 0.25 \left(\frac{hr}{cycle}\right) \times 1.22 \left(\frac{lb}{hr}\right) \times 1 = 0.305 \frac{lb}{cycle}$$

<u>Step 4</u> – Calculate the NO<sub>X</sub> pollutant emissions from annual APU operations. Use Equation 2-6 and the  $NO_X$  emissions per LTO cycle calculated in Step 3 as follows:

$$E(Pol)_{Total} = E(Pol)_{APU} \times NC_{LTO}$$

$$E(NO_X)_{Total} = 0.305 \left(\frac{lb}{cycle}\right) \times 130 \left(\frac{cycles}{yr}\right)$$

$$E(NO_X)_{Total} = 39.7 \frac{lb}{yr}$$

<u>Step 5</u> – Record the styrene emission factor and fuel flow rate for the GTCP165-1. Table 2-9 lists these as **0.00224lb/10<sup>3</sup> lb fuel and 273 lb/hr** respectively.

<u>Step 6</u> – Calculate styrene emissions. Use the emission factor recorded in Step 5 (Note that the APU operates in only one "mode", so use operating time in place of "TIM") and Equation 2-1 as follows:

$$E(Pol)_{Mode} = \frac{TIM}{60} \times \frac{FFR}{1000} \times EF(Pol) \times N$$

$$E(Styrene)_{APU} = \frac{15\left(\frac{min}{cycle}\right)}{60\left(\frac{min}{hx}\right)} \times \frac{273\left(\frac{lb \text{ fuel}}{hx}\right)}{1000\left(\frac{lb \text{ fuel}}{103lb \text{ fuel}}\right)} \times 0.00224\left(\frac{lb}{10^3lb \text{ fuel}}\right) \times 1 = \mathbf{0.00015} \frac{lb}{cycle}$$

<u>Step 7</u> – Calculate the styrene pollutant emissions from annual APU operations. Using Equation 2-3 and the styrene emissions calculated in Step 6 above, this is accomplished as follows:

$$E(Pol)_{Total} = E(Pol)_{APU} \times NC_{LTO}$$

$$E(Styrene)_{Total} = 0.00015 \left(\frac{lb}{cycle}\right) \times 130 \left(\frac{cycles}{yr}\right)$$

$$E(Styrene)_{Total} = 0.02 \frac{lb}{yr}$$

## 2.7.3 Problem 3 - On-Wing Engine Testing

Anytown AFB performs on-wing evaluations of the F110-GE-100 engines used on their F-16D aircraft. The base must calculate CO and  $SO_X$  emissions from on-wing testing operations for a NEPA assessment. The base and the fuel supplier are located in Louisiana and the state wants the  $SO_X$  emissions specific for Louisiana sulfur content. According to records obtained from base personnel, 100 on-wing engine tests were conducted during the year. The average operating time for each engine test cycle was approximately the same. The following information was obtained from the base:

Power Setting	Average Fuel Flow Rate (lb/hr)	Average Operating Time per Test (minutes)
Approach	4209.52	20
Idle	1147.66	45
Intermediate	6681.33	15
Military	10,070.45	15
Afterburner	16,532.47	5

**Step 1 – Calculate annual operating times.** Use Equation 2-7 and the information provided:

$$T_{test} = N_{test} \times \sum \left(\frac{D_{test}}{60}\right)$$

$$T_{Test}(Idle) = 100 \left(\frac{test}{yr}\right) \times 45 \left(\frac{min}{test}\right) \times \frac{1}{60} \left(\frac{hr}{min}\right) = 75 \frac{hr}{yr}$$

$$T_{Test}(Approach) = 100 \left(\frac{test}{yr}\right) \times 20 \left(\frac{min}{test}\right) \times \frac{1}{60} \left(\frac{hr}{min}\right) = 33.33 \frac{hr}{yr}$$

$$T_{Test}(Intermediate) = 100 \left(\frac{test}{yr}\right) \times 15 \left(\frac{min}{test}\right) \times \frac{1}{60} \left(\frac{hr}{min}\right) = 25 \frac{hr}{yr}$$

$$T_{Test}(Military) = 100 \left(\frac{test}{yr}\right) \times 15 \left(\frac{min}{test}\right) \times \frac{1}{60} \left(\frac{hr}{min}\right) = 25 \frac{hr}{yr}$$

$$T_{Test}(Afterburner) = 100 \left(\frac{test}{yr}\right) \times 5 \left(\frac{min}{test}\right) \times \frac{1}{60} \left(\frac{hr}{min}\right) = 8.33 \frac{hr}{yr}$$

<u>Step 2</u> – Record the CO emission factor for each mode for the F110-GE-100. Table 2-8 gives the CO emission factors, in units of lb/1000lb fuel, as **24.11 for Idle**, **5.77 for Approach**, **3.47 for Intermediate**, **3.38 for Military**, and **67.41 for Afterburner**.

<u>Step 3</u> – Calculate CO emissions. Use the calculated times from Step 1, the fuel flow rates provided above, the emission factors from Step 2, and Equation 2-8:

$$\begin{split} E(Pol)_{Setting} &= \frac{(FFR \times T_{Test})}{1000} \times EF(Pol) \\ E(CO)_{Idle} &= \frac{1147.66 \left( \frac{lb \cdot fuel}{hr} \right) \times 75 \left( \frac{hr}{yr} \right)}{1000 \left( \frac{lb \cdot fuel}{hr} \right) \times 24.11 \left( \frac{lb}{10^3 lb \cdot fuel} \right) = 2075.3 \frac{lb}{yr} \\ E(CO)_{Approach} &= \frac{4209.52 \left( \frac{lb \cdot fuel}{hr} \right) \times 33.33 \left( \frac{hr}{yr} \right)}{1000 \left( \frac{lb \cdot fuel}{10^3 lb \cdot fuel} \right)} \times 5.77 \left( \frac{lb}{10^3 lb \cdot fuel} \right) = 809.6 \frac{lb}{yr} \\ E(CO)_{Intermediate} &= \frac{6681.33 \left( \frac{lb \cdot fuel}{hr} \right) \times 25 \left( \frac{hr}{yr} \right)}{1000 \left( \frac{lb \cdot fuel}{10^3 lb \cdot fuel} \right)} \times 3.47 \left( \frac{lb}{10^3 lb \cdot fuel} \right) = 579.6 \frac{lb}{yr} \\ E(CO)_{Military} &= \frac{10070.45 \left( \frac{lb \cdot fuel}{hr} \right) \times 25 \left( \frac{hr}{yr} \right)}{1000 \left( \frac{lb \cdot fuel}{10^3 lb \cdot fuel} \right)} \times 3.38 \left( \frac{lb}{10^3 lb \cdot fuel} \right) = 851.0 \frac{lb}{yr} \\ E(CO)_{Afterburner} &= \frac{16532.47 \left( \frac{lb \cdot fuel}{hr} \right) \times 8.33 \left( \frac{hr}{yr} \right)}{1000 \left( \frac{lb \cdot fuel}{hr} \right)} \times 67.41 \left( \frac{lb}{10^3 lb \cdot fuel} \right) = 9283.4 \frac{lb}{yr} \end{split}$$

Step 4 – Add the CO emissions from each mode for the total CO emissions:

$$E(CO)_{Total} = (2075.3 + 809.6 + 579.6 + 851.0 + 9283.4) \frac{lb}{vr}$$

$$E(CO)_{Total} = 13,598.9 \frac{lb}{yr}$$

<u>Step 5</u> – **Record the SO**<sub>X</sub> Emission factor. Since the state is requesting that the base calculate the SO<sub>X</sub> emissions more accurately using the average sulfur content of the fuel from that region, then the SO<sub>X</sub> emission factor from Table 2-3 is used in place of the SO<sub>X</sub> emission factor from Table 2-8 which assumes a sulfur content national average. The emission factor based on the sulfur content of the JP-8 fuel as given in Table 2-3 is **0.96 lb/10^3 lb**<sub>fuel</sub>.

<u>Step 6</u> – Calculate the SO<sub>x</sub> emissions for each mode. Use Equation 2-8, the SO<sub>x</sub> emission factor recorded in Step 5, the annual test times calculated in Step 1 above, and the fuel flow rate provided in the table above:

$$E(Pol)_{Setting} = \frac{(FFR \times T_{test})}{1000} \times EF(Pol)$$

$$E(SO_X)_{Idle} = \frac{1147.66 \left(\frac{lb fuel}{hr}\right) \times 75 \left(\frac{hr}{yr}\right)}{1000 \left(\frac{lb fuel}{10^3 lh fuel}\right)} \times 0.96 \left(\frac{lb}{10^3 lb fuel}\right) = 82.6 \frac{lb}{yr}$$

$$E(SO_X)_{Approach} = \frac{4209.52 \left(\frac{lb fuel}{hr}\right) \times 33.33 \left(\frac{hr}{yr}\right)}{1000 \left(\frac{lb fuel}{10^3 lb fuel}\right)} \times 0.96 \left(\frac{lb}{10^3 lb fuel}\right) = 134.7 \frac{lb}{yr}$$

$$E(SO_X)_{Intermediate} = \frac{\frac{6681.33\left(\frac{lb fuel}{hr}\right) \times 25\left(\frac{hr}{yr}\right)}{1000\left(\frac{lb fuel}{10^3 lb fuel}\right)} \times 0.96\left(\frac{lb}{10^3 lb fuel}\right) = 160.4 \frac{lb}{yr}$$

$$E(SO_X)_{Military} = \frac{10070.45 \left(\frac{lb \, fuel}{hr}\right) \times 25 \left(\frac{hr}{yr}\right)}{1000 \left(\frac{lb \, fuel}{10^3 \, lb \, fuel}\right)} \times 0.96 \left(\frac{lb}{10^3 \, lb \, fuel}\right) = 241.7 \, \frac{lb}{yr}$$

$$E(SO_X)_{Afterburner} = \frac{\frac{16532.47\left(\frac{lb fuel}{hr}\right) \times 8.33\left(\frac{hr}{yr}\right)}{1000\left(\frac{lb fuel}{10^3 lb fuel}\right)} \times 0.96\left(\frac{lb}{10^3 lb fuel}\right) = 132.2 \frac{lb}{yr}$$

Step 7 – Sum the  $SO_X$  emissions from each mode to calculate the total  $SO_X$  emissions:

$$E(SO_X)_{Total} = (82.6 + 134.7 + 160.4 + 241.7 + 132.2) \frac{lb}{vr}$$

$$E(SO_X)_{Total} = 751.6 \frac{lb}{yr}$$

Table 2-4. Default Time-in-Mode for Various Aircraft Categories

		Typical D	Ouration by	Mode (Minu	ites)	
Aircraft Type	Taxi/Idle- out	Takeoff	Climb out	Approach	Taxi/Idle- in	Total
		Military Ai	rcraft			
Combat:						
USAF	18.50	0.40	0.80	3.50	11.30	34.50
USN	6.50	0.40	0.50	1.60	6.50	15.50
Trainer-Turbine <sup>1</sup> :						
USAF T-38	12.80	0.40	0.90	3.80	6.40	24.30
USAF General	6.80	0.50	1.40	4.00	4.40	17.10
USN	6.50	0.40	0.50	1.60	6.50	15.50
Transport-Turbine <sup>1</sup> :						
USAF General	9.20	0.40	1.20	5.10	6.70	22.60
USN	19.00	0.50	2.50	4.50	7.00	33.50
USAF B-52 and KC- 135	32.80	0.70	1.60	5.20	14.90	55.20
Military – Piston	6.50	0.60	5.00	4.60	6.50	23.20
Military – Helicopter	8.00	$2.27^{(2)}$	4.53 <sup>(2)</sup>	6.80	7.00	28.60
		Civilian Ai	rcraft	•	•	
Commercial Carrier:						
Jumbo, Long and	19.00	0.70	2.20	4.00	7.00	32.90
Medium range jet						
General Aviation:	6.50	0.40	0.50	1.60	(50	15.50
Business Jet	6.50	0.40	0.50	1.60	6.50	15.50
Turboprop	19.00	0.50	2.50	4.50	7.00	33.50
Piston	12.00	0.30	5.00	6.00	4.00	27.30

SOURCE (unless otherwise noted): Procedures for Emission Inventory Preparation Volume IV: Mobile Sources, EPA420-R-92-009, December 1992

<sup>1.</sup> Turbines include both turbofan and turboprop engines.

<sup>2.</sup> SOURCE: Air Emissions Factor Guide to Air Force Mobile Sources, December 2009. This document cites EDMS as the original source.

<sup>&</sup>quot;USAF" - United States Air Force.

<sup>&</sup>quot;USN" - United States Navy.

Table 2-5. Military Airframe/Engine/APU Combinations<sup>1</sup>

Aircraft Model	Time-In-Mode Category <sup>2</sup>	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>3</sup>	Notes:
A-3A	Combat: USN	J57-P-6B (2)			4, 9a
A-3B	Combat: USN	J57-P-10 (2)			9a
		J52-P-2 (1)			4, 9d
	G. J. HWY	J52-P-8 (1)			4, 9d
A-4	Combat: USN	J65-W-2 (1)			4, 9d
		J65-W-4 (1)			4, 9d
	Combata LIGNI	J65-W-16A (1)			4, 9a
A-4C	Combat: USN	J65-W-20 (1)			9c
A AE	Combate USN	J52-P-6A (1)			4, 9a
A-4E	Combat: USN	J52-P-8A, -8B (1)			4, 9a
A-4F	Combat: USN	J52-P-8A , -8B (1)			4, 9a
A-4L	Combat: USN	J65-W-20 (1)			9a
A-4M	Combat: USN	J52-P-408 (1)			9a
	G. J. HWY	J52-P-6A, -6B (2)			4, 9a, 9c
A-6A	Combat: USN	J52-P-8A, -8B (2)			4, 9a
	G. J. HWY	J52-P-6A (2)			4, 9a
A-6B	Combat: USN	J52-P-8A (2)			4, 9a
A-6C	Combat: USN	J52-P-8A (2)			4, 9a
A-6E	Combat: USN	J52-P-8A, -8B (2)			4, 9a
A-6F	Combat: USN	F404-GE-400D (2)			4, 9a
A-7A	Combat: USN	TF30-P-6B (1)			9c
	a 1 . Yay	TF30-P-8 (1)			4, 9a
A-7B, -7C	Combat: USN	TF30-P-408 (1)			4, 9a
A-7D, -7K	Combat: USAF	TF41-A-1 (1)			9a, 9e
A-7E	Combat: USN	TF41-A-2 (1)			9a
	0.1.770.7	TF34-GE-100A (2)			9b
A-10	Combat: USAF	TF34-GE-400 (2)			9c
A-10A	Combat: USAF	TF34-GE-100 (2)	GTCP 36-50 (1)	1.00	3, 4, 9a
A-10C	Combat: USAF	TF34-GE-100 (2)			9f
A-37	Combat: USAF	J69-T-25 (2)			9c
		T56-A-1A (4)			9a
AC-130A	Transport - Turbine: USAF general	T56-A-9 (4)			9a
AC-130H	Transport - Turbine: USAF general	T56-A-15 (4)	GTCP 85-180L (1)	1.00	4, 6, 9a, 10a
AC-130U, -130W	Transport - Turbine: USAF general	T56-A-15 (4)			9a, 9f
AT-38B	Trainer - Turbine: USAF T-38	J85-GE-5, -5A, -5G, -5J (2)			4, 9a
AU-24	Combat: USAF	PT6A-27 (1)			9c
B-1A	Combat: USAF	F101-GE-100 (4)			9e
B-1B	Combat: USAF	F101-GE-102 (4)	GTCP 165-9 (1)	2.00	3, 4, 9a
B-2A	Combat: USAF	F118-GE-100 (4)	131-3A (2)	4.00	3, 4, 9a
		J57-P-19W (8)			9e
B-52D	Transport - Turbine: USAF B-52	J57-P/F-43WB (8)			9e
B-52G	Transport - Turbine: USAF B-52	J57-P-22 (8)			9c

Table 2-5. Military Airframe/Engine/APU Combinations1 (continued)

Aircraft Model	Time-In-Mode Category <sup>2</sup>	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>3</sup>	Notes:
		TF33-P-3 (8)			9с
В-52Н	Transport Turking USAED 52	TF33-P-5 (8)			9c
B-3211	Transport - Turbine: USAF B-52	TF33-P-7 (8)			9c
		TF33-P-103 (8)			9f
C-1	General Aviation: Piston	R-1820-82 (2)			9с
C-1A	General Aviation: Piston	R-1820-82, -82A (2)			4, 9a
C-2	Transport - Turbine: USN	T56-A-7 (2)			9с
C-2A	Tronomont Tunking, USN	T56-A-8, -8A, -8B (2)			4, 9a
C-2A	Transport - Turbine: USN ~	T56-A-425 (2)			4, 9g
C-5A	Transport - Turbine: USAF general	TF39-GE-1, -1A, -1C (4)	GTCP 85-98d (1)	8.00	4, 6, 9a, 9c, 9i, 10a
C-5B, -5C	Transport - Turbine: USAF general	TF39-GE-1C (4)	GTCP 85-98d (1)	8.00	6, 9a, 10a
Car	Toward Takin HOAF	CF6-80C2L1F (4)			4, 9a
C-5M	Transport - Turbine: USAF general ~	F138-GE-100 (4)			4, 9a, 13b
C-9	Transport - Turbine: USAF general	JT8D-17 (2)			8, 9c
C-9A	Transport - Turbine: USAF general	JT8D-9A (2)	GTCP 85-98d (1)	6.00	9a, 10a
C-9B	Transport - Turbine: USN	JT8D-9A (2)			4, 9a
C-9C	Transport - Turbine: USAF general	JT8D-9A (2)			4, 9a
	General Aviation: Business Jet	F113-RR-100 (2)			9a, 12, 13a
C-11A		SPEY Mk511-8 (2)			4, 9a
C-12	General Aviation: Turboprop	PT6A-27 (2)			9c
	General Aviation: Turboprop	PT6A-38 (2)			9a
C-12A		PT6A-41 (2)			9c
C-12C, -12D, -12L	General Aviation: Turboprop	PT6A-41 (2)			9a
C-12F, -12R, -12T, -12U	General Aviation: Turboprop	PT6A-42 (2)			9a, 9f
C-12J	General Aviation: Turboprop	PT6A-65B (2)			4, 9f
C-12S	General Aviation: Turboprop	PT6A-60A (2)			4, 9a
		F117-PW-100 (4)	331 250G (1)	0.50	3, 9a
C-17A	Transport - Turbine: USAF general -	PW2040 (4)	331 250G (1)	0.50	3, 9a, 13b
C-18B	Transport - Turbine: USAF general	JT3D-7 (4)	T41M-9A (1)	0.50	3, 4, 9a
		F113-RR-100 (2)	GTCP 36-100 (1)	0.50	3, 9a, 13a
C-20A	General Aviation: Business Jet	SPEY Mk511-8 (2)	GTCP 36-100 (1)	0.50	3, 4, 9a
		F113-RR-100 (2)			9a, 12, 13a
C-20B, -20C, -20D, -20E, -20J	General Aviation: Business Jet	SPEY Mk511-8 (2)			4, 9a
C-20F, -20G, -20H	General Aviation: Business Jet	TAY Mk611-8 (2)			9a
C-21A	General Aviation: Business Jet	TFE731-2-2B (2)			9a
C-22A	Transport - Turbine: USAF general	JT8D-7A (3)	GTCP 85-98ck (1)	1.00	4, 9a, 10a
C-22B	Transport - Turbine: USAF general	JT8D-7 (3)	GTCP 85-98ck (1)	1.00	4, 9a, 10a
C-23A	General Aviation: Turboprop	PT6A-45R (2)			4, 9a
C-23B, -23C	General Aviation: Turboprop	PT6A-65AR (2)			4, 9a
C-26A	General Aviation: Turboprop	TPE331-11U (2)			4, 9a
C-26B	General Aviation: Turboprop	TPE331-12UA-701G (2)			4, 9a
C-26C	General Aviation: Turboprop	TPE331-12UA-701 (2)			4, 9a
С-27Ј	Transport - Turbine: USAF general	AE2100D2 (2)			4, 9f

Table 2-5. Military Airframe/Engine/APU Combinations1 (continued)

Aircraft Model	Time-In-Mode Category <sup>2</sup>	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>3</sup>	Notes:
C-28A	General Aviation: Piston	GTSIO-520-M (2)			4, 9a
C-32A	Trongerest Tunking USAE concret	F117-PW-100 (2)	331-49-7081 (1)	3.00	3, 9a, 12
32A	Transport - Turbine: USAF general	PW2040 (2)	331-49-7081 (1)	3.00	3, 9a
2-37A	General Aviation: Business Jet	BR700-710A1-10 (2)			9f
2-38	General Aviation: Business Jet	TFE731-40R-200G (2)			4, 91
C-40A	Transport - Turbine: USN	CFM56-7B24 (2)			5, 9a
1.40D	The state of the s	CFM56-7B27 (2)	131-9 (1)	0.50	3, 4, 9a
C-40B	Transport - Turbine: USAF general —	CFM56-7B3 (2)	131-9 (1)	0.50	3, 4, 9a
		CFM56-7B3 (2)			4, 5, 9a
C-40C	Transport - Turbine: USAF general	CFM56-7B27 (2)			5, 9a
3 1001/		J85-GE-17 (2)			9a
C-123K	Transport - Turbine: USAF general	R-2800-99W (2)			4, 9a
C-130A, -130D	Transport - Turbine: USAF general	T56-A-9, -9A, -9B (4)	GTCP 85L (1)	1.00	3, 4, 9a
C-130B	Transport - Turbine: USAF general	T56-A-7, -7A (4)	GTCP71/71A (1)	1.00	3, 4, 9a
C-130E	Transport - Turbine: USAF general	T56-A-7, -7A (4)	GTCP71/71A (1)	1.00	3, 4, 9a
C-130F	Transport - Turbine: USN	T56-A-7, -7A (4)	GTCP71/71A (1)	1.00	3, 4, 9a
C-130H	Transport - Turbine: USAF general	T56-A-15 (4)	GTCP 85-180L (1)	1.00	4, 6, 9a, 10a
C-130J	Transport - Turbine: USAF general -	T56-A-15 (4)	GTCP 85L (1)	1.00	3, 9a
		AE2100D3 (4)			4, 9f
C-130T	Transport - Turbine: USN	T56-A-16 (4)			9a
	Transport - Turbine: USAF general		T41M-9A (1)	1.00 to 2.00	3, 4, 9e
C-135A		J57-P/F-59W (4)	ASHG70-1 (1)	1.00 to 2.00	3, 4, 9e
			T41M-9A (1)	1.00 to 2.00	3, 4, 9e
		J57-P/F-59W (4)	ASHG70-1 (1)	1.00 to 2.00	3, 4, 9e
C-135B, -135C	Transport - Turbine: USAF general		T41M-9A (1)	1.00 to 2.00	3, 4, 9a
		TF33-P-5 (4)	ASHG70-1 (1)	1.00 to 2.00	3, 4, 9a
			T41M-9A (1)	1.00 to 2.00	3, 4, 9a
C-135E	Transport - Turbine: USAF general	TF33-P-102 (4)	ASHG70-1 (1)	1.00 to 2.00	3, 4, 9a
C-137B, -137C	Transport - Turbine: USAF general	JT3D-3B (4)			9a
C-140A	General Aviation: Business Jet	J60-P-5A, -5B (4)			9e
C-140B	General Aviation: Business Jet	J60-P-5 (4)			4, 9f
		TF33-P-3 (4)	GTCP 165-1 (1)	3.00	9c, 10b
C-141	Transport - Turbine: USAF general	TF33-P-5 (4)	GTCP 165-1 (1)	3.00	9c, 10b
C-141A, -141B, -141C	Transport - Turbine: USAF general	TF33-P-7 (4)	GTCP85-106/106A (1)	3.00	3, 4, 9a, 9c
CT-1B	General Aviation: Business Jet	JT15D-5 (2)			5, 9a
T-39A	General Aviation: Business Jet	J60-P-3, -3A (2)			4, 9a
T-39E, -39G	General Aviation: Business Jet	JT12A-8 (2)			4, 9a
T-43A	Transport - Turbine: USAF general	JT8D-9A (2)			9a
T-49A	Transport - Turbine: USAF general	JT3D-7 (4)			4, 5, 9a
	1	AE1107C (2)			7, 9a
CV-22, -22A	Transport - Turbine: USAF general	T406-AD-400 (2)			7, 9a, 13b
DC-130A	Transport - Turbine: USAF general	T56-A-9, -9A (4)			4, 9a
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Table 2-5. Military Airframe/Engine/APU Combinations1 (continued)

Time-In-Mode Category <sup>2</sup>	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>3</sup>	Notes:
Transport - Turbine: USN	T56-A-7 (2)			9c
Transport - Turbine: USN	T56-A-8, -8A, -8B (2)			4, 9a
Transport - Turbine: USN	T56-A-422 (2)			4, 9a
	T56-A-427 (2)			4, 9m
Transport - Turbine: USN	T56-A-427 (2)			4, 9m
	TF33-P-3 (4)			5, 9c
	TF33-P-5 (4)			5, 9c
Transport - Turbine: USAF general	TF33-P-7 (4)			5, 9c
	TF33-P-100A (4)			4, 5, 9a
Transport - Turbine: USAF general	TF33-P-100A (4)	GTCP 165-1 (1)	2.00	4, 9a, 10a
Transport - Turbine: USAF general	F103-GE-100 (4)			9e
Transport - Turbine: USAF general	CF6-50E2 (4)	GTCP 660-4 (1)	2.00	9f, 10a
Transport - Turbine: USN	CFM56-2A-2 (4)			4, 9g
	JT3D-3B (4)	GTCP 85 (1)	2.00	6, 9a, 12
Transport - Turbine: USAF general	TF33-PW-102C (4)	GTCP 85 (1)	2.00	4, 6, 9a
Combat: USN	J57-P-10 (2)			9a
Combat: USN	J52-P-6A, -6B (1)			4, 9a
	J52-P-8A (1)			4, 9a
Combat: USN				4, 9a
Combat: USN				4, 9a
				4, 9a
				9a
Combat: USN				4, 9a
Combat: USAF				4, 9a
				4, 9a
				9a
				4, 9a
Transport - Turbine: USAF general				9e
Transport - Turbine: USAF general			1.00	9a, 10a
	* *			4, 9f
				5, 9a
-	* *			9a, 9e
				9a
				9a
				9a
Tanaport Turone, OBAT general				9a, 12
Transport - Turbine: USAF general				9a, 12 9e
Transport - Turbino: USAE conorel				9e 9a
Transport - Turome: USAF general				
Transport - Turbine: USAF general				9a
Toward Today MOAD				
Transport - Turbine: USAF general	JT3D-3B (4)			9a
Combat: USN	J79-GE-8B (2)			4, 9a
	Transport - Turbine: USN  Transport - Turbine: USN  Transport - Turbine: USN  Transport - Turbine: USAF general  Combat: USN  Combat: USN  Combat: USN  Combat: USN  Combat: USN  Transport - Turbine: USAF general  Transport - Turbine: USAF general	Transport - Turbine: USN	Time-In-Mode Category	Time-In-Mode Category*   Number of Engines   Number of APUs   Per LTO (Ines)*

Table 2-5. Military Airframe/Engine/APU Combinations1 (continued)

Aircraft Model	Time-In-Mode Category <sup>2</sup>	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>3</sup>	Notes:
EKA-3B	Combat: USN	J57-P-10 (2)			9a
EP-3B, -3J	Transport - Turbine: USN	T56-A-14 (4)			9a
ERA-3B	Combat: USN	J57-P-10 (2)			9a
ES-2D	General Aviation: Piston	R-1820-82A (2)			4, 9a
F-4	Combat: USN	J79-GE-10 (2)			4, 9c
F-4B, -4N	Combat: USN	J79-GE-8B, -8C (2)			4, 9a
F-4C, -4D	Combat: USAF	J79-GE-15 (2)			9a
F-4E, -4G	Combat: USAF	J79-GE-17 (2)			9a
F-4J	Combat: USN	J79-GE-8B (2)			4, 9a
F-4S	Combat: USN	J79-GE-10B (2)			4, 9a
F-5A, -5B	Combat: USAF	J85-GE-13 (2)			5, 9c
F-5E, -5F	Combat: USAF	J85-GE-21 (2)			5, 9a
7-8	Combat: USN	J57-P-22 (1)			4, 9c
7-8J	Combat: USN	J57-P-420 (1)			9a
		TF30-P-412 (2)			4, 9a
F-14A	Combat: USN	TF30-P-414A (2)			4, 9g
7-14C	Combat: USN	TF30-P-412 (2)			4, 9a
F-14B, -14D	Combat: USN	F110-GE-400 (2)			9a
<sup>2</sup> -15A, -15B	Combat: USAF	F100-PW-100 (2)			9a
	Combat: USAF	F100-PW-100 (2)			9a
F-15C, -15D		F100-PW-220 (2)			9a
		F100-PW-229 (2)			9f
		F100-PW-220 (2)			9a
7-15E	Combat: USAF	F100-PW-229 (2)			9a
F-16	Combat: USAF	F100-PW-100 (1)	T-62T-40-8 (1)	1.00	3, 4, 9c
		F100-PW-200 (1)	T-62T-40-8 (1)	1.00	3, 4, 9a
F-16A, -16B	Combat: USAF	F100-PW-220 (1)	T-62T-40-8 (1)	1.00	3, 4, 9g
		F100-PW-200 (1)	T-62T-40-8 (1)	1.00	3, 4, 9a
		F100-PW-220 (1)	T-62T-40-8 (1)	1.00	3, 4, 9f
F-16C, -16D	Combat: USAF	F100-PW-229 (1)	T-62T-40-8 (1)	1.00	3, 4, 9a
		F110-GE-100 (1)	T-62T-40-8 (1)	1.00	3, 4, 9a
		F110-GE-129 (1)	T-62T-40-8 (1)	1.00	3, 4, 9a
F-16N	Combat: USN	F110-GE-100 (1)			9a
F-22A, -22B	Combat: USAF	F119-PW-100 (2)			9a
F-35A	Combat: USAF	F135-PW-100 (1)			4, 9a
F-35B	Combat: USN	F135-PW-600 (1)			4, 5, 9n
F-35C	Combat: USN	F135-PW-100 (1)			4, 9n
F-100	Combat: USAF	J57-P-22 (1)			4, 9c
F-106A, -106B	Combat: USAF	J75-P-17 (1)			9a
F-111, -111F	Combat: USAF	TF30-P-100 (2)			9a, 9c
F-111A	Combat: USAF	TF30-P-3 (2)			9a, 9c
-111A	Comoat: USAF	TF30-P-3 (2)			9a 9a
					9a

Table 2-5. Military Airframe/Engine/APU Combinations1 (continued)

Aircraft Model	Time-In-Mode Category <sup>2</sup>	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>3</sup>	Notes:
F-117A	Combat: USAF	F404-GE-F1D2 (2)	3800100-4 (1)	2.00	3, 4, 9h
F/A-18A, -18B	Combat: USN	F404-GE-400 (2)			9a, 9g
F. 100 100		F404-GE-400 (2)			9a
F/A-18C, -18D	Combat: USN	F404-GE-402 (2)			4, 9g
F. 10F 10F		F404-GE-400 (2)			4, 9g
F/A-18E, -18F	Combat: USN	F414-GE-400 (2)			4, 9g
FA-22A	Combat: USAF	F119-PW-100 (2)			9a
FB-22A	Combat: USAF	F119-PW-100 (2)			9a
FB-111A	Combat: USAF	TF30-P-7 (2)			9a
HC-130H	Transport - Turbine: USAF general	T56-A-15 (4)	GTCP 85-180L (1)	1.00	6, 9a, 10a
HC-130J	Transport - Turbine: USAF general	AE2100D3 (4)			4, 9f
HC-130N, -130P	Transport - Turbine: USN	T56-A-15 (4)			9a
		AE1107C (2)			7, 9a, 12
HV-22A, -22B	Transport - Turbine: USN	T406-AD-400 (2)			7, 9a, 13b
		J52-P-6A, -6B (2)			4, 9a
JA-6A	Combat: USN	J52-P-8A, -8B (2)			4, 9a
KA-3B	Combat: USN	J57-P-10 (2)			9a
	Combat: USN	J52-P-6A (2)			4, 9a
KA-6D		J52-P-8A (2)			4, 9a
	Transport - Turbine: USAF general	CF6-50C2 (3)	TSCP 700-4B (1)	6.00	9a, 10a
KC-10, -10A		F103-GE-100 (3)	TSCP 700-4B (1)	6.00	9e, 10a
		F103-GE-101 (3)	TSCP 700-4B (1)	6.00	90, 10a
			GTCP 331-200 (1)	0.87	6, 9j, 11
KC-46A	Transport - Turbine: USAF general	PW4062 (2)	GTCP 331-200ER (1)	0.87	6, 9j, 11
KC-130F, -130R, -130T	Transport - Turbine: USN	T56-A-16 (4)			9a
KC-135	Transport - Turbine: USAF KC-135	J57-P-22 (4)			4, 9c
		J57-P/F-43WB (4)			9a
KC-135A	Transport - Turbine: USAF KC-135	J57-P/F-59W (4)			9a
KC-135D, -135Q	Transport - Turbine: USAF KC-135	J57-P/F-59W (4)			9a, 9e
KC-135E	Transport - Turbine: USAF KC-135	TF33-P-102 (4)	GTCP 85-180L (1)	1.00	4, 6, 9a, 10a
		CFM56-2B-1 (4)			9a, 12
KC-135R, -135T	Transport - Turbine: USAF KC-135	F108-CF-100 (4)			9a, 13b
		CF6-80C2B6F (2)			9k
KC-767A	Transport - Turbine: USAF general	CF6-80C2B7F (2)			9k
		PW4062 (2)			9k
LC-130F, -130R	Transport - Turbine: USN	T56-A-16 (4)			9a
LC-130H	Transport - Turbine: USAF general	T56-A-15 (4)			9a
MC-12W	General Aviation: Turboprop	PT6A-60 (2)			4, 9f
		T56-A-7 (4)			9a
MC-130E	Transport - Turbine: USAF general	T56-A-15, -15A (4)			4, 9a, 9f
MC-130H	Transport - Turbine: USAF general	T56-A-15 (4)	GTCP 85-180L (1)	1.00	6, 9a, 10a

Table 2-5. Military Airframe/Engine/APU Combinations1 (continued)

Aircraft Model	Time-In-Mode Category <sup>2</sup>	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>3</sup>	Notes:
MC-130J	Transport - Turbine: USAF general	AE2100D3 (4)			4, 9f
MC-130P, -130W	Transport - Turbine: USAF general	T56-A-15 (4)			9a, 9f
#1/ 224 22D	Towns of Tool in 11CN	AE1107C (2)			7, 9a, 12
MV-22A, -22B	Transport - Turbine: USN	T406-AD-400 (2)			7, 9a, 13b
NA-3B	Combat: USN	J57-P-10 (2)			9a
JA 4E	Combat HCN	J52-P-6A (1)			4, 9a
NA-4E	Combat: USN	J52-P-8A, -8B (1)			4, 9a
NA-4F	Combat: USN	J52-P-8A (1)			4, 9a
NA-4M	Combat: USN	J52-P-408 (1)			9a
TA (A	Combat HON	J52-P-6A, -6B (2)			4, 9a
VA-6A	Combat: USN	J52-P-8A, -8B (2)			4, 9a
NA-6E	Combat: USN	J52-P-8B (2)			9a
NA-7A	Combat: USN	TF30-P-6 (1)			4, 9a
NA-7C	Combat: USN	TF30-P-8 (1)			4, 9a
IA-7E	Combat: USN	TF41-A-2 (1)			9a
NB-52B	Transport - Turbine: USAF B-52	J57-P-19W (8)			9a
NC-12B	General Aviation: Turboprop	PT6A-41 (2)			9a
IC-21A	General Aviation: Business Jet	TFE731-2-2B (2)			9a
NC-130A	Transport - Turbine: USAF general	T56-A-9, -9A, -9B (4)			4, 9a
NC-130B, -130E	Transport - Turbine: USAF general	T56-A-7, -7A (4)			4, 9a
NC-130H	Transport - Turbine: USAF general	T56-A-15 (4)	GTCP 85-180L (1)	1.00	4, 6, 9a, 10a
NC-135A	Transport - Turbine: USAF general	J57-P/F-43WB (4)			9e
NC-135W	Transport - Turbine: USAF general	TF33-P-5 (4)			9a
NC-141A	Transport - Turbine: USAF general	TF33-P-7 (4)	GTCP 85-106/106A (1)	3.00	3, 4, 9a
JE 4D	Combat HCAE	J79-GE-15 (2)			9a
NF-4D	Combat: USAF	J79-GE-17 (2)			9a
NF-16A	Combat: USAF	F100-PW-200 (1)			9a
		F100-PW-200 (1)			9a
JE 14D	Combat. USAE	F100-PW-229 (1)			9a
NF-16D	Combat: USAF	F110-GE-100 (1)			9a
	• · · · · · · · · · · · · · · · · · · ·	F110-GE-129 (1)			9a
NF-106B	Combat: USAF	J75-P-17 (1)			9e
NF/A-18A, -18B, -18C	Combat: USN	F404-GE-400 (2)			9a
IV.C. 125 A	Turney Turking HOAF WO 125	J57-P/F-43WB (4)			9a
NKC-135A	Transport - Turbine: USAF KC-135	J57-P/F-59W (4)			9a
IKC-135E	Transport - Turbine: USAF KC-135	TF33-P-102 (4)	GTCP 85-180L (1)	2.00	4, 9a, 10a
IP-3C, -3D	Transport - Turbine: USN	T56-A-14 (4)			9a
NRA-3B	Combat: USN	J57-P-10 (2)			9a
NT-33A	Trainer - Turbine: USAF General	J33-A-35 (1)			9a
NT-39A	General Aviation: Business Jet	J60-P-3, -3A (2)			4, 9a
NTA-4F, -4J	Combat: USN	J52-P-6A (1)			4, 9a
NUP-3A	Transport - Turbine: USN	T56-A-14 (4)			9a

Table 2-5. Military Airframe/Engine/APU Combinations1 (continued)

Aircraft Model	Time-In-Mode Category <sup>2</sup>	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>3</sup>	Notes:	
0-1	General Aviation: Piston	O-470C (1)			9с	
O-2A, -2B	General Aviation: Piston	IO-360-C (1)			4, 9a, 9c	
J-2A, -2B	General Aviation: Piston	IO-360-D (1)			9с	
0A 4M	Combat. HCN	J52-P-6A, -6B (1)			4, 9a	
OA-4M	Combat: USN	J52-P-8A (1)			4, 9a	
OA-10A	Combat: USAF	TF34-GE-100 (2)			9a	
OA-37B	Combat: USAF	J85-GE-17A (2)			9a	
OC-135B	Transport - Turbine: USAF general	TF33-P-5 (4)			9a	
OT-47B	General Aviation: Business Jet	JT15D-5D (2)			4, 9a	
		T76-G-10A (2)			4, 8, 9a	
		T76-G-12A (2)			4, 8, 9a	
OV-10A	General Aviation: Turboprop	T76-G-418 (2)			8, 9a	
	-	T76-G-419 (2)			8, 9a	
P-3B	Transport - Turbine: USN	T56-A-14 (4)			9a	
		T56-A-7 (4)			9c	
P-3C	Transport - Turbine: USN	T56-A-14 (4)			9a	
QF-4B	Combat: USN	J79-GE-8B, -8C (2)			4, 9a	
		J79-GE-10 (2)			4, 9a	
QF-4E	Combat: USAF	J79-GE-17 (2)			9a	
		J79-GE-15 (2)			9a	
QF-4G	Combat: USAF	J79-GE-17 (2)			9a	
QF-106A, -106B	Combat: USAF	J75-P-17 (1)			9a	
Q1 1001, 100D	Contour Con II	J79-GE-10 (2)			4, 9a	
QRF-4C	Combat: USAF	J79-GE-17 (2)			9a	
QT-33A	Trainer - Turbine: USN	Trainer - Turbine: USN J33-A-35 (1)			9a	
RA-3B	Combat: USN	J57-P-10 (2)			9a	
KA-JD	Combat. OSIV	J79-GE-8B, -8C (2)			4, 9a	
RA-5C	Combat: USN				4, 9a	
RC-12D, -12G, -12H	Consuel Assistions Turk onnon	J79-GE-10 (2)			9a	
RC-12D, -12G, -12H RC-135M, -135X	General Aviation: Turboprop	PT6A-41 (2)			9a, 9e, 9f	
KC-133IVI, -133A	Transport - Turbine: USAF general	TF33-P-5 (4)				
DG 1250 125W		TF33-P-5 (4)			9a	
RC-135S, -135W	Transport - Turbine: USAF general	CFM56-2B-1 (4)			9f, 12	
D.C. 125T	T . T . T . T . T . T . T . T . T . T .	F108-CF-201 (4)			4, 9f, 13b	
RC-135T	Transport - Turbine: USAF general	TF33-P-102 (4)			9e	
		TF33-P-9 (4)			9a	
RC-135U	Transport - Turbine: USAF general	CFM56-2B-1 (4)			9f, 12	
		F108-CF-201 (4)			4, 9f, 13b	
		TF33-P-5 (4)			9a	
RC-135V	Transport - Turbine: USAF general	TF33-P-9 (4)			9e	
		CFM56-2B-1 (4)			9f, 12	
		F108-CF-201 (4)			4, 9f, 13b	
RF-4B	Combat: USN	J79-GE-8B, -8C (2)			4, 9a	
RF-4C	C Combat: USAF				9a	

Table 2-5. Military Airframe/Engine/APU Combinations1 (continued)

Aircraft Model	Time-In-Mode Category <sup>2</sup>	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>3</sup>	Notes:
RF-8G	Combat: USN	J57-P-22 (1)			4, 9a
RF/A-18A	Combat: USN	F404-GE-400 (2)			9a
RP-3D	Transport - Turbine: USN	T56-A-14 (4)			9a
PO 4	Combate USAE	AE3007H (1)			4, 9a
RQ-4	Combat: USAF	F137-RR-100 (1)			4, 9f
BO 44	Combat: USAF	AE3007 (1)			4, 9a
RQ-4A	Combat: USAF	F137-RR-100 (1)			4, 9f
RQ-4B	Combat: USAF	AE3007H (1)			4, 9a
RU-21J	General Aviation: Turboprop	PT6A-41 (2)			9a
S-2, -2G	General Aviation: Piston	R-1820-82 (2)			9a, 9c
S-2D, -2E	General Aviation: Piston	R-1820-82A (2)			4, 9a
S-3A	Combat: USN	TF34-GE-400 (2)			9c
GV 224	The state of the s	AE1107C (2)			7, 9a, 12
SV-22A	Transport - Turbine: USN	T406-AD-400 (2)			7, 9a, 13b
T-1A	Trainer - Turbine: USAF general	JT15D-5B (2)			9a
T-2	Trainer - Turbine: USN	J85-GE-5F (2)			9c
T-6A	Trainer - Turbine: USAF general	PT6A-68 (1)			8, 9a
T-28	General Aviation: Piston	R-1820-82 (1)			9c
T-33A	Trainer - Turbine: USAF general	J33-A-35 (1)			9a
T-34	General Aviation: Piston	O-470C (1)			9c
T-34C	General Aviation: Piston	PT6A-27 (1)			9c
T-37, -37B	Trainer - Turbine: USAF general	J69-T-25 (2)			9a, 9c
T-38	Trainer - Turbine: USAF T-38	J85-GE-5F (2)			9c
T-38A	Trainer - Turbine: USAF T-38	J85-GE-5, -5A, -5G, -5J, -5M (2)			4, 9a
T-38C	Trainer - Turbine: USAF T-38	J85-GE-5, -5A, -5G, -5J, -5R (2)			4, 9a
T-38N	Trainer - Turbine: USAF T-38	J85-GE-5H, -5N (2)			4, 9a
T-39A, -39D	General Aviation: Business Jet	J60-P-3A (2)			9a, 9e
T-39B	General Aviation: Business Jet	J60-P-3, -3A (2)			4,9a
T-41	General Aviation: Piston	IO-360-C (1)			4, 9c
T-41B	General Aviation: Piston	IO-360-D (1)			9a
T-41C, -41D	General Aviation: Piston	IO-360-D34 (1)			4, 9a
T-43A	Transport - Turbine: USAF general	JT8D-9 (2)			4, 9a
T-44	Trainer - Turbine: USN	PT6A-27 (2)			9c
T-47A	General Aviation: Business Jet	JT15D-5 (2)			9a
TA-3B	Combat: USN	J57-P-10 (2)			9a
TA-4B	Combat: USN	J65-W-20 (1)			9a
	0 / 100	J52-P-6A, -6B (1)			4, 9a
TA-4F	Combat: USN	J52-P-8A (1)			4, 9a
TA-7C	Combat: USN	TF30-P-8 (1)			4, 9a
TC-18E	Transport - Turbine: USAF general	TF33-P-100A (4)			4, 9a
TC-18F	Transport - Turbine: USAF general	JT3D-3B (4)			9a
TC-130H	Transport - Turbine: USAF general	T56-A-15 (4)			9a
TC-135S, -135W	Transport - Turbine: USAF general	TF33-P-5 (4)			9a

Table 2-5. Military Airframe/Engine/APU Combinations1 (continued)

Aircraft Model	Time-In-Mode Category <sup>2</sup>	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>3</sup>	Notes:	
TE-2A, -2C	Transport - Turbine: USN	T56-A-8, -8A, -8B (2)			4, 9a	
TE-8A	Transport - Turbine: USAF general	JT3D-3B (4)			9a	
TF-16N	Combat: USN	F110-GE-100 (1)			9a	
TF-18A	Combat: USN	F404-GE-400 (2)			9a	
TF/A-18A	Combat: USN	F404-GE-400 (2)			9a	
TS-2A	General Aviation: Piston	R-1820-82 (2)			9a	
TU-2S	Combat: USAF	F118-GE-101 (1)			4, 9f	
U-2S	Combat: USAF	F118-GE-101 (1)			4, 9f	
U-21	General Aviation: Turboprop	PT6A-27 (2)			9c	
U-21J	General Aviation: Turboprop	PT6A-41 (2)			9a	
U-28A	General Aviation: Turboprop	PT6A-67B (1)			9f	
UA-3B	Combat: USN	J57-P-10 (2)			9a	
UC-12B	General Aviation: Turboprop	PT6A-41 (2)			9a	
UC-35A, -35C	General Aviation: Business Jet	JT15D-5D (2)			4, 9a	
UC-123K	Transport - Turbine: USAF general	J85-GE-17 (2)			4, 9a	
UP-3B	Transport - Turbine: USN	T56-A-14 (4)			9a	
US-2A, -2B, -2C	General Aviation: Piston	R-1820-82 (2)			9a	
US-2D	General Aviation: Piston	R-1820-82A (2)			4, 9a	
UV-18B	Transport - Turbine: USAF general	PT6A-27 (2)			9a	
UV-20A	General Aviation: Turboprop	PT6A-27 (2)			9a	
VC-25A	Transport - Turbine: USAF general	CF6-80C2B1 (4)	GTCP 660-4 (1)	8.00	6, 9a	
VC-137B, -137C	Transport - Turbine: USAF general	JT3D-3B (4)			9h	
VC-140B	General Aviation: Business Jet	J60-P-5A, -5B (4)			9e	
		T56-A-7 (4)			9e	
WC-130E	Transport - Turbine: USAF general -	T56-A-15 (4)			9e	
WC-130H	Transport - Turbine: USAF general	T56-A-15 (4)	GTCP 85-180L (1)	1.00	4, 6, 9a, 10a	
WC-130J	Transport - Turbine: USAF general	AE2100D3 (4)			4, 9f	
WC-135B, -135W	Transport - Turbine: USAF general	TF33-P-5 (4)			9a	
WC-135C	Transport - Turbine: USAF general	TF33-P-9 (4)			9a	
X-29A	Combat: USAF	F404-GE-400 (1)			8, 9a	
X-31A	Combat: USN	F404-GE-400 (1)			9a	
X-44A	Combat: USAF	F119-PW-100 (2)			9a	
YA-7D	Combat: USAF	TF41-A-1 (1)			9a	
YC-14A	Transport - Turbine: USAF general	CF6-50A (2)			9a	
YE-2C	Transport - Turbine: USN	T56-A-8, -8A, -8B (2)			4, 9a	
YF-4J	Combat: USN	J79-GE-8B (2)			4, 9a	
YF-15A, -15B	Combat: USAF	F100-PW-100 (2)			9a	
YF-16A, -16B	Combat: USAF	F100-PW-200 (1)			9a	
		T76-G-10, -10A (2)			4, 9a	
YOV-10D	General Aviation: Turboprop	T76-G-12, -12A (2)			4, 9a	
YP-3C	Transport - Turbine: USN	T56-A-14 (4)			9a	
			+			

Notes for Table 2-5 follow Table 2-6

Table 2-6. Military Helicopter/Engine/APU Combinations<sup>1</sup>

Aircraft Model	Time-In-Mode Category <sup>2</sup>	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>3</sup>	Notes:
AH 1C	Military II-liandan	T53-L-11D (1)			9с
AH-1G	Military - Helicopter	T53-L-13, -13A, -13B (1)			4, 9a
AH-1J	Military - Helicopter	T400-CP-400 (1)			9a
AH-64A	Military - Helicopter	T700-GE-700 (2)			9a
СН-3В	Military - Helicopter	T58-GE-8B (2)			4, 9a
CH-3E	Military - Helicopter	T58-GE-5 (2)			9f
CH-46	Military - Helicopter	T58-GE-5 (2)			9с
CH-46A	Military - Helicopter	T58-GE-8B, -8F (2)			4, 9a
CH-46E	Military - Helicopter	T58-GE-16 (2)			9a
CH-53A	Military - Helicopter	T64-GE-6B (2)			9a
CH-53D	Military - Helicopter	T64-GE-413 (2)			9a
EH-1H	Military - Helicopter	T53-L-13 (1)			9a
EH-1X	Military - Helicopter	T53-L-13 (1)			9a
EH-60A	Military - Helicopter	T700-GE-700 (2)			9a
НН-1Н	Military - Helicopter	T53-L-13 (1)			9a
HH-1K	Military - Helicopter	T53-L-13, -13A, -13B (1)			4, 9a
HH-1N	Military - Helicopter	T400-CP-400 (1)			9g
HH-2D	Military - Helicopter	T58-GE-8B, -8F (2)			4, 9a
НН-3А	Military - Helicopter	T58-GE-8F (2)			9a
НН-3Е	Military - Helicopter	T58-GE-5 (2)			9f
HH-3F	Military - Helicopter	T58-GE-8B, -8F (2)			4, 9a
HH-43	Military - Helicopter	T53-L-11D (1)			9с
HH-46A	Military - Helicopter	T58-GE-8B, -8F (2)			4, 9a
HH-52	Military - Helicopter	T58-GE-5 (2)			9с
HH-52A	Military - Helicopter	T58-GE-8B (2)			4, 9a
НН-53	Military - Helicopter	T64-GE-6B (2)			9с
HH-60G	Military - Helicopter	T700-GE-700 (2)			9f
MH-53J	Military - Helicopter	T64-GE-415 (2)	T-62T-27 (1)	4.00	9a, 10a
MH-53M	Military - Helicopter	T64-GE-100 (2)			9f
MH-60A	Military - Helicopter	T700-GE-700 (2)			9a
MH-60G	Military - Helicopter	T700-GE-700 (2)			9a
NCH-46A	Military - Helicopter	T58-GE-8B, -8F (2)			4, 9a

Table 2-6. Military Helicopter/Engine/APU Combinations1 (continued)

Aircraft Model	Time-In-Mode Category <sup>2</sup>	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>3</sup>	Notes:
NRH-53D	Military - Helicopter	T64-GE-415 (2)			9a
NSH-3A	Military - Helicopter	T58-GE-8B (2)			4, 9a
NUH-1E	Military - Helicopter	T53-L-11D (1)			9a
NUH-1N	Military - Helicopter	T400-CP-400 (1)			9a
NVH-3A	Military - Helicopter	T58-GE-8F (2)			9a
ОН-6А	Military - Helicopter	T63-A-5A (1)			9c
OH-58A	Military - Helicopter	T63-A-5A (1)			9с
RH-53D	Military - Helicopter	T64-GE-415A (2)			4, 9a
GH 3D	MT	T58-GE-5 (2)			9с
SH-2D	Military - Helicopter	T58-GE-8B (2)			4, 9a
GH OF	MT	T58-GE-5 (2)			9с
SH-2F	Military - Helicopter	T58-GE-8F (2)			9a
SH-3A	Military - Helicopter	T58-GE-8B (2)			4, 9a
SH-3G	Military - Helicopter	T58-GE-8B, -8F (2)			4, 9a
SH-60	Military - Helicopter	T700-GE-700 (2)			9g
TH-1L	Military - Helicopter	T53-L-13, -13A, -13B (1)			4, 9a
TH-53A	Military - Helicopter	T64-GE-100 (2)	T-62T-27 (1)	4.00	3, 9a
UH-1E	Military - Helicopter	T53-L-11D (1)			9a
	Military - Helicopter	T53-L-11D (1)			9c
UH-1H		T53-L-13 (1)			9c
UH-1L	Military - Helicopter	T53-L-13, -13A, -13B (1)			4, 9a
UH-1N	Military - Helicopter	T400-CP-400 (1)			9f
UH-1V	Military - Helicopter	T53-L-13 (1)			9a
UH-2C	Military - Helicopter	T58-GE-8B, -8F (2)			4, 9a
UH-3A	Military - Helicopter	T58-GE-8B (2)			4, 9a
UH-46A	Military - Helicopter	T58-GE-8B, -8F (2)			4, 9a
UH-60A	Military - Helicopter	T700-GE-700 (2)	T-62T-40-1 (1)	1.00	3, 4, 9a
UH-60C	Military - Helicopter	T700-GE-700 (2)			9a
UH-60Q	Military - Helicopter	T700-GE-700 (2)			9a
YSH-2E	Military - Helicopter	T58-GE-8B, -8F (2)			4, 9a

Notes for Table 2-5 and Table 2-6 on the following page.

Notes for Table 2-5 and Table 2-6:

- 1. Note that some Aircraft model/engine/APU combinations may be missing due to unverified sources and/or missing emission factors for either engine(s) and/or APU(s).
- 2. Time-in-Mode category selected for the aircraft based on that aircraft's expected flight pattern and not based on its mission designation. It is recommended that installation-specific TIM data is used when available.
- SOURCE: Flightline Emission Factors-Aircraft/Auxiliary Power Units/Aerospace Ground Support Equipment, IERA-RS-BR-SR-2005-0001, December 2004. This reference cites survey responses as source of data. APU operating time provided as a guideline. If more accurate and verified APU operating times are available for the installation, those times may be used for emissions calculations.
- 4. This document does not have emission factors for at least one engine/APU listed for this aircraft.
- 5. Time-in-Mode category for this aircraft was selected as the recommended category for calculating emissions though this aircraft is actually operated by another military branch.
- 6. APU operating time an estimate based on similar APUs on similar aircraft.
- 7. Aircraft may also be operated as a military helicopter. If the aircraft is primarily operated in this mode at the installation, then use the appropriate Time-in-Mode category.
- 8. This aircraft is operated by multiple military branches.
- 9. The Airframe/Engine combination source was reported in the following documents:
  - a. SOURCE: Model Designation of Military Aerospace Vehicles, Department of Defense, May 2004
  - b. SOURCE: AF Reserve Website (<u>www.afreserve.com</u>)
  - c. SOURCE: Air Pollutant Emission Factors for Military and Civil Aircraft, EPA-450/3-78-117, October 1978.
  - d. SOURCE: Smithsonian National Air and Space Museum website (www.airandspace.si.edu)
  - e. SOURCE: Aircraft Engine Emissions Estimator, AFESC, November 1985.
  - f. SOURCE: US Air Force fact sheets accessed via official Air Force website (www.af.mil)
  - g. SOURCE: US Navy fact sheets accessed via official navy website (<u>www.navy.mil</u>)
  - h. SOURCE: National Museum of the Air Force accessed via official website (www.nationalmuseum.af.mil)
  - i. SOURCE: GE Aviation website (www.geaviation.com)
  - j. SOURCE: National Environmental Policy ACT (NEPA) Facilitation Report, April 2012
- 10. The Airframe/APU combination was reported in the following documents:
  - a. SOURCE: Air Emissions Factor Guide to Air Force Mobile Sources, AFCEE, 2009
  - b. SOURCE: EDMS input from Paine Field
- 11. APU operating time assumes worst case scenario. The actual operating time may range between 0.23-0.26 if there is gate power or 0.87 if there is no gate power. The value provided assumes no gate power.
- 12. This engine is not explicitly listed in the source document as the engine in this aircraft. It is listed here, however, because it is an alternate designation of an engine listed in the source document.
- 13. This is the military designation of a civilian engine listed for the aircraft in the source document. The source for the military designation of the civilian engine is:
  - a. SOURCE: Air Force One, Robert F. Dorr, 2002.
  - b. The Federal Business Opportunities website (www.fbo.gov)
- "---" Indicates either no APU for that aircraft or no data available.

Table 2-7. Commercial Airframe/Engine/APU Combinations1

Aircraft Model	Time-In-Mode Category	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>2</sup> [Without Gate Power]	Notes:
A300 Series	Commercial Carrier: Jumbo, long, and medium range jet	CF6-50A, -50C, -50C1, -50C2 (2) CF6-80C2A1, -80C2A3, -80C2A5 (2) JT9D-7R4H1 (2) PW4158 (2)	GTCP 331-250 (1)	0.23 - 0.26 [1.0 - 1.5]	3, 4b, 4c, 5b
A310 Series	Commercial Carrier: Jumbo, long, and medium range jet	CF6-80A3, -80C2A2(2) JT9D-7k4D1, -7k4E1 (2) PW4152 (2) PW4156 (2)	GTCP 331-250 (1)	0.23 - 0.26 [1.0 - 1.5]	3, 4b, 4c, 5b
A318 Series	Commercial Carrier: Jumbo, long, and medium range jet	CFM56-5B8, -5B9 (2) PW6122A (2) PW6124A (2)	GTCP 36-300 (1)	0.23 - 0.26 [0.87]	3, 4c, 4d, 5b
A319 Series	Commercial Carrier: Jumbo, long, and medium range jet	CFM56-5A4, -5A5, -5B5, -5B6, -5B7 (2) V2522-A5 (2) V2524-A5 (2) V2527-A5 (2)	GTCP 36-300 (1)	0.23 - 0.26 [0.87]	3, 4c, 4d, 4e, 5b
A320 Series	Commercial Carrier: Jumbo, long, and medium range jet	CFM56-5-A1, -5A3, -5B4, -5B5, -5B6 (2) V2500-A1 (2) V2527-A5 (2)	GTCP 36-300 (1)	0.23 - 0.26 [0.87]	3, 4c, 4d, 4e, 5b
A321 Series	Commercial Carrier: Jumbo, long, and medium range jet	CFM56-5B1, -5B2, 5B3 (2) V2533-A5 (2) V2530-A5 (2)	GTCP 36-300 (1)	0.23 - 0.26 [0.87]	3, 4c, 4d, 4e, 5b
A330 Series	Commercial Carrier: Jumbo, long, and medium range jet	CF6-80E1, -E1A1, -E1A3, -E1A4 (2) PW4164 (2) PW4168, PW4168A (2) PW4170 (2) Trent 768-60 (2) Trent 772-60 (2)	GTCP 331-250 (1)	0.23 - 0.26 [1.0 - 1.5]	3, 4c, 4d, 4e, 5b
A340 Series	Commercial Carrier: Jumbo, long, and medium range jet	CFM56-5C2, -5C2/4, -5C2/F, -5C2/F4, -5C2/G, -5C2/G4, -5C2/P (4) CFM56-5C3/F, -5C3/F4, SC3/G, -5C3/G4, -5C3/P (4) CFM56-5C4, -5C4/1, -5C4/P, -5C4/P (4) Trent 553-61, -553A2-61 (4) Trent 556-61, -556A2-61 (4)			3, 4d, 4e
A380 Series	Commercial Carrier: Jumbo, long, and medium range jet	GP7270 (4) Trent 970B-84 (4) Trent 972B-84 (4)			3, 4b, 4d
ACJ318	General Aviation: Business Jet	CFM56-5B9/3 (2)			4e
ACJ319	General Aviation: Business Jet	CFM56-5B7/3 (2)			4e
ACJ320	General Aviation: Business Jet	CFM56-5B4/3 (2)			4e
ACJ330	General Aviation: Business Jet				3, 4e
ACJ340		· · · · · · · · · · · · · · · · · · ·			4e
ACJ380	General Aviation: Business Jet			0.22 0.26	4e
B707 Series	Commercial Carrier: Jumbo, long, and medium range jet	JT3D-3, -3B (4) JT3D-7 (4)	GTCP 85 (1)	0.23 - 0.26 [0.87]	3, 4a, 4b, 4f, 5a
B717 Series	Commercial Carrier: Jumbo,	BR700-715A1-30, -715C1-30 (2)			4b
B727 Series	Commercial Carrier: Jumbo, long, and medium range jet	JT8D-7, -7A, -7B (3) JT8D-9, -9A (3) JT8D-11 (3) JT8D-15, -15A (3) JT8D-17, -17A, -17AR, -17R (3)	GTCP 85-98 (1)	0.23 - 0.26 [0.87]	3, 4a, 4b, 4f, 5a

Table 2-7. Commercial Airframe/Engine/APU Combinations1 (continued)

Log and median range   CP-956-782-7, 782-27, 782-28, 782-28, 782-28, 782-28, 782-28, 782-28, 17-782-28, 782-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-28, 182-	Aircraft Model	Time-In-Mode Category	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>2</sup> [Without Gate Power]	Notes:
Commercial Carrier Jumbs   Reg. and medium range   February   Fe	B737 Series		CMF56-7B18/3, -7B20, -7B20/2, -7B20/3, -7B20E (2) CFM56-7B21, -7B22/2, -7B22/3, -7B22E (2) CFM56-7B24, -7B24/2, -7B24/3, -7B24/3B1, -7B24E, -7B24E/B1 (2) CFM56-7B26, -7B26E/B1, -7B26E/B2, -7B26E/B2F, -7B26E/B2F, -7B26/3F, -7B26E, -7B26E/F (2) CFM56-7B27, -7B27/2, -7B27/3, 7B27/3F, -7B27E, -7B27E/F, -7B27/3B1, -7B27/3B1F, -7B27E/B1F, -7B27/3B3, -7B27E/B3 (2) JT8D-74, -7A, -7B (2) JT8D-15, -15A (2)	GTCP 85-129 (1)		3, 4d, 5c
Commercial Carrier Jumbs   Deg and medium range   Pay2001 (2)   C15-93A - 304A - 30/C2B F - 80C2B F - 80	B747 Series		CF6-80C2B1, -80C2B1F, -80C2B5F (4) Genx-2B67, -2B67B (4) JT9D-7, -7A, -7F, -7J, 7Q, -7Q3, -7R4G2 (4) JT9D-70A (4) PW4056 (4) RB211-524D4-19, -524D4-39, -524B2-19, -524C2-19, -524G3-19, -524H2-19 (4) RB211-524G2-T-19, -524G3-T-19, -524H2-T-19 (4)			3, 4b, 4d, 5c
B76   Series   Commercial Carrier; Jumbo long, and medium range jet long, and and range jet long, and range jet long, and range jet long, and and range jet long, and range jet long, and	B757 Series	· ·	PW2037 (2)	GTCP 331-200ER (1)		3, 4b, 4d, 5c
	B767 Series		JT9D-7R4D, -7R4E, -7R4E4 (2) PW4056, PW4060, PW4060A, PW4060C, PW4062 (2)			3, 4b, 4d, 5a, 5c
BRS   Series   long, and medium range jet   Trent 1000-A, -1000-E (2)	B777 Series		PW4074, -4074D, -4077, -4077D, -4084D, -4090, -4090, -4090-3, -4098 (2)	GTCP 331-500 (1)		3, 4b, 4d, 4f, 5c
BAC 146-300A   General Aviation: Business Jet   ALF 502R-3A, -5 (4)	B787 Series		Genx-1B64, -1864/P1, -1867, -1867/P1, -1870, -1870/P1, -1870/75/P1 (2)			3, 4b, 4d
BAC AVTO 146-RJ100A   General Aviation: Business Jet   LF507-1F (4)	BAe 146-100A, -200A	General Aviation: Business Jet	ALF 502R-3, -3A, -5 (4)			3, 4b
BAc Avro 146-RJ70A   General Aviation: Business Jet   LF507-1F (4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .	BAe 146-300A	General Aviation: Business Jet	ALF 502R-3A, -5 (4)			3, 4b
BAC AVTO 146-RJ8SA   General Aviation: Business Jet   LF507-1F (4)	BAe Avro 146-RJ100A	General Aviation: Business Jet	LF507-1F (4)			4b
BD-100-1A10   General Aviation: Business Jet   AS907-1-IA (2)	BAe Avro 146-RJ70A	General Aviation: Business Jet	LF507-1F (4)			4b
BD-700-1A10, -1A11   General Aviation: Business Jet   BR700-710A2-20 (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .						
Beechcraft 76   General Aviation: Turboprop   PT6A-27 (2)       4a						4b
Bechcraft 99A, -99B, -A99A, -B99			· · ·			
BH.125 Series 400A			N/			
BH.125 Series 600A   General Aviation: Business Jet   TFE731-3, -3R (2)         3, 4b						
Cessna 150, -150A, -150B, -150G, -150M         General Aviation: Piston         O-200-A (1)          3, 4b           Cessna 172I, -172K, -172L, -172M         General Aviation: Piston         O-320-E2D (1)           3, 4b           Cessna 172N         General Aviation: Piston         O-320-H2AD (1)           3, 4b           Cessna 172P         General Aviation: Piston         O-320-D2J (1)           3, 4b           Cessna 336         General Aviation: Piston         In-360-A (2)           3, 4a, 4b, 4b, 4b			1 17			
-150C, -150B, -150F, -150G, -150H, -150G, -150H, -1		General Aviation: Business Jet	TFE731-3, -3R (2)			3, 4b
Cessna 172N   General Aviation: Piston   O-320-H2AD (1)     3, 4b       Cessna 172P   General Aviation: Piston   O-320-D2J (1)     3, 4b       Cessna 336   General Aviation: Piston   IO-360-A (2)     3, 4a, 4b, 4b, 4b       Cessna 376   Cessn	-150C, -150D, -150E, -150F, -150G,	General Aviation: Piston	O-200-A (1)			3, 4b
Cessna 172P         General Aviation: Piston         O-320-D2J (1)          3. 4b           Cessna 336         General Aviation: Piston         IO-360-A (2) TSIO-360-C (2)           3. 4a, 4b,						
Cessna 336 General Aviation: Piston IO-360-A (2) 3, 4a, 4b,						
Cessna 356 General Aviation: Piston TSIO-360-C (2) 3, 4a, 4b,	Cessna 172P	General Aviation: Piston	O-320-D2J (1)			3, 4b
Cessna 337, -337A, -337B General Aviation: Piston IO-360-C, -360-CB, -360-D, -360-DB, -360-GB (2) 3,4b	Cessna 336	General Aviation: Piston				3, 4a, 4b, 4f
	Cessna 337, -337A, -337B	General Aviation: Piston	IO-360-C, -360-CB, -360-D, -360-DB, -360-G, -360-GB (2)			3,4b

Table 2-7. Commercial Airframe/Engine/APU Combinations1 (continued)

Aircraft Model	Time-In-Mode Category	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>2</sup> [Without Gate Power]	Notes:
Cessna 337C, -337D, -337E, -337F, -337G	General Aviation: Piston	IO-360-C, -360-CB, -360-GB, -360-GB (2)			3, 4b
Cessna 337H	General Aviation: Piston	IO-360-G, -360-GB (2)			3, 4b
Cessna Citation I	General Aviation: Business Jet	JT15D-1, -1A, -1B (2)			4a, 4c
Cessna Citation II, -II/S	General Aviation: Business Jet	JT15D-4, -4B (2)			4c
Cessna Citation Ultra	General Aviation: Business Jet	JT15D-5D (2)			3, 4c
Cessna Citation V	General Aviation: Business Jet	JT15D-5A (2)			4c
Cessna M337B	General Aviation: Piston	IO-360-D, -360-DB (2)			3, 4b
Cessna P337H	General Aviation: Piston	TSIO-360-C, -360-CB (2)			3, 4b
Cessna T337B	General Aviation: Piston	TSIO-360-A, -360-AB, -360-BB, -360-BB (2)			3, 4b
Cessna T337C, -T337D, -T337E, -T337F	General Aviation: Piston	TSIO-360-A, -360-AB (2)			3, 4b
Cessna T337H	General Aviation: Piston	IO-360-G, -360-GB (2) TSIO-360-JB (2)			3, 4b
Cheyenne III, -IIIA	General Aviation: Turboprop	PT6A-41 (2)			4c
CL-600-1A11	General Aviation: Business Jet	ALF 502L, -502L-2 (2)			3, 4b
CL-600-2A12	General Aviation: Business Jet	CF34-3A, -3A2 (2)			3, 4b
CL-600-2B16	General Aviation: Business Jet	CF34-3A, -3A1, -3A2, -3B (2)			3, 4b
CL-600-2B19	General Aviation: Business Jet	CF34-3A1, -3B1 (2)			3, 4b
CL-600-2C10	General Aviation: Business Jet	CF34-8C1, -8C5B1 (2)			4b
CL-600-2D15	General Aviation: Business Jet	CF34-8C5, -8C5A1 (2)			4b
CL-600-2D24	General Aviation: Business Jet	CF34-8C5, -8C5A1 (2)			4b
CL-600-2E25	General Aviation: Business Jet	CF34-8C5, -8C5A1, -8C5A2 (2)			4b
CE 000 EEED	General Aviation. Business Jet				40
DC-10 Series	Commercial Carrier: Jumbo, long, and medium range jet	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-50A, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3)	TSCP 700-4B (1)	0.23 - 0.26 [1.0- 1.5]	3, 4a, 4b, 5b
	Commercial Carrier: Jumbo,	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3)		0.23 - 0.26	-
DC-10 Series	Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo,	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-50A, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JT9D-20, -20J, -59A (3) CFM56-2-C1, -2-C3, -2-C5 (4)	TSCP 700-4B (1)	0.23 - 0.26 [1.0- 1.5]	3, 4a, 4b, 5b
DC-10 Series  DC-8 Series  DC-9 Series  DH.125 Series 1A, -3A, -3A/RA, -400A	Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet General Aviation: Business Jet	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-50A, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JT9D-20, -201, -59A (3) CFM5-62-C1, -2-C3, -2-C5 (4) JT3D-3, -3B, -7 (4) JT8D-7, -7A, -7B, -9, -9A (2) JT8D-11, -15, 15A, -17, -17A (2) JT8D-209, -217, -217, -217A, -217C, -219 (2) TFE731-3, -3R (2)	TSCP 700-4B (1)	0.23 - 0.26 [1.0- 1.5] 	3, 4a, 4b, 5b 3, 4b 3, 4a, 4b, 5a, 5b 3, 4b
DC-10 Series  DC-8 Series  DC-9 Series  DH.125 Series 1A, -3A, -3A/RA,	Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-50A, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JT9D-20, -201, -59A (3) CFM5-62-C1, -2-C3, -2-C5 (4) JT3D-3, -3B, -7 (4) JT8D-7, -7A, -7B, -9, -9A (2) JT8D-11, -15, 15A, -17, -17A (2) JT8D-209, -217, -217, -217A, -217C, -219 (2) TFE731-3, -3R (2)	TSCP 700-4B (1) GTCP 85-98D (1)	0.23 - 0.26 [1.0- 1.5] 0.23 - 0.26 [0.87]	3, 4a, 4b, 5b 3, 4b 3, 4a, 4b, 5a, 5b
DC-10 Series  DC-8 Series  DC-9 Series  DH.125 Series 1A, -3A, -3A/RA, -400A	Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet General Aviation: Business Jet General Aviation: Turboprop	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-50A, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JT9D-20, -201, -59A (3) CFM5-62-C1, -2-C3, -2-C5 (4) JT3D-3, -3B, -7 (4) JT8D-7, -7A, -7B, -9, -9A (2) JT8D-11, -15, 15A, -17, -17A (2) JT8D-209, -217, -217, -217A, -217C, -219 (2) TFE731-3, -3R (2)	TSCP 700-4B (1) GTCP 85-98D (1)	0.23 - 0.26 [1.0- 1.5]  0.23 - 0.26 [0.87]	3, 4a, 4b, 5b 3, 4b 3, 4a, 4b, 5a, 5b 3, 4b
DC-10 Series  DC-8 Series  DC-9 Series  DH.125 Series 1A, -3A, -3A/RA, -400A  DHC-6-300, -400  F.27 Mark 100, -200, -300, -400, -600,	Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet General Aviation: Business Jet General Aviation: Turboprop	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-5DA, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JT3D-20, -201, -59A (3) CFM56-2-C1, -2-C3, -2-C5 (4) JT3D-3, -3B, -7 (4) JT8D-7, -7A, -7B, -9, -9A (2) JT8D-11, -15, 15A, -17, -17A (2) JT8D-209, -217, -217A, -217A, -217C, -219 (2) TFE731-3, -3R (2) PF6A-27 (2) SPEY Mk511, -Mk511-7E (2)	TSCP 700-4B (1) GTCP 85-98D (1)	0.23 - 0.26 [1.0- 1.5]  0.23 - 0.26 [0.87]	3, 4a, 4b, 5b 3, 4b 3, 4a, 4b, 5a, 5b 3, 4b 4b
DC-10 Series  DC-9 Series  DC-9 Series  DH.125 Series 1A, -3A, -3A/RA, -400A  DHC-6-300, -400  E-27 Mark 100, -200, -300, -400, -600, -700	Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet General Aviation: Business Jet General Aviation: Turboprop General Aviation: Turboprop	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-5DA, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JT3D-20, -201, -59A (3) CFM56-2-C1, -2-C3, -2-C5 (4) JT3D-3, -3B, -7 (4) JT8D-7, -7A, -7B, -9, -9A (2) JT8D-11, -15, 15A, -17, -17A (2) JT8D-209, -217, -217A, -217A, -217C, -219 (2) TFE731-3, -3R (2) PF6A-27 (2) SPEY Mk511, -Mk511-7E (2)	TSCP 700-4B (1) GTCP 85-98D (1)	0.23 - 0.26 [1.0- 1.5]  0.23 - 0.26 [0.87] 	3, 4a, 4b, 5b  3, 4b  3, 4a, 4b, 5a, 5b  3, 4b  4b  3, 4b
DC-10 Series  DC-8 Series  DC-9 Series  DH.125 Series 1A, -3A, -3A/RA, -400A  DHC-6-300, -400  F.27 Mark 100, -200, -300, -400, -600, -700  F.28 Mark 0070	Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet General Aviation: Business Jet General Aviation: Turboprop General Aviation: Turboprop General Aviation: Business Jet	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-5DA, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) IT9D-20, -20J, -59A (3) CFM56-2C1, -2-C3, -2-C5 (4) IT3D-3, -3B, -7 (4) IT8D-7, -7A, -7B, -9, -9A (2) IT8D-11, -15, I5A, -17, -17A (2) JT8D-12, -15, I5A, -17, -17A (2) JT8D-209, -217, -217, -217A, -217C, -219 (2) TFE731-3, -3R (2) PT6A-27 (2) SPEY Mk511, -Mk511-7E (2) TAY Mk650-15 (2) TAY Mk620-15 (2)	TSCP 700-4B (1) GTCP 85-98D (1)	0.23 - 0.26 [1.0- 1.5]  0.23 - 0.26 [0.87]	3, 4a, 4b, 5b  3, 4b  3, 4a, 4b, 5a, 5b  3, 4b  4b  3, 4b  4b  4b  3, 4b
DC-10 Series  DC-8 Series  DC-9 Series  DH.125 Series 1A, -3A, -3A/RA, -400A  DHC-6-300, -400  F.27 Mark 100, -200, -300, -400, -600, -700  F.28 Mark 0070  F.28 Mark 0100	Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet General Aviation: Business Jet General Aviation: Turboprop General Aviation: Turboprop General Aviation: Business Jet General Aviation: Business Jet General Aviation: Business Jet General Aviation: Business Jet	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-5DA, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JT9D-20, -201, -59A (3) CFM56-2-C1, -2-C3, -2-C5 (4) JT3D-3, -3B, -7 (4) JT8D-7, -7A, -7B, -9, -9A (2) JT8D-11, -15, 15A, -17, -17A (2) JT8D-209, -217, -217, -217A, -217C, -219 (2) TFE731-3, -3R (2) PT6A-27 (2) SPEY Mk511, -Mk511-7E (2) TAY Mk650-15 (2) TAY Mk650-15 (2) SPEY Mk555-15 (2) SPEY Mk555-15 (2) SPEY Mk555-15 (2) SPEY Mk555-15 (2)	TSCP 700-4B (1)   GTCP 85-98D (1)	0.23 - 0.26 [1.0- 1.5]	3, 4a, 4b, 5b  3, 4b  3, 4a, 4b, 5a, 5b  3, 4b  4b  3, 4b  4b
DC-10 Series  DC-8 Series  DC-9 Series  DH.125 Series 1A, -3A, -3A/RA, -400A  DHC-6-300, -400  F-27 Mark 100, -200, -300, -400, -600, -700  F-28 Mark 0070  F-28 Mark 0100  F-28 Mark 1000, -2000	Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet General Aviation: Business Jet General Aviation: Turboprop General Aviation: Turboprop General Aviation: Business Jet General Aviation: Business Jet General Aviation: Business Jet	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-5DA, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JT9D-20, -201, -59A (3) CFM56-2-C1, -2-C3, -2-C5 (4) JT3D-3, -3B, -7 (4) JT8D-7, -7A, -7B, -9, -9A (2) JT8D-11, -15, 15A, -17, -17A (2) JT8D-209, -217, -217, -217A, -217C, -219 (2) TFE731-3, -3R (2) PT6A-27 (2) SPEY Mk511, -Mk511-7E (2) TAY Mk650-15 (2) TAY Mk650-15 (2) SPEY Mk555-15 (2) SPEY Mk555-15 (2) SPEY Mk555-15 (2) SPEY Mk555-15 (2)	TSCP 700-4B (1)   GTCP 85-98D (1)	0.23 - 0.26 [1.0- 1.5]   0.23 - 0.26 [0.87]	3, 4a, 4b, 5b  3, 4b  3, 4a, 4b, 5a, 5b  3, 4b  4b  3, 4b  4b  4b  3, 4b
DC-10 Series  DC-8 Series  DC-9 Series  DH.125 Series 1A, -3A, -3A/RA, -400A  DHC-6-300, -400  F-27 Mark 100, -200, -300, -400, -600, -700  F-28 Mark 0070  F-28 Mark 0100  F-28 Mark 1000, -2000  F-28 Mark 3000, -4000	Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet General Aviation: Business Jet General Aviation: Turboprop General Aviation: Turboprop General Aviation: Business Jet General Aviation: Business Jet General Aviation: Business Jet General Aviation: Business Jet	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-5DA, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JT3D-20, -201, -59A (3) CFM56-2-C1, -2-C3, -2-C5 (4) JT3D-3, -3B, -7 (4) JT8D-17, -7A, -7B, -9, -9A (2) JT8D-11, -15, 15A, -17, -17A (2) JT8D-209, -217, -217, -217A, -217C, -219 (2) TFE731-3, -3R (2) PT6A-27 (2) SPEY Mk511, -Mk511-7E (2) TAY Mk650-15 (2) TAY Mk650-15 (2) SPEY MK555-15 (2) SPEY MK555-15 (2) SPEY MK555-15 (2) SPEY MK555-15 (2)	TSCP 700-4B (1)   GTCP 85-98D (1)	0.23 - 0.26 [1.0- 1.5] 0.23 - 0.26 [0.87]	3, 4a, 4b, 5b  3, 4b  3, 4a, 4b, 5a, 5b  3, 4b  4b  3, 4b  4b  4b  3, 4b  3, 4b
DC-10 Series  DC-9 Series  DC-9 Series  DH.125 Series 1A, -3A, -3A/RA, -400A  DHC-6-300, -400  E-27 Mark 100, -200, -300, -400, -600, -700  E-28 Mark 0070  F-28 Mark 0100  F-28 Mark 1000, -2000  F-28 Mark 3000, -4000  Falcon 20	Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet Commercial Carrier: Jumbo, long, and medium range jet General Aviation: Business Jet General Aviation: Turboprop General Aviation: Turboprop General Aviation: Business Jet	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-5DA, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JT3D-20, -201, -59A (3) CFM56-2-C1, -2-C3, -2-C5 (4) JT3D-3, -3B, -7 (4) JT8D-17, -7A, -7B, -9, -9A (2) JT8D-11, -15, 15A, -17, -17A (2) JT8D-209, -217, -217, -217A, -217C, -219 (2) TFE731-3, -3R (2) PT6A-27 (2) SPEY Mk511, -Mk511-7E (2) TAY Mk650-15 (2) TAY Mk650-15 (2) SPEY MK555-15 (2) SPEY MK555-15 (2) SPEY MK555-15 (2) SPEY MK555-15 (2)	TSCP 700-4B (1)   GTCP 85-98D (1)	0.23 - 0.26 [1.0- 1.5]   0.23 - 0.26 [0.87]      0.23 - 0.26	3, 4a, 4b, 5b  3, 4b  3, 4a, 4b, 5a, 5b  3, 4b  4b  3, 4b  4b  4b  3, 4b  4b  4b  4b
DC-10 Series  DC-8 Series  DC-9 Series  DH-125 Series 1A, -3A, -3A/RA, -400A  DHC-6-300, -400  F.27 Mark 100, -200, -300, -400, -600, -700  F.28 Mark 0070  F.28 Mark 0100  F.28 Mark 1000, -2000  F.28 Mark 3000, -4000  Falcon 20  G-1159, -1159A, -1159B	Commercial Carrier: Jumbo, long, and medium range jet General Aviation: Business Jet General Aviation: Turboprop General Aviation: Business Jet	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-5DA, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JTDD-20, -20J, -59A (3) CFM56-2-C1, -2-C3, -2-C5 (4) JT3D-3, -3B, -7 (4) JT8D-17, -7A, -7B, -9, -9A (2) JT8D-11, -15, 15A, -17, -17A (2) JT8D-209, -217, -217A, -217C, -219 (2) TFE731-3, -3R (2) JTF6731-3, -3R (2) SPEY Mk511, -Mk511-7E (2) TAY Mk650-15 (2) TAY Mk650-15 (2) TAY Mk650-15 (2) SPEY MK555-15 (2) SPEY MK555-15 (2) SPEY MK555-15 (2) SPEY MK555-15 (2) SPEY MK551-8 (2) SPEY Mk511-8 (2)	TSCP 700-4B (1)   GTCP 85-98D (1)     GTCP 36-6 (1)	0.23 - 0.26 [1.0- 1.5]   0.23 - 0.26 [0.87]     0.23 - 0.26 [0.87]	3, 4a, 4b, 5b  3, 4b  3, 4a, 4b, 5a, 5b  3, 4b  4b  3, 4b  4b  4b  3, 4b  4b  3, 4b  3, 4b  3, 4b  3, 4b
DC-10 Series  DC-8 Series  DC-9 Series  DH-125 Series 1A, -3A, -3A/RA, -400A  DHC-6-300, -400  F.27 Mark 100, -200, -300, -400, -600, -700  F.28 Mark 0070  F.28 Mark 0100  F.28 Mark 0100  F.28 Mark 1000, -2000  F.28 Mark 3000, -4000  Falcon 20  G-1159, -1159A, -1159B  G200  G-21  G-21  G280	Commercial Carrier: Jumbo, long, and medium range jet  General Aviation: Business Jet  General Aviation: Turboprop  General Aviation: Business Jet  General Aviation: Business Jet	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-5DA, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JTDD-20, -20J, -59A (3) CFM56-2-C1, -2-C3, -2-C5 (4) JT3D-3, -3B, -7 (4) JT8D-17, -7A, -7B, -9, -9A (2) JT8D-11, -15, 15A, -17, -17A (2) JT8D-10, -217, -217A, -217C, -219 (2) TFE731-3, -3R (2)  PT6A-27 (2) SPEY Mk511, -Mk511-7E (2) TAY Mk650-15 (2) TAY Mk650-15 (2) TAY Mk650-15 (2) SPEY MK555-15H (2) CF700-2D (2) SPEY Mk511-8 (2) PP6A-27 (2) AS907-2-1G (2)	TSCP 700-4B (1)  GTCP 85-98D (1)     GTCP 36-6 (1)	0.23 - 0.26 [1.0- 1.5]   0.23 - 0.26 [0.87]     0.23 - 0.26 [0.87]   0.23 - 0.26 [0.87]	3, 4a, 4b, 5b  3, 4b  3, 4a, 4b, 5a, 5b  3, 4b  4b  3, 4b  4b  3, 4b  4c  4a  4b
DC-10 Series  DC-8 Series  DC-9 Series  DH.125 Series 1A, -3A, -3A/RA, -400A  DHC-6-300, -400  F.27 Mark 100, -200, -300, -400, -600, -700  F.28 Mark 0070  F.28 Mark 0070  F.28 Mark 1000, -2000  F.28 Mark 3000, -4000  Falson 20  G-1159, -1159A, -1159B  G200  G-21	Commercial Carrier: Jumbo, long, and medium range jet  General Aviation: Business Jet  General Aviation: Turboprop  General Aviation: Business Jet  General Aviation: Business Jet	CF6-6D, -6D1, -6D1A, -6K, -6K2 (3) CF6-5DA, -50C, -50C1, -50C2, -50C2B, -50C2R, -50CA (3) JTDD-20, -20J, -59A (3) CFM56-2-C1, -2-C3, -2-C5 (4) JT3D-3, -3B, -7 (4) JT8D-17, -7A, -7B, -9, -9A (2) JT8D-11, -15, 15A, -17, -17A (2) JT8D-13, -3R (2) JT8D-209, -217, -217A, -217C, -219 (2) TFE731-3, -3R (2)  PT6A-27 (2) SPEY Mk511, -Mk511-7E (2) TAY Mk650-15 (2) TAY Mk650-15 (2) SPEY MK555-15 (2) SPEY MK555-15 (2) SPEY MK555-15 (2) SPEY MK511-8 (2) CF700-2D (2) SPEY Mk511-8 (2) PW306A (2) PP6A-27 (2) AS907-2-1G (2) TAY Mk611-8 (2)	TSCP 700-4B (1)  GTCP 85-98D (1)     GTCP 36-6 (1)	0.23 - 0.26 [1.0- 1.5]   0.23 - 0.26 [0.87]     0.23 - 0.26 [0.87]    0.23 - 0.26	3, 4a, 4b, 5b  3, 4b  3, 4a, 4b, 5a, 5b  3, 4b  4b  4b  3, 4b  4b  3, 4b  4c  4a

Table 2-7. Commercial Airframe/Engine/APU Combinations1 (continued)

Aircraft Model	Time-In-Mode Category	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>2</sup> [Without Gate Power]	Notes:
GV	General Aviation: Business Jet	BR700-710A1-10 (2)			4b
GVI	General Aviation: Business Jet	BR725A1-12 (2)			4b
GV-SP	General Aviation: Business Jet	BR700-710C4-11 (2)			4b
Hawker 4000	General Aviation: Business Jet	PW308A (2)	-		4c
Hawker 400A, -400XP	General Aviation: Business Jet	JT15D-5, -5R (2)			3, 4c
HS.125 Series 403B, -600A, -700A, -700B, -F3B, -F3B/RA, -F400B, -F600B	General Aviation: Business Jet	TFE731-3, -3R (2)			3, 4b
JetStar 1329-25	General Aviation: Business Jet	TFE731-3-1F (4)			3, 4b
King Air B200	General Aviation: Turboprop	PT6A-41 (2)			4c
L-1011-385-1	Commercial Carrier: Jumbo, long, and medium range jet	RB211-22C-02, -22B-02 (3)			3, 4b
L-1011-385-1-14	Commercial Carrier: Jumbo, long, and medium range jet	RB211-22B-02, -524B-02, -524B4-02, -524B3-02 (3)			3, 4b
L-1011-385-1-15	Commercial Carrier: Jumbo, long, and medium range jet	RB211-22B-02, -22B4D-02, -524B-02, -524B4-02, -524B3-02 (3)			3, 4b
Learjet 31, -31A	General Aviation: Business Jet	TFE731-2-3B (2)			3, 4b
Learjet 35, -36	General Aviation: Business Jet	TFE731-2, -2-2B (2)			4a
Learjet 35A, -36A	General Aviation: Business Jet	TFE731-2-2B (2)			4a
Learjet 55	General Aviation: Business Jet	TFE731-3A-2B1, -3A-2B, -3AR-2B1, -3AR-2B (2)			3, 4b
Learjet 55B	General Aviation: Business Jet	TFE731-3AR-2B1, -3AR-2B (2)			3, 4b
Learjet 55C	General Aviation: Business Jet	TFE731-3AR-3B1, -3AR-3B, -3AR-2B1, -3AR-2B (2)			3, 4b
MD-10-10F	Commercial Carrier: Jumbo, long, and medium range jet	CF6-6D, -6K (3)	TSCP 700-4B (1)	0.23 - 0.26 [1.0 - 1.5]	4b, 5b
MD-10-30F	Commercial Carrier: Jumbo, long, and medium range jet	CF6-50C2 (3)	TSCP 700-4B (1)	0.23 - 0.26 [1.0 - 1.5]	4b, 5b
MD-11, -11F	Commercial Carrier: Jumbo, long, and medium range jet	CF6-80C2D1F (3) PW4460 (3)	TSCP 700-4 (1)	0.23 - 0.26 [1.0 - 1.5]	4b, 5b
MD-88	Commercial Carrier: Jumbo, long, and medium range jet	JT8D-217A, -217C, -219 (2)			4b
MD-90, -90-30	Commercial Carrier: Jumbo, long, and medium range jet	V2525-D5 (2) V2528-D5 (2)			4b
MU-300, -300-10	General Aviation: Business Jet	JT15D-4, -4D (2)			3, 4b
NA-265-80	General Aviation: Business Jet	CF700-2D-2 (2)	-		3, 4b
PA-18A	General Aviation: Piston	O-320 (1)			4b
PA-23, -23-160	General Aviation: Piston	O-320 (2)			4b
PA-28-140	General Aviation: Piston	O-320-E2A (1)			3, 4b
PA-28-150	General Aviation: Piston	O-320-A2B, -E2A (1)			3, 4b
PA-28-151	General Aviation: Piston	O-320-E3D (1)			3, 4b
PA-28-160	General Aviation: Piston	O-320-B2B, -D2A (1)			3, 4b
PA-28-161	General Aviation: Piston	O-320-D2A, -D3G (1)			3, 4b
PA-28-201T	General Aviation: Piston	TSIO-360-FB (1)			3, 4b
PA-28R-180	General Aviation: Piston	IO-360-BIE (1)			3, 4b
PA-28R-200	General Aviation: Piston	IO-360-C1C, -C1C6 (1)			3, 4b
PA-28R-201, -28RT-201	General Aviation: Piston	IO-360-C1C6 (1)			3, 4b
PA-28R-201T	General Aviation: Piston	TSIO-360-F, -360-FB (1)			3, 4b
PA-28RT-201T	General Aviation: Piston	TSIO-360-FB (1)			3, 4b
PA-28S-160	General Aviation: Piston	O-320-D2A (1)			3, 4b

Table 2-7. Commercial Airframe/Engine/APU Combinations1 (continued)

Aircraft Model	Time-In-Mode Category	Engine Model(s) (Number of Engines)	APU Model(s) (Number of APUs)	APU Operating Time Per LTO (hrs) <sup>2</sup> [Without Gate Power]	Notes:
PA-31	General Aviation: Piston	TIO-540, -540-A1A, -540-A1B, -540-A2A, -540-A2B, -540-A2C (2)			3, 4a
PA-31-325	General Aviation: Piston	TIO-540-F2BD (2)			3, 4b
PA-31-350	General Aviation: Piston	TIO-540-J2BD, -540-J2B (2)			3, 4b
PA-32-301T	General Aviation: Piston	TIO-540-S1AD (1)			3, 4b
PA-32-301XTC	General Aviation: Piston	TIO-540-AH1A (1)			3, 4b
PA-32R-301T	General Aviation: Piston	TIO-540-S1AD, 540-AH1A (1)			3, 4b
PA-32RT-300T	General Aviation: Piston	TIO-540-S1AD (1)			3, 4b
PA-36-285	General Aviation: Turboprop	6-285-B, -285-BA, -285-C, -285-CA (1)			3, 4b
PA-42	General Aviation: Turboprop	PT6A-41 (2)			4b
PA-46-350P, -46R-350T	General Aviation: Turboprop	TIO-540-AE2A (1)			3, 4b
SA226-AT	General Aviation: Turboprop	TPE331-3U-303G, -3U-304G, -3UW-303G (2)			3, 4b
SA226-T	General Aviation: Turboprop	TPE331-3U-303G, -3U-304G (2)			3, 4b
SA226-TC	General Aviation: Turboprop	TPE331-3U-303G, -3U-304G, -3UW-303G, -3UW-304G (2)			3, 4b
SC-7	General Aviation: Turboprop	TPE331-2-201A (2)			3, 4a
Super King Air A100-1, -200, -200C, -200CT, -200T, -A200, -A200C, - A200CT, -B200, -B200C, -B200CT, -B200T	General Aviation: Turboprop	PT6A-41 (2)			4b
TU-154-B	Commercial Carrier: Jumbo, long, and medium range jet	NK-8-2U (3)			4g
Twin Commander 685	General Aviation: Piston	GTSIO-520-F, -520-K (2)			3, 4b

- 1. Note that some Aircraft model/engine/APU combinations may be missing due to unverified sources and/or missing emission factors for either engine(s) and/or APU(s).
- 2. SOURCE: Airport Air Quality Manual, International Civil Aviation Organization, 2011. ICAO provides a range for both narrow body and wide body aircraft. The values given out of the brackets assume gate power while the bracketed values are in instances where there is no gate power.
- 3. This document does not have emission factors for at least one engine/APU listed for this aircraft.
- 4. The Aircraft/Engine combination source was reported in one of the following documents:
  - a. SOURCE: Air Pollutant Emission Factors for Military and Civil Aircraft, EPA-450/3-78-117, October 1978.
  - b. SOURCE: The FAA Certificate Data Sheet for the airframe model listed.
  - c. SOURCE: Pratt & Whitney website (<u>www.pw.utc.com</u>)
  - d. SOURCE: The EASA Certificate Data Sheet for the airframe model listed.
  - e. Airbus website (www.airbus.com)
  - f. Boeing Website (<u>www.boeing.com</u>)
  - g. Tupolev website (<u>www.tupolev.ru/english/</u>)
- 5. Airframe/APU combination source was reported in one of the following:
  - a. SOURCE: EDMS Input from Paine Field
  - b. SOURCE: FAA Certificate data sheet for the listed airframe
  - c. SOURCE: EASA Certificate data sheet for the listed airframe

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs

## **SEE CORRECTIONS ADDENDUM TO 2014 MOBILE GUIDE**

Aircraft Engine	Power	Percent	Fuel Flow	Emission Factors (lb/1000lb fuel)									
Ancian Engine	Setting	Thrust/hp	Rate (lb/hr)	$NO_X$	$SO_X^{-1}$	CO	VOC	HAP's	$PM_{10}$	$PM_{2.5}$	GHG		
	Idle (Taxi)	<40%	72	0.46	1.06	363.70	12.33		60.00( <b>S</b> )	54.00(S)	3255.		
	Approach	40%	84	4.72	1.06	1022.63	18.50		47.95( <b>S</b> )	43.16( <b>S</b> )	3255		
6-285-B	Climb out	75-100%	166	5.50	1.06	668.07	9.63		40.00(S)	36.00(S)	325		
	Takeoff	100%	153	5.88	1.06	998.04	13.38		20.00(S)	18.00( <b>S</b> )	255		
es: 3a, 4b (for PM <sub>10</sub> and I	PM <sub>2.5</sub> data at all power se	ttings), 5, 8, 1	1, 12h										
	Idle		362	4.15	1.06	8.35	0.12		1.58	1.42	3255		
	Flight Idle		663	6.05	1.06	3.47	0.02		1.58	1.42	3255		
AE1107C	Intermediate		948	7.87	1.06	1.82	0.02		1 38	1.42	3255		
	Max Continuous		2507	18.03	1.06	0.29	0.01		1.58	1.42	3255		
es: 3f (This is the commer	regal designation of the TA	06 AD 400 ea	agina) 8 12d										
es. 31 (This is the confiner	cial designation of the 14	00-AD-400 ei	igilie), 8, 12u										
	Idle (Taxi)	7%	389	3.83	1.06	17.35	2.89		0.05	0.05	325		
	Approach	30%	929	7.79	1.06	3.28	0.74		0.07	0.07	325		
AE3007A	Climb out	85%	2500	17.47	1.06	0.92	9.33		0.06	0.05	325		
	Takeoff	100%	2992	20.54	1.06	0.75	0.29		0.08	0.07	325		
es: 3b, 5, 6, 8, 10, 12e		1									<u> </u>		
-,-,-,-,-								T	T		_		
	Idle (Taxi)	7%	379	3.38	1.06	45.63	7.65		0.10	0.09	325		
	Approach	30%	930	6.47	1.0	3.97	0.21		0.11	0.10	325		
ALF 502L-2	Climb out	85%	2568	12.03	06	0.30	0.03		0.10	0.09	325		
	Takeoff	100%	3174	13.43	1.06	0.40	0.02		0.07	0.07	325		
es: 3b, 5, 6, 8, 10, 12h				_/							<u> </u>		
								ı					
	Idle (Taxi)	7%	343	3.30	1.06	44.67	7.49		0.09	0.08	325		
A F 500D 0	Approach	30%	815	6.15	1.06	8.43	0.33		0.09	0.08	325		
ALF 502R-3	Climb out	85%	27.86	9.94	1.06	0.50	0.06		0.10	0.09	325		
	Takeoff	100%	2759	11.20	1.06	0.43	0.06		0.10	0.09	325		
es: 3b, 5, 6, 8, 10, 12h													
	III (T)	70/	22.4	2.70	1.06	40.02	6.20	I	0.00	0.00	225		
	Idle (Taxi)	7%	324	3.78	1.06	40.93	6.20		0.09	0.08	325		
ALESOOD 5	Approach	30%	821	6.60	1.06	7.10	0.25		0.09	0.08	325		
ALF 502R-5	Climb out Takeoff	85% 100%	2345 2842	10.56	1.06	0.25	0.06		0.11	0.10	325. 325.		
	Takeon	100%	2042	13.33	1.00	0.30	0.07		0.11	0.10	323		
es: 3b, 5, 6, 8, 10, 12h													
	Idle (Taxi)	7%	381	3.91	1.06	33.24	1.45		0.10	0.09	325		
	Approach	30%	825	8.81	1.06	6.28	0.14		0.06	0.05	325		
AS907-1-1A	Climb out	85%	2286	16.17	1.06	0.63	0.07		0.31	0.03	325		
	Takeoff	100%	2854	17.90	1.06	0.56	0.06		0.36	0.33	325		
es: 3b, 5, 6, 8, 10, 12a													
	Idle (Taxi)	7%	389	3.91	1.06	29.28	1.08		0.08	0.07	325		
	Approach	30%	849	8.74	1.06	6.29	0.13		0.06	0.05	325		
AS907-2-1G	Climb out	85%	2444	16.39	1.06	0.61	0.07		0.31	0.28	3255		
	Takeoff	100%	2952	18.29	1.06	0.54	0.07		0.36	0.33	325		

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow	Emission Factors (lb/1000lb fuel)									
Ancian Engine	Setting	Thrust/hp	Rate (lb/hr)	$NO_X$	SO <sub>X</sub> <sup>1</sup>	CO	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHO		
	Idle (Taxi)	7%	706	4.00	1.06	26.09	2.28		0.05	0.05	3255.		
	Approach	30%	1746	8.20	1.06	4.24	0.05		0.04	0.04	3255		
BR700-710A1-10	Climb out	85%	4667	13.93	1.06	0.66	0.03		0.25	0.22	32/5		
	Takeoff	100%	5611	17.07	1.06	0.52	0.00		0.28	0.26	<i>s</i> 255		
tes: 3b, 5, 6, 8, 10, 12h													
	Idle (Taxi)	7%	706	4.67	1.06	28.00	1.29		0.06	0.05	3255		
	Approach	30%	1698	7.67	1.06	4.81	0.06		0.05	0.04	3255		
BR700-710A2-20	Climb out	85%	4722	15.03	1.06	0.93	0.02		<b>7.34</b>	0.31	3255		
	Takeoff	100%	5667	18.73	1.06	1.04	0.02		0.37	0.33	3255		
tes: 3b, 5, 6, 8, 10, 12h								_/_					
	Idle (Taxi)	7%	659	4.50	1.06	31.57	2.63		0.06	0.06	3255		
	Approach	30%	1706	7.71	1.06	4.92	0.0		0.05	0.06	3255		
BR700-710C4-11	Climb out	85%	4897	15.43	1.06	0.92	3.02		0.05	0.04	3255		
BK/00=/10C4=11	Takeoff	100%	5929	19.52	1.06	1.04	0.02		0.33	0.32	3255		
	Takeon	10070	3727	17.32	1.00	1.04	0.02		0.37	0.55	3233		
tes: 3b, 5, 6, 8, 10, 12h	•	L	l l				ı			ı			
	Idle (Taxi)	7%	762	5.37	1.06	16.27	0.24		0.07	0.06	3255		
	Approach	30%	1944	11.19	1.00	3.76	0.01		0.06	0.06	3255		
BR700-715A1-30	Climb out	85%	5476	18.65	1.06	0.75	0.02		0.09	0.08	3255		
BR700-715A1-30	Takeoff	100%	6635	23.97	1.06	0.78	0.00		0.10	0.09	3255		
	Takeon	10070	0033	23.71	1.00	0.76	0.00		0.10	0.07	3230		
tes: 3b, 5, 6, 8, 10, 12h		•					•	'		•			
	Idle (Taxi)	7%	802	5.72	1.06	14.86	0.16		0.07	0.06	3255		
	Approach	30%	216	11.55	1.06	3.06	0.00		0.07	0.06	3255		
BR700-715C1-30	Climb out	85%	541	22.41	1.06	0.78	0.00		0.10	0.09	3255		
	Takeoff	100%	7778	31.39	1.06	0.75	0.00		0.11	0.10	3255		
tes: 3b, 5, 6, 8, 10, 12h													
	Idle (Taxi)	7%	675	3.38	1.06	41.88	3.45		0.06	0.05	3255		
	Approach	30%	1754	7.81	1.06	5.93	0.00		0.04	0.03	3255		
BR725A1-12	Climb out	85%	5159	13.32	1.06	0.32	0.00		0.13	0.12	3255		
	Takeof	100%	6262	16.92	1.06	0.40	0.00		0.11	0.10	3255		
tes: 3b, 5, 6, 8, 10, 12h													
	Idle (Taxi)	7%	1371	4.50	1.06	54.20	24.15		0.20	0.18	3255		
	Approach	30%	3841	11.40	1.06	6.50	0.81		0.10	0.09	3255		
CF6-6D	Climb out	85%	11357	32.60	1.06	0.50	0.35		0.07	0.06	3255		
	Takeoff	100%	13778	40.00	1.06	0.50	0.35		0.09	0.08	3255		
					2.00	2.20			2.07	2.00	2200		
tes: 3b, 5, 6, 8 10, 12a													
	Idle (Taxi)	7%	1397	4.60	1.06	52.00	22.89		0.19	0.17	3255		
	Approach	30%	3921	11.80	1.06	5.50	0.69		0.19	0.17	3255		
CF6-6D1A	Climb out	85%	11921	33.90	1.06	0.50	0.35		0.07	0.06	3255		
	Takeoff	100%	14381	41.60	1.06	0.50	0.35		0.09	0.08	3255		

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow	Emission Factors (lb/1000lb fuel)								
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	co	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG	
	Idle (Taxi)	7%	1371	4.50	1.06	54.20	24.15		0.20	0.18	3255.4	
	Approach	30%	3841	11.40	1.06	6.50	0.81		0.10	0.09	3255.4	
CF6-6K	Climb out	85%	11357	32.60	1.06	0.50	0.35		0.07	0.06	3255	
	Takeoff	100%	13778	40.00	1.06	0.50	0.35		0.09	0.08	32,5.4	
otes: 3b, 5, 6, 8, 10, 12a							l					
	Idle (Taxi)	7%	1397	4.60	1.06	52.00	22.89		0.19	0.17	3255.4	
CEC CV2	Approach	30%	3921	11.80	1.06	5.50	0.69		0.09	0.08	3255.4	
CF6-6K2	Climb out	85%	11921	33.90	1.06	0.50	0.35		0.07	0.06	3255.	
	Takeoff	100%	14381	41.60	1.06	0.50	0.35		.09	0.08	3255.	
otes: 3b, 5, 6, 8, 10, 12a					I.	l	ı			I.		
	Lille (Tree')	70/	1204	2.40	1.00	24.04	2.12		0.06	0.06	2255	
	Idle (Taxi)	7% 30%	1294 4960	3.40 9.72	1.06 1.06	24.04 4.35	3.13 0.36		0.06	0.06	3255.4	
CF6-50A	Approach Climb out	85%	14183	23.27	1.06	0.49	0.36		0.06	0.00	3255.4	
CI 0-30/1	Takeoff	100%	17206	27.17	1.06	0.43	0.17		0.11	0.10	3255.4	
otes: 3b, 5, 6, 8, 10, 12a						_/						
	Idle (Taxi)	7%	1683	3.50	1.06	62.30	26.45		0.22	0.20	3255.	
	Approach	30%	5103	9.40	1.06	5.20	1.15		0.11	0.10	3255.	
CF6-50C	Climb out	85%	15199	29.00	1/6	0.50	0.81		0.10	0.09	3255.	
	Takeoff	100%	18881	35.00	1.06	0.50	0.69		0.12	0.11	3255.	
otes: 3b, 5, 6, 8, 10, 12a												
		T 701	1504	2.60	1.05	T = 4.00	25.05		0.24	0.40	2255	
	Idle (Taxi)	7%	1706	3.60	1.06	61.80	25.07		0.21	0.19	3255.	
CF6-50C1, -50C2	Approach Climb out	30% 85%	5238 15675	9.50 29.70	1.06 1.06	4.30 0.50	1.15 0.81		0.11	0.10	3255.4 3255.4	
Cro-30C1, -30C2	Takeoff	100%	1363	36.30	1.06	0.50	0.69		0.10	0.09	3255.	
otes: 3b, 5, 6, 8, 10, 12a												
	Idle (Taxi)	1%	1294	3.40	1.06	24.04	3.13		0.06	0.06	3255.4	
	Approach	30%	5294	10.49	1.06	3.42	0.30		0.06	0.05	3255.	
CF6-50C2B	Climb out	85%	15849	26.34	1.06	0.44	0.17		0.11	0.10	3255.	
	Takeoff	100%	19127	29.59	1.06	0.46	0.15		0.10	0.09	3255.	
otes: 3b, 5, 6, 8, 10, 12a												
	Idle (Taxi)	7%	1683	3.50	1.06	62.30	26.45		0.22	0.20	3255.	
	Approach	30%	5103	9.40	1.06	5.20	1.15		0.11	0.10	3255.4	
CF6-50C2R	Climb out	85%	15199	29.00	1.06	0.50	0.81		0.10	0.09	3255.	
	Takeoff	100%	18881	35.00	1.06	0.50	0.69		0.12	0.11	3255.4	
otes: 3b, 5, 6, 8, 17, 12a	<u> </u>						1	1			L	
	I.II. (T2)	70/	1204	2.40	1.00	24.04	2.12		0.06	0.06	2255	
	Idle (Taxi)	7%	1294	3.40	1.06	24.04	3.13		0.06	0.06	3255.	
CF6-50CA	Approach Climb out	30% 85%	5087 14881	10.09 24.30	1.06 1.06	3.99 0.46	0.33 0.16		0.06	0.06	3255.	
Crosuch	Takeoff	100%	18103	28.03	1.06	0.46	0.16		0.11	0.10	3255.4	
/	- Likeon	10070	10103	20.05	2.00	V. T.	0.10	1	0.10	0.07	5255.	

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow	Emission Factors (lb/1000lb fuel)								
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	co	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG	
	Idle (Taxi)	7%	1294	3.40	1.06	24.04	3.13		0.06	0.06	3255.4	
	Approach	30%	5262	10.16	1.06	3.71	0.32		0.06	0.06	3254	
CF6-50E, -50E1	Climb out	85%	15397	25.50	1.06	0.45	0.17		0.11	0.10	255.4	
	Takeoff	100%	18738	28.97	1.06	0.45	0.16		0.10	0.09	3255.4	
Totes: 3b, 5, 6, 8, 10, 12a											<u> </u>	
	Idle (Taxi)	7%	1294	3.40	1.06	24.04	3.13		0.06	0.06	3255.4	
	Approach	30%	5262	10.16	1.06	3.71	0.32		0.06	0.06	3255.4	
CF6-50E2	Climb out	85%	15397	25.50	1.06	0.45	0.17		0.11	0.10	3255.4	
	Takeoff	100%	18738	28.97	1.06	0.45	0.16		0.10	0.09	3255.4	
otes: 3b, 5, 6, 8, 10, 12a	I	l	 				l			l		
	III (T. )	70/	1100	2.40	1.06	20.20	7.00		0.00	0.00	2255	
	Idle (Taxi)	7% 30%	1190 4881	3.40 10.30	1.06	28.20 3.10	7.22		0.09	0.08	3255.4 3255.4	
CF6-80A	Approach Climb out	85%	14246	25.60	1.06	1.10	0.33		0.08	0.07	3255.4	
C1 0-00/1	Takeoff	100%	17024	29.80	1.06	1.00	0.33		0.11	0.10	3255.4	
fotes: 3b, 5, 6, 8, 10, 12a												
	Idle (Taxi)	7%	1190	3.40	1.0	28.20	7.22		0.09	0.08	3255.4	
	Approach	30%	5087	10.80	1.06	2.80	0.52		0.07	0.07	3255.4	
CF6-80A2, -80A3	Climb out	85%	14960	26.60	1.06	1.10	0.43		0.11	0.10	3255.4	
	Takeoff	100%	17889	29.60	1.06	1.00	0.35		0.13	0.11	3255.4	
Totes: 3b, 5, 6, 8, 10, 12a				/								
	I.H. (Te-2)	70/	1570	2.00	1.06	42.24	10.57	ı	0.12	0.11	2055.4	
	Idle (Taxi)	7% 30%	1579 5,48	3.99 9.76	1.06	42.24 2.19	10.57 0.23		0.12	0.11	3255.4 3255.4	
CF6-80C2A1	Approach Climb out	85%	15500	24.85	1.06	0.54	0.23		0.06	0.06	3255.4	
C1 0 00C2/11	Takeoff	100%	19048	32.22	1.06	0.56	0.09		0.08	0.07	3255.4	
lotes: 3b, 5, 6, 8, 10, 12a												
	Idle (Taxi)	7%	1500	3.95	1.06	46.01	12.05		0.13	0.11	3255.4	
	Approach	30%	4603	9.44	1.06	2.94	0.26		0.06	0.06	3255.4	
CF6-80C2A2	Climb ov.	85%	13849	20.69	1.06	0.55	0.12		0.06	0.06	3255.4	
	Tak off	100%	16802	27.93	1.06	0.57	0.09		0.07	0.07	3255.4	
otes: 3b, 5, 6, 8, 10, 12a												
	Idle (Taxi)	7%	1603	3.92	1.06	41.51	10.28		0.12	0.10	3255.4	
	Approach	30%	5151	9.93	1.06	2.07	0.22		0.06	0.06	3255.4	
CF6-80C2A3	Climb out	85%	15897	25.46	1.06	0.56	0.09		0.07	0.06	3255.4	
	Takeoff	100%	19500	34.50	1.06	0.58	0.07		0.08	0.07	3255.4	
otes: 3b, 5, 7, 8, 10, 12a	<u> </u>					l	l	[		l	I	
	Idla (Tavi)	70/	1642	3 70	1.06	11 65	10.24		0.12	0.10	3255.4	
	Idle (Taxi) Approach	7% 30%	1643 5452	3.79 9.11	1.06	41.65 1.93	10.34 0.23		0.12	0.10	3255.4	
CF6-80C2A5	Climb out	85%	16524	22.86	1.06	0.52	0.23		0.06	0.06	3255.4	
C1 0 0002110	Takeoff	100%	20484	34.38	1.06	0.52	0.09		0.07	0.07	3255.4	
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						<u></u>						

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow	Emission Factors (lb/1000lb fuel)									
Aircran Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHO		
	Idle (Taxi)	7%	1746	4.90	1.06	16.96	1.36		0.05	0.04	3255		
	Approach	30%	5484	12.64	1.06	1.92	0.13		0.04	0.04	3255		
CF6-80C2A5F	Climb out	85%	16714	21.27	1.06	0.04	0.05		0.06	0.06	2255		
	Takeoff	100%	20873	28.11	1.06	0.05	0.06		0.07	0.07	3255		
es: 3b, 5, 6, 8, 10, 12a													
	Idle (Taxi)	7%	1556	3.73	1.06	43.22	10.88		0.12	0.11	3255		
	Approach	30%	4889	8.83	1.06	2.37	0.24		0.6	0.06	325		
CF6-80C2B1	Climb out	85%	14865	21.26	1.06	0.55	0.10		0.06	0.06	325		
	Takeoff	100%	18135	28.11	1.06	0.58	0.09		0.08	0.07	325		
es: 3b, 5, 6, 8, 10, 12a			l l			I				I			
	III (T. )	70/	1570	4.72	1.06	10.22	1.77		0.05	0.04	225		
	Idle (Taxi)	7%	1579	4.73	1.06	19.23	1.77		0.05	0.04	325		
CE6 90C2D1E	Approach	30%	5159	12.47	1.06	2.13	0.06		0.04	0.04	325		
CF6-80C2B1F	Climb out	85% 100%	15738 19222	19.72 24.94	1.06	0.04	0.06		0.06	0.05	325 325		
	Takeoff	100%	19222	24.94	1.06	0.04	0.06		0.07	0.06	323		
es: 3b, 5, 6, 8, 10, 12a			l							ı			
	Idle (Taxi)	7%	1508	4.45	1.06	22.41	2.27		0.05	0.05	325		
	Approach	30%	4643	11.79	1.06	2.61	0.14		0.04	0.04	325		
CF6-80C2B2	Climb out	85%	13937	18.25	1.06	0.05	0.06		0.05	0.05	325		
	Takeoff	100%	16857	22.02	1.06	0.04	0.06		0.06	0.06	325		
21. 7. 6. 0. 10. 12													
es: 3b, 5, 6, 8, 10, 12a													
	Idle (Taxi)	7%	1492	4.52	1.06	21.56	2.14		0.05	0.04	325		
	Approach	30%	47.06	11.80	1.06	2.64	0.14		0.04	0.04	325		
CF6-80C2B2F	Climb out	85%	14103	18.09	1.06	0.06	0.06		0.05	0.05	325		
	Takeoff	100%	17048	21.55	1.06	0.04	0.06		0.07	0.06	325		
es: 3b, 5, 6, 8, 10, 12a													
		701	1505	1.60	105	10.55	4.02		0.05	0.04			
	Idle (Taxi)	7%	1595	4.68	1.06	19.76	1.83		0.05	0.04	325		
CE6 90C2D4	Approach	30%	5087	12.37	1.06	2.12	0.14		0.04	0.04	325		
CF6-80C2B4	Climb out	85%	15595	20.17	1.06	0.04	0.06		0.06	0.05	325		
	Take If	100%	19119	25.93	1.06	0.05	0.06		0.07	0.06	325		
es: 3b, 5, 6, 8, 10, 12a			<u>'</u>			I				I			
	Idle (Taxi)	7%	1579	4.73	1.06	19.23	1.77		0.05	0.04	325		
	Approach	30%	5159	12.47	1.06	2.13	0.13		0.04	0.04	325		
CF6-80C2B4F	Climb out	85%	15738	19.72	1.06	0.04	0.06		0.06	0.05	325		
	Takeoff	100%	19302	25.08	1.06	0.04	0.06		0.07	0.06	325		
es: 3b, 5, 6, 8, 10, 12a													
	I												
	Idle (Taxi)	7%	1635	4.91	1.06	17.45	1.51		0.05	0.04	325		
anar	Approach	30%	5532	12.74	1.06	1.83	0.13		0.04	0.04	325		
CF6-80C2B5F	Climb out	85%	17159	21.76	1.06	0.04	0.06		0.06	0.06	325		
	Takeoff	100%	21310	28.58	1.06	0.05	0.06		0.07	0.07	325		
es: 3b, 5, 6, 8, 10, 12a					l		l				_		
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Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	sion Factor	s (lb/1000l	b fuel)		
Aircran Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	co	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG <sup>2</sup>
	Idle (Taxi)	7%	1627	4.76	1.06	18.89	1.70		0.05	0.04	3255
	Approach	30%	5333	12.53	1.06	1.91	0.13		0.04	0.04	32,5.4
CF6-80C2B6	Climb out	85%	16635	21.69	1.06	0.04	0.06		0.06	0.06	3255.4
	Takeoff	100%	20476	28.57	1.06	0.06	0.05		0.07	0.06	3255.4
otes: 3b, 5, 6, 8, 10, 12a							l				
											T
	Idle (Taxi)	7%	1611	4.81	1.06	18.42	1.64		0.05	0.04	3255.4
CEC 90CODCE	Approach	30%	5413	12.63	1.06	1.93	0.13		2.04	0.04	3255.4
CF6-80C2B6F	Climb out	85%	16699	21.05	1.06	0.04	0.06		0.06	0.06	3255.4
	Takeoff	100%	20587	27.38	1.06	0.05	0.06		0.07	0.06	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	Idla (Tani)	70/	1611	4.01	1.06	19.42	1.0	<u></u>	0.05	0.04	2255 4
	Idle (Taxi) Approach	7% 30%	1611 5413	4.81 12.63	1.06	18.42 1.93	1.64 0.13		0.05	0.04	3255.4 3255.4
CF6-80C2B7F	Climb out	85%	16699	21.05	1.06	0.04	0.13		0.04	0.04	3255.4
CI 0-00C2D71	Takeoff	100%	20587	27.38	1.06	0.04	0.06		0.07	0.06	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1627	4.59	1/0	16.69	1.31		0.05	0.04	3255.4
	Approach	30%	5437	12.42	1.06	1.69	0.10		0.04	0.04	3255.4
CF6-80C2B8F	Climb out	85%	16714	20.84	1.06	0.02	0.05		0.06	0.05	3255.4
	Takeoff	100%	20500	26.85	1.06	0.03	0.05		0.06	0.06	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	Lille (Trans)	70/	1553	3.80	1.06	41.70	10.38	1	0.12	0.11	3255.4
	Idle (Taxi) Approach	7% 30%	214	9.16	1.06	41.78 1.94	0.23		0.12	0.11	3255.4
CF6-80C2D1F	Climb out	85%	16389	24.02	1.06	0.52	0.23		0.07	0.06	3255.4
010 0002511	Takeoff	100%	20603	32.65	1.06	0.52	0.08		0.08	0.07	3255.4
. 21.5.6.0.10.12											
otes: 3b, 5, 6, 8, 10, 12a		/									
	Idle (Taxi)	7%	1810	4.53	1.06	42.67	10.78		0.10	0.09	3255.4
	Approach	30%	5746	9.91	1.06	1.61	0.16		0.05	0.04	3255.4
CF6-80E1A2	Climb gat	85%	17818	28.02	1.06	0.34	0.08		0.08	0.07	3255.4
	Tal coff	100%	21960	39.29	1.06	0.38	0.06		0.09	0.08	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1802	4.69	1.06	37.02	10.96	T	0.10	0.09	3255.4
	Approach	30%	5992	10.29	1.06	1.23	0.21		0.10	0.09	3255.4
CF6-80E1A3	Climb out	85%	18945	31.74	1.06	0.31	0.08		0.08	0.04	3255.4
Cro odzinia	Takeoff	100%	23722	45.63	1.06	0.34	0.08		0.09	0.08	3255.4
otes: 3b, 5, 8, 10, 12a											
	Idle (Taxi)	7%	1802	4.62	1.06	38.09	11.90		0.10	0.09	3255.4
	Approach	30%	5905	10.13	1.06	1.33	0.21		0.05	0.04	3255.4
CF6-80E1A4	Climb out	85%	18548	30.30	1.06	0.30	0.08		0.08	0.07	3255.4
				43.15	1.06	0.34	0.07		0.09		3255.4
	Takeoff	100%	23048	45.15	1.00	0.34	0.07		0.09	0.08	3233.4

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow	Emission Factors (lb/1000lb fuel)									
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	CO	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG		
	Idle (Taxi)	7%	394	3.82	1.06	42.60	4.54		0.09	0.08	3255.		
	Approach	30%	944	6.86	1.06	1.90	0.15		0.06	0.06	3255.		
CF34-3A, -3A1	Climb out	85%	2653	10.14	1.06	0.00	0.07		0.09	0.08	3257.		
	Takeoff	100%	3230	11.61	1.06	0.00	0.07		0.16	0.14	255.		
. 21 5 6 0 10 121													
tes: 3b, 5, 6, 8, 10, 12d										_/			
	Idle (Taxi)	7%	388	3.72	1.06	47.59	5.39		0.09	0.08	3255.		
	Approach	30%	921	6.63	1.06	1.88	0.15		0.06	0.06	3255.		
CF34-3B	Climb out	85%	2610	9.68	1.06	0.00	0.06		0.09	0.08	3255.		
	Takeoff	100%	3167	11.28	1.06	0.00	0.07		0.13	0.12	3255		
tes: 3b, 5, 6, 8, 10, 12a													
	Lilla (Tani)	70/	£10	4.31	1.06	24.92	0.09		0.04	0.03	3255.		
	Idle (Taxi) Approach	7% 30%	548 1334	11.10	1.06 1.06	24.92	0.09		0.04	0.03	3255.		
CF34-8C1	Climb out	85%	3921	12.82	1.06	0.50	0.02		0.04	0.04	3255.		
0.0.00.	Takeoff	100%	4795	14.67	1.06	0.41	0.02		0.06	0.05	3255		
tes: 3b, 5, 6, 8, 10, 12a									•				
	Idle (Taxi)	7%	510	4.60	1.06	18.25	0.15		0.04	0.04	3255.		
GE24 9G5	Approach	30%	1423	10.75	1.00	4.24	0.07		0.04	0.04	3255		
CF34-8C5	Climb out	85%	4204	12.60	1.06	0.57	0.02		0.05	0.04	3255		
	Takeoff	100%	5144	14.69	1.06	0.64	0.02		0.07	0.07	3255.		
tes: 3b, 5, 6, 8, 10, 12a							1	1					
, , , , ,													
	Idle (Taxi)	7%	516	4.65	1.06	17.85	0.15		0.04	0.04	3255.		
	Approach	30%	1452	10.87	1.06	4.17	0.07		0.04	0.04	3255.		
CF34-8C5A1	Climb out	85%	47 10	12.82	1.06	0.57	0.02		0.05	0.04	3255.		
	Takeoff	100%	5278	15.09	1.06	0.66	0.02		0.08	0.07	3255.		
tes: 3b, 5, 6, 8, 10, 12a								l					
tes. 50, 5, 0, 0, 10, 12a													
	Idle (Taxi)	7%	524	4.70	1.06	17.30	0.15		0.04	0.04	3255.		
	Approach	30%	1492	11.06	1.06	4.05	0.07		0.04	0.04	3255.		
CF34-8C5A2	Climb out	85%	4468	13.15	1.06	0.57	0.02		0.05	0.05	3255.		
	Takeoff	100%	5484	15.81	1.06	0.71	0.02		0.10	0.09	3255.		
tes: 3b, 5, 6, 8, 10, 12a													
	Idle (Taxi)	7%	500	4.50	1.06	19.52	0.18		0.04	0.04	3255.		
	Approach	30%	1357	10.42	1.06	4.44	0.08		0.04	0.04	3255.		
CF34-8C5B1	Climb out	85%	3944	12.03	1.06	0.58	0.03		0.04	0.04	3255.		
	Takeoff	100%	4810	13.89	1.06	0.60	0.02		0.06	0.05	3255.		
tes: 3b, 5, 6, 8, 10, 12a													
	T.11. 777. "	200/	160	0.00	1.00	155.00	20.70		0.00(0)	0.00(0)	2255		
	Idle (Taxi)	<30%	460 919	0.89	1.06	155.00	20.70		0.00(S)	0.00(S)	3255		
CF700-2D	Approach Climb out	30% 90 - 100%	2322	1.80 4.30	1.06 1.06	62.00 11.34	1.61 0.11		0.01( <b>S</b> ) 0.01( <b>S</b> )	0.01( <b>S</b> ) 0.01( <b>S</b> )	3255 3255		
								1			_		
C1 700 2D	Takeoff	>100%	2607	5.60	1.06	9.98	0.11		0.02(S)	0.02(S)	3255		

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	co	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Idle (Taxi)	7%	1032	4.30	1.06	23.50	1.30		0.06	0.05	3255.4
	Approach	30%	2524	8.70	1.06	3.40	0.09		0.06	0.05	325 .4
CFM56-2A Series	Climb out	70%	7230	17.30	1.06	0.90	0.05		0.06	0.05	255.4
	Takeoff	100%	8841	20.40	1.06	0.90	0.05		0.07	0.07	3255.4
Totes: 3b, 5, 6, 8, 10, 12a											
			1			1	1	ı			
	Idle (Taxi)	7%	1016	4.00	1.06	30.70	2.10		0.06	0.06	3255.4
CENTS CAD 1	Approach	30%	2468	8.20	1.06	4.20	0.09		0.6	0.05	3255.4
CFM56-2B-1	Climb out	70%	6500	16.00	1.06	0.90	0.06		0.05	0.05	3255.
	Takeoff	100%	7818	18.50	1.06	0.90	0.05		0.07	0.06	3255.4
otes: 3b, 5, 6, 8, 10, 12a						l.	l			l.	! 
	T. 17 . 15	T ==:	1015	1.00	4.04	20.70	2.10		0.04	0.04	
	Idle (Taxi)	7%	1016	4.00	1.06	30.70	2.10		0.06	0.06	3255.4
CFM56-2-C5	Approach Climb out	30% 85%	2468 6500	8.20 16.00	1.06	4.20 0.90	0.06		0.06	0.05	3255.4 3255.4
C1 1V130-2-C3	Takeoff	100%	7818	18.50	1.06	0.90	0.06		0.05	0.05	3255.
	Tuncon	10070	7010	10.00	1.00	5.50	0.02		0.07	0.00	0200.
otes: 3b, 5, 6, 8, 10, 12a		•					•			•	•
	Idle (Taxi)	7%	905	3.90	1.00	34.40	2.62		0.07	0.06	3255.
-	Approach	30%	2302	8.30	1.06	3.80	0.09		0.07	0.05	3255.4
CFM56-3-B1	Climb out	85%	6286	15.50	1.06	0.95	0.06		0.05	0.05	3255.
CI MISO S BI	Takeoff	100%	7508	17.70	1.06	0.90	0.05		0.06	0.05	3255.
	2,000	200,0	1000								
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	944	4.10	1.06	30.10	2.01		0.06	0.06	3255.4
	Approach	30%	2/32	8.70	1.06	3.40	0.08		0.06	0.05	3255.4
CFM56-3B-2	Climb out	85%	6968	16.70	1.06	0.90	0.05		0.05	0.05	3255.4
	Takeoff	100%	8381	19.40	1.06	0.90	0.04		0.06	0.06	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	984	4.30	1.06	26.80	1.63		0.06	0.06	3255.
	Approach	30%	2667	9.10	1.06	3.10	0.08		0.06	0.05	3255.
CFM56-3C-1	Climb out	85%	7571	17.80	1.06	0.90	0.05		0.06	0.05	3255.
	Take if	100%	9159	20.70	1.06	0.90	0.03		0.07	0.07	3255.4
otes: 3b, 5, 6, 8, 10, 12a										ļ	
	Idle (Taxi)	7%	802	4.00	1.06	17.60	1.61		0.06	0.06	3255.
	Approach	30%	2310	8.00	1.06	2.50	0.46		0.09	0.08	3255.4
CFM56-5-A1	Climb out	85%	6841	19.60	1.06	0.90	0.26		0.13	0.12	3255.4
	Takeoff	100%	8341	24.60	1.06	0.90	0.26		0.14	0.13	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	Idla (Tani)	70/	829	4 10	1.06	16.20	1.50		0.07	0.06	2255
	Idle (Taxi) Approach	7% 30%	2437	4.10 8.30	1.06	16.20 2.40	1.50 0.35		0.07	0.06	3255. 3255.
		85%	7341	21.10	1.06	0.90	0.33		0.09	0.08	3255.4
CFM56-5A3					1.00	0.70	0.23		0.13		1 2233.4
CFM56-5A3	Climb out Takeoff	100%	8976	26.40	1.06	0.90	0.23		0.14	0.13	3255.4

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Fnaine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/10001	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Idle (Taxi)	7%	754	4.04	1.06	20.30	2.01		0.07	0.06	3255
	Approach	30%	2071	8.51	1.06	3.10	0.58		0.09	0.08	37.55.4
CFM56-5A4	Climb out	85%	5873	19.11	1.06	1.10	0.26		0.11	0.10	3255.
	Takeoff	100%	7119	22.64	1.06	1.10	0.26		0.13	0.12	3255.4
tes: 3b, 5, 6, 8, 10, 12a					l .			ı			
	Idle (Taxi)	7%	778	4.29	1.06	18.50	1.76		0.03	0.06	3255.4
	Approach	30%	2190	8.94	1.06	2.80	0.52		0.09	0.08	3255.
CFM56-5A5	Climb out	85%	6341	19.98	1.06	1.10	0.26		0.12	0.11	3255.
	Takeoff	100%	7714	24.79	1.06	1.10	0.26		0.13	0.12	3255.
tes: 3b, 5, 6, 8, 10, 12a											
ites: 50, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	929	4.60	1.06	28.40	3 3		0.06	0.05	3255.
	Approach	30%	2889	10.80	1.06	1.57	0.14		0.04	0.04	3255.
CFM56-5B1	Climb out	85%	8833	27.20	1.06	0.50	0.12		0.10	0.09	3255.
	Takeoff	100%	10786	35.10	1.06	0.50	0.12		0.09	0.08	3255.
tes: 3b, 5, 6, 8, 10, 12a											
, ., ., .,,											
	Idle (Taxi)	7%	944	4.70	1.6	27.40	3.50		0.06	0.05	3255.
	Approach	30%	2984	11.00	1.06	1.40	0.14		0.04	0.04	3255.
CFM56-5B2	Climb out	85%	9191	28.50	1.06	0.50	0.12		0.09	0.09	3255.
	Takeoff	100%	11318	37.90	1.06	0.50	0.12		0.08	0.07	3255.
tes: 3b, 5, 6, 8, 10, 12a					Į.	J.	J.	J.			<u> </u>
	Idle (Taxi)	7%	84	4.30	1.06	31.90	4.45	l	0.06	0.06	3255.
	Approach	30%	2587	10.00	1.06	2.33	0.15		0.05	0.04	3255.
CFM56-5B4	Climb out	85%	7627	23.30	1.06	0.50	0.12		0.10	0.09	3255.
	Takeoff	100%	9254	28.70	1.06	0.50	0.12		0.09	0.08	3255.
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	810	4.22	1.06	32.07	2.21		0.06	0.06	3255.
CFM56-5B4/3	Approach Climb at	30% 85%	2508 7452	8.85	1.06	3.24	0.06		0.05	0.05	3255. 3255.
CFW130-3B4/3	Taleoff	100%	9064	17.23 21.57	1.06 1.06	0.16 0.25	0.02		0.09	0.08	3255.
tes: 3b, 5, 6, 8, 10, 12a	/										
	Idle (Taxi)	7%	810	4.22	1.06	32.07	2.21		0.06	0.06	3255.
	Approach	30%	2508	8.85	1.06	3.24	0.06		0.05	0.05	3255.
CFM56-5B7/3	Climb out	85%	7452	17.23	1.06	0.16	0.02		0.09	0.08	3255.
	Takeoff	100%	9064	21.57	1.06	0.25	0.02		0.10	0.09	3255.
tes: 3b, 5, 6, 8, 10, 12a						1	1	1			
	Idle (Tree)	70/	754	2.02	1.00	20.00	2.40		0.07	0.00	2255
	Idle (Taxi)	7%	754 2206	3.92 8.26	1.06 1.06	38.80 4.42	3.46 0.08		0.07	0.06	3255. 3255.
	Approach Climb out	30% 85%	6294	14.76	1.06	0.17	0.08		0.05	0.05	3255.
CFM56-5B9/3	Cmiii Out	0.5 /0	0234	17.70	1.00	0.17	0.03		0.00	0.07	3433.
CFM56-5B9/3	Takeoff	100%	7587	17.54	1.06	0.16	0.02		0.09	0.08	3255.

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/10001	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Idle (Taxi)	7%	933	4.19	1.06	34.00	6.53		0.12	0.11	3255.4
	Approach	30%	2824	10.00	1.06	1.75	0.09		0.08	0.07	325 8.4
CFM56-5C2	Climb out	85%	8540	25.80	1.06	0.80	0.01		0.34	0.31	,255. <sub>4</sub>
	Takeoff	100%	10381	32.60	1.06	0.93	0.01		0.41	0.37	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	T. 11 (T) 5	504	0.55	2.00	4.04	25.40			0.12	0.44	2255
	Idle (Taxi)	7%	865	3.90	1.06	35.10	6.67		0.12	0.11	3255.4
CEMES ECO/D	Approach	30%	2714	9.30	1.06	2.10	0.00		0.34	0.07	3255.
CFM56-5C2/P	Climb out	85%	8214	23.80	1.06	0.70	0.00		0.34	0.30	3255.
	Takeoff	100%	9937	29.70	1.06	0.80	0.00		0.39	0.35	3255.
otes: 3b, 5, 6, 8, 10, 12a		•									
	Idle (Taxi)	7%	889	4.00	1.06	33.40	6.21		0.12	0.11	3255.
ŀ	Approach	30%	2817	9.60	1.06	1.90	6.20		0.12	0.11	3255.
CFM56-5C3/P	Climb out	85%	8611	25.10	1.06	0.70	0.00		0.07	0.07	3255.
C1 11150 5C5/1	Takeoff	100%	10445	31.60	1.06	0.80	0.00		0.42	0.38	3255.
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	984	4.28	1.0	30.93	5.75		0.12	0.11	3255.
	Approach	30%	3064	10.67	.06	1.40	0.07		0.08	0.07	3255.
CFM56-5C4	Climb out	85%	9484	29.05	1.06	0.85	0.01		0.39	0.35	3255.
	Takeoff	100%	11556	37.67	1.06	1.00	0.01		0.46	0.42	3255.
otes: 3b, 5, 6, 8, 10, 12a											
I	Idle (Taxi)	7%	913	4.10	1.06	31.60	5.75		0.12	0.11	3255.
	Approach	30%	2/37	9.90	1.06	1.60	0.00		0.12	0.11	3255.
CFM56-5C4/P	Climb out	85%	9071	26.70	1.06	0.70	0.00		0.38	0.34	3255.
	Takeoff	100%	11072	34.10	1.06	0.80	0.00		0.44	0.39	3255.
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	730	3.65	1.06	46.64	5.19		0.08	0.07	3255.
	Approach	30%	2032	7.78	1.06	5.54	0.09		0.05	0.05	3255.
CFM56-7B18/3	Climb op	85%	5571	13.00	1.06	0.28	0.03		0.07	0.06	3255.
	Takeoff	100%	6683	14.81	1.06	0.17	0.03		0.07	0.07	3255.
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	794	4.30	1.06	25.90	3.57		0.06	0.05	3255.
	Approach	30%	2175	9.50	1.06	3.20	0.12		0.06	0.03	3255
CFM56-7B20	Climb out	85%	6040	17.40	1.06	0.50	0.12		0.08	0.07	3255.
CIMBO /B20	Takeoff	100%	7246	20.50	1.06	0.60	0.12		0.10	0.09	3255.
	* *										
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	810	3.75	1.06	49.71	9.33		0.09	0.08	3255.
	Approach	30%	2206	9.39	1.06	11.37	0.41		0.07	0.06	3255.
	Climb out	85%	5984	10.81	1.06	11.38	0.26		0.06	0.05	3255.
CFM56-7B20/2	CIIIIII OIII										
CFM56-7B20/2	Takeoff	100%	7167	13.25	1.06	4.26	0.08		0.05	0.04	3255.

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	sion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	CO	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Idle (Taxi)	7%	746	3.77	1.06	43.31	4.42		0.08	0.07	3255.4
	Approach	30%	2127	7.98	1.06	5.03	0.09		0.05	0.05	3255.4
CFM56-7B20/3	Climb out	85%	5921	13.53	1.06	0.23	0.03		0.07	0.06	325 3.4
	Takeoff	100%	7111	15.61	1.06	0.15	0.03		0.08	0.07	3255.4
. 21 5 6 0 10 12											1
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	794	3.80	1.06	43.30	4.37		0.08	0.07	3255.4
	Approach	30%	2381	8.00	1.06	5.00	0.12		0.06	0.05	3255.4
CFM56-7B20E	Climb out	85%	5556	13.50	1.06	0.20	0.00		9.07	0.06	3255.4
	Takeoff	100%	7143	15.60	1.06	0.20	0.00		0.07	0.07	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	833	4.50	1.06	22.80	2.88		0.05	0.05	3255.4
	Approach	30%	2365	10.00	1.06	2.50	0.12		0.03	0.03	3255.4
CFM56-7B22	Climb out	85%	6698	19.00	1.06	0.60	1.12		0.10	0.09	3255.4
	Takeoff	100%	8103	23.10	1.06	0.50	0.12		0.10	0.09	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	833	3.94	1.06	45.35	8.35		0.09	0.08	3255.4
CFM56-7B22/2	Approach	30%	2405	6.37 12.16	1.0	30.87	6.97 0.12		0.38	0.34	3255.4
Crivi30-7B22/2	Climb out Takeoff	85% 100%	6643 8000	15.08	1.06 1.06	6.58 2.18	0.12		0.05	0.04	3255.4 3255.4
	Takeon	100%	8000	13.08	1.06	2.18	0.07		0.03	0.04	3233.4
otes: 3b, 5, 6, 8, 10, 12a			<u> </u>				I.				1
		_									
	Idle (Taxi)	7%	786	3.95	1.06	37.90	3.25		0.07	0.06	3255.4
	Approach	30%	2310	8.35	1.06	4.18	0.08		0.05	0.05	3255.4
CFM56-7B22/3	Climb out	85%	5.03	14.67	1.06	0.17	0.03		0.08	0.07	3255.4
	Takeoff	100%	7968	17.40	1.06	0.16	0.02		0.08	0.07	3255.4
otes: 3b, 5, 6, 8, 10, 12a							ļ	1			
3003. 20, 2, 0, 0, 10, 120											
	Idle (Taxi)	7%	794	4.00	1.06	37.90	3.22		0.07	0.06	3255.4
	Approach	30%	2381	8.40	1.06	4.20	0.12		0.06	0.05	3255.4
CFM56-7B22E	Climb out	85%	6349	14.70	1.06	0.20	0.00		0.07	0.07	3255.4
	Takeoff	100%	7937	17.40	1.06	0.20	0.00		0.08	0.07	3255.4
etan, 2h											
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	865	4.40	1.06	22.00	2.76		0.05	0.05	3255.4
	Approach	30%	2508	10.10	1.06	2.20	0.12		0.04	0.04	3255.4
CFM56-7B24	Climb out	85%	7222	20.50	1.06	0.60	0.12		0.10	0.09	3255.4
	Takeoff	100%	8754	25.30	1.06	0.40	0.12		0.11	0.10	3255.4
				•		•					
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	70/	965	1.00	1.04	42.72	7.52		0.00	0.07	3255.4
	Approach	7% 30%	865 2484	4.08 6.72	1.06 1.06	42.72 30.32	7.53 6.91		0.08	0.07	3255.4
CFM56-7B24/2	Climb out	85%	7159	13.23	1.06	4.30	0.08		0.38	0.34	3255.4
							1	1			
	Takeoff	100%	8643	16.63	1.06	1.38	0.06		0.05	0.04	3255.4

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	sion Factor	rs (lb/1000l	b fuel)		
Ancian Engine	Setting	Thrust/hp	Rate (lb/hr)	$NO_X$	SO <sub>X</sub> <sup>1</sup>	CO	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG <sup>2</sup>
	Idle (Taxi)	7%	817	4.09	1.06	34.71	2.65		0.07	0.06	3255.4
	Approach	30%	2444	8.60	1.06	3.68	0.07		0.05	0.05	3255.4
CFM56-7B24/3	Climb out	85%	7103	15.60	1.06	0.15	0.03		0.08	0.07	325 .4
	Takeoff	100%	8619	18.93	1.06	0.18	0.02		0.09	0.08	255.4
T											
lotes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	794	4.10	1.06	34.70	2.65		0.07	0.06	3255.4
	Approach	30%	2381	8.60	1.06	3.70	0.12		0.06	0.05	3255.4
CFM56-7B24E	Climb out	85%	7143	15.60	1.06	0.20	0.00		0.78	0.07	3255.4
	Takeoff	100%	8730	18.90	1.06	0.20	0.00		0.09	0.08	3255.4
Iotes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	794	4.10	1.06	34.70	2.65		0.07	0.06	3255.4
ŀ	Approach	30%	2381	8.60	1.06	3.70	0.12		0.06	0.05	3255.4
CFM56-7B24E/B1	Climb out	85%	7143	15.60	1.06	0.20	0.00		0.08	0.07	3255.4
	Takeoff	100%	8730	18.90	1.06	0.20	0.00		0.09	0.08	3255.4
Votes: 3b, 5, 6, 8, 10, 12a						_/_					
	III (TE ')	70/	207	4.70	1.06	10.00	2.10	I	0.05	0.04	2255.4
	Idle (Taxi)	7%	897	4.70 10.80	1.06	18.80	2.19 0.12		0.05	0.04	3255.4
CFM56-7B26	Approach Climb out	30% 85%	2683 7929	22.50	1.06	1.60 0.60	0.12		0.04	0.04	3255.4 3255.4
CFWI30=7B20	Takeoff	100%	9691	28.80	1.06	0.20	0.12		0.11	0.09	3255.4
	Takcon	10070	5051	20.00	1.00	0.20	0.12		0.12	0.11	3233.4
Notes: 3b, 5, 6, 8, 10, 12a									l.		
					,						
	Idle (Taxi)	7%	897	4.27	1.06	39.93	6.76		0.08	0.07	3255.4
CENTS CENTRAL CO	Approach	30%	2651	7.26	1.06	26.07	5.44		0.31	0.28	3255.4
CFM56-7B26/2	Climb out	85% 100%	7549 9548	14.77 19.20	1.06 1.06	2.51 0.77	0.07		0.04	0.04	3255.4 3255.4
	Takeoff	100%	9348	19.20	1.00	0.77	0.03		0.04	0.04	3233.4
Votes: 3b, 5, 6, 8, 10, 12a							I				
	Idle (Taxi)	7%	857	4.27	1.06	30.94	2.01		0.06	0.06	3255.4
	Approach	30%	2627	8.93	1.06	3.07	0.06		0.05	0.05	3255.4
CFM56-7B26/3	Climb out	85%	7825	17.08	1.06	0.16	0.02		0.09	0.08	3255.4
	Takeoff	100%	9627	21.79	1.06	0.25	0.02		0.10	0.09	3255.4
Votes: 3b, 5, 6, 8, 10, 12a									ļ.	l	
10103. 30, 3, 0, 0, 10, 124											
	Idle (Taxi)	7%	794	4.30	1.06	30.90	2.07		0.06	0.06	3255.4
CFM56-7B26E, -7B26E/B1,	Approach	30%	2381	8.90	1.06	3.10	0.12		0.06	0.05	3255.4
-7B26E/B2, -7B26E/B2E	Climb out	85%	7937	17.10	1.06	0.20	0.00		0.09	0.08	3255.4
-7B26E/F	Takeoff	100%	9524	21.80	1.06	0.20	0.00		0.10	0.09	3255.4
Notes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	921	4.80	1.06	17.90	1.96		0.05	0.04	3255.4
	Approach	30%	2770	11.00	1.06	1.40	0.12		0.03	0.04	3255.4
CFM56-7B27	Climb out	85%	8278	23.70	1.06	0.50	0.12		0.11	0.10	3255.4
							1				3255.4
	Takeoff	100%	10191	30.90	1.06	0.20	0.12		0.12	0.11	3233.4

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Ainough Fusing	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	$GHG^2$
	Idle (Taxi)	7%	913	4.36	1.06	38.73	6.39		0.08	0.07	3255.41
	Approach	30%	2786	7.53	1.06	24.28	4.84		0.28	0.25	3255.41
CFM56-7B27/2	Climb out	85%	8198	15.59	1.06	1.97	0.07		0.04	0.04	3255.41
	Takeoff	100%	10040	20.81	1.06	0.54	0.06		0.05	0.04	3255.4
Notes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	873	4.36	1.06	29.39	1.77		0.06	0.03	3255.41
	Approach	30%	2722	9.09	1.06	2.82	0.06		0.05	0.05	3255.41
CFM56-7B27/3	Climb out	85%	8183	17.89	1.06	0.17	0.02		0.10	0.09	3255.41
_	Takeoff	100%	10262	23.94	1.06	0.31	0.03		0.10	0.09	3255.41
Notes: 3b, 5, 6, 8, 10, 12a			<u> </u>								
<u> </u>	Idle (Taxi)	7%	794	4.40	1.06	29.40	1.73		0.06	0.06	3255.41
CFM56-7B27E, -7B27E/B1,	Approach	30%	2381	9.10	1.06	2.80	0.12		0.06	0.05	3255.41
-7B27E/B1F, -7B27E/B3, -7B27E/F	Climb out	85% 100%	7937 10318	17.90 23.90	1.06	0.20	0.00		0.09	0.08	3255.41 3255.41
-/B2/E/I	Takeoff	100%	10518	23.90	1.00	0.30	0.0		0.10	0.09	3233.41
Notes: 3b, 5, 6, 8, 10, 12a			L. L.								
	T.11 (77)	70/	121	2.20	1.00	25 2	2.70		0.10	0.16	2255 41
-	Idle (Taxi)	7% 30%	131 364	2.20 6.88	1.06	35.33 5.29	3.78 1.42		0.18	0.16	3255.41 3255.41
CT7-5	Approach Climb out	70%	756	13.17	1.06	2.59	0.95		0.57	0.53	3255.41
C17-5	Takeoff	100%	809	13.77	1.00	2.59	0.95		0.69	0.62	3255.41
Notes: 3m, 11, 12h											
	Idle (Taxi)	3%	1127	4 64	1.06	49.58	3.79	1.630	3.13	2.82	3255.41
H	Approach	13%	2765	12.52	1.06	3.99	1.06	0.858	1.57	1.41	3255.41
F100-PW-100	Intermediate	45%	7685	27.09	1.06	0.72	0.14	0.073	0.72	0.65	3255.41
	Military	100%	1099	35.01	1.06	0.70	0.12	0.074	1.24	1.12	3255.41
	Afterburner-1	134%	5 007	6.62	1.06	9.57	0.13	0.031	0.87	0.78	3255.41
Notes: 3n, 8, 10, 12e											
	Idle (Taxi)	3%	1006	6.21	1.06	24.06	2.05	1.314	2.49	2.24	3255.41
	Approach	1.5%	3251	17.93	1.06	1.22	0.05	0.020	2.37	2.13	3255.41
F100-PW-200	Intermediate	45%	5651	26.55	1.06	0.38	0.07	0.030	1.58	1.42	3255.41
	Military	100%	8888	34.32	1.06	0.56	0.11	0.031	1.58	1.42	3255.41
	Afterburner-5	134%	40123	6.63	1.06	10.42	0.69	0.053	3.04	2.74	3255.41
Motor: 2a 9 10 12a											
Notes: 3e, 8, 10, 12e											
Notes: 3e, 8, 10, 12e	Idle (Taxi)		1084	4.61	1.06	35.30	7.94		2.06	1.85	3255.41
Notes: 3e, 8, 10, 12e	Ide (Taxi) Approach		1084 3837	4.61 12.53	1.06 1.06	35.30 1.92	7.94 5.12		2.06 2.63	1.85 2.37	3255.41 3255.41
Notes: 3e, 8, 10, 12e F100-PW-220											
	Approach		3837 5770 9679	12.53	1.06	1.92	5.12		2.63	2.37	3255.41
F100-PW-220	Approach Intermediate		3837 5770	12.53 22.18	1.06 1.06	1.92 0.86	5.12 2.89		2.63 2.06	2.37 1.85	3255.41 3255.41
F100-PW-220	Approach Intermediate Military		3837 5770 9679	12.53 22.18 29.32	1.06 1.06 1.06	1.92 0.86 0.86	5.12 2.89 1.79		2.63 2.06 1.33	2.37 1.85 1.20	3255.41 3255.41 3255.41
F100-PW-220	Approach Intermediate Military		3837 5770 9679	12.53 22.18 29.32	1.06 1.06 1.06	1.92 0.86 0.86	5.12 2.89 1.79		2.63 2.06 1.33	2.37 1.85 1.20	3255.41 3255.41 3255.41 3255.41
F100-PW-220	Approach Intermediate Military Afterburner-5		3837 5770 9679 41682	12.53 22.18 29.32 8.37	1.06 1.06 1.06 1.06	1.92 0.86 0.86 11.99	5.12 2.89 1.79 1.53		2.63 2.06 1.33 1.15	2.37 1.85 1.20 1.04	3255.41 3255.41 3255.41 3255.41 3255.41
F100-PW-220	Approach Intermediate Military Afterburner-5  Idle (Taxi)	5%	3837 5770 9679 41682	12.53 22.18 29.32 8.37	1.06 1.06 1.06 1.06	1.92 0.86 0.86 11.99	5.12 2.89 1.79 1.53		2.63 2.06 1.33 1.15	2.37 1.85 1.20 1.04	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
F100-PW-220 Notes: 3f, 8, 12e	Approach Intermediate Military Afterburner-5  Idle (Taxi) Approach Intermediate Military	5% 21%	3837 5770 9679 41682 1087 3098 5838 11490	12.53 22.18 29.32 8.37 3.80 15.08	1.06 1.06 1.06 1.06 1.06	1.92 0.86 0.86 11.99	5.12 2.89 1.79 1.53 0.45 0.24		2.63 2.06 1.33 1.15 2.06(\$) 2.63(\$)	2.37 1.85 1.20 1.04 1.85(S) 2.37(S)	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
F100-PW-220 Notes: 3f, 8, 12e	Approach Intermediate Military Afterburner-5  Idle (Taxi) Approach Intermediate Military Afterburner-1	5% 21% 49% 86% 102%	3837 5770 9679 41682 1087 3098 5838 11490 20793	12.53 22.18 29.32 8.37 3.80 15.08 17.54	1.06 1.06 1.06 1.06 1.06 1.06	1.92 0.86 0.86 11.99 10.17 1.17 0.15	5.12 2.89 1.79 1.53 0.45 0.24 0.35		2.63 2.06 1.33 1.15 2.06(S) 2.63(S) 2.06(S)	2.37 1.85 1.20 1.04 1.85(S) 2.37(S) 1.85(S)	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Ainonaft Frairs	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	co	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Idle (Taxi)		476	7.30	1.06	120.10	28.98		0.09	0.08	3255.
	Approach		4533( <b>S</b> )	9.16(S)	1.06	1.03(S)	0.02(S)		4.21(S)	3.74(S)	3255.
F101-GE-100	Intermediate		6557( <b>S</b> )	13.15( <b>S</b> )	1.06	0.85(S)	0.04(S)		1.35(S)	0.72(S)	3255.
	Military		10000	2.30	1.06	7.60	0.46		0.03	0.03	3255.
	Afterburner		66747	4.60	1.06	16.70	0.12		0.05	0.05	3255
otes: 3g, 4e (all emission factor	ors and fuel flow rates f	or Approach a	and Intermediat	e Power set	tings), 5, 8,	12h					$\checkmark$
	Idle (Taxi)	5%	1117	4.10	1.06	24.46	0.16	0.256	2.18	0.96	3255.
	Approach	47%	4533	9.16	1.06	1.03	0.10	0.230	4.21	2.14	3255.
F101-GE-102	Intermediate	66%	6557	13.15	1.06	0.85	0.02	0.092	1.35	0.72	3255.
1 101-GL-102	Military	77%	7828	12.83	1.06	0.83	0.12	0.082	1.68	1.20	3255.
	Afterburner-1	106%	15314	16.92	1.06	43.49	1.46	1.111	2.51	2.40	3255.
otes: 3c, 10, 12e	711terounier 1	10070	15514	10.72	1.00	13.17	1.40	1.111	,	2.40	3233
	Idle (Taxi)	7%	1706	3.60	1.06	61.79	21.80		2.80(S)	2.49(S)	3255.
	Approach	30%	5238	9.50	1.06	4.30	1.00		1.20(S)	0.44(S)	3255.
F103-GE-100, -101	Intermediate	70%	15675	29.79	1.06	0.50	0.70		0.89(S)	0.37( <b>S</b> )	3255.
	Military	100%	19738	36.54	1.06	0.50	0.60		1.18( <b>S</b> )	0.77( <b>S</b> )	3255.
otes: 3f, 4f (PM <sub>10</sub> and PM <sub>2.5</sub>	data at all power setting	m) 9 12a									
nes. 51, 41 (1 W1 <sub>10</sub> and 1 W1 <sub>2.5</sub>	data at all power setting	3), 0, 12g									
	Idle (Taxi)	9%	1136	3.88	1.06	23,53	0.19	0.208	2.07	0.16	3255.
	Approach	30%	2547	5.73	1.06	3.57	0.06	0.084	1.55	0.76	3255.
F108-CF-100	Intermediate	70%	5650	11.04	1.06	2.32	0.03	0.069	0.65	0.36	3255.
	Military	78%	6458	12.05	1.06	0.36	0.03	0.018	1.59	1.02	3255.
otes: 3c, 10, 12e					_/_						
nes. 5c, 10, 12e											
	Idle (Taxi)	7%	1016	4.90	1.06	30.70	2.10		0.06	0.06	3255.
	Approach	30%	2468	8.20	1.06	4.20	0.09		0.06	0.05	3255.
F108-CF-201	Climb out	70%	6500	16.00	1.06	0.90	0.06		0.05	0.05	3255.
	Takeoff	100%	7818	18.50	1.06	0.90	0.05		0.07	0.06	3255.
. 01 (TT) : 1 TF 1	· · · · · · · · · · · · · · · · · · ·	( 2D 1 E . :	) 5 0 10 1/								
otes: 3b (This is the military d	esignation of the CFM5	6-2B-1 Engine	e), 5 8, 8, 10, 17	2a							
	Idle (Taxi)	3%	1111	3.77	1.06	24.11	0.22	0.184	2.60	1.12	3255.
	Approach	446	5080	9.78	1.06	5.77	0.03	0.029	1.37	0.91	3255.
F110-GE-100	Intermediate	56%	7332	16.92	1.06	3.47	0.05	0.054	0.58	0.41	3255.
1110 02 100	Military	100%	11358	29.00	1.06	3.38	0.04	0.050	0.14	0.00	3255.
	Afterburner-1	113%	18088	14.26	1.06	67.41	1.21	0.808	3.35	2.98	3255.
otes: 3c, 10, 12e	TIMETOMINET T	110,0	10000	1 1.20	1.00	0,1.11	1.21	0.000	3.33	2.70	0200.
			_								
	Idle (Γaxi)	4%	961	2.62	1.06	45.04	4.90		2.60(S)	1.12(S)	3255.
	Approach	45%	4832	13.42	1.06	1.93	0.03( <b>S</b> )		1.37(S)	0.91( <b>S</b> )	3255.
F110-GE-129	Intermediate	65%	6939	17.82	1.06	1.53	0.05( <b>S</b> )		0.58(S)	0.41(S)	3255.
	Military	76%	8611	20.34	1.06	1.17	0.93		0.14(S)	0.00(S)	3255.
	Afterburner-1	99%	15564	7.09	1.06	63.28	53.46		3.35( <b>S</b> )	2.98( <b>S</b> )	3255.
otes: 3c, 4g (for VOC data for	or Approach and Interme	ediate settings	and PM <sub>10</sub> and	PM <sub>2.5</sub> for a	ll power se	ttings), 5, 10	, 12e				
	Idla (Tavi)	7%	1287	2.76	1.06	16 57	3.48		0.02	0.02	3255.
	Idle (Taxi)					16.57					_
F1 0-GE-400	Approach	30%	5809	12.41	1.06	0.96	0.44		0.02	0.02	3255.
1-0-GE-400	Climb out Takeoff	70%	11868	58.57 28.47	1.06	0.84 0.84	0.38		0.26	0.23	3255. 3255.
	Takeon	100%	11833	20.47	1.00	0.64	0.36		0.31	0.28	3233

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Ainanaft Emaina	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>x</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHO
	Idle (Taxi)	7%	1008	3.60	1.06	31.77	4.24		0.16	0.15	3255.
	Approach	30%	2206	7.20	1.06	2.65	0.21		0.22	0.20	3255
F113-RR-100	Climb out	85%	5762	17.30	1.06	0.63	0.14		0.24	0.22	3255
	Takeoff	100%	7071	22.70	1.06	0.12	0.10		0.23	0.21	32.55
es: 3b (This is the military of	designation of the SPEY	Mk511 engine	e), 5, 6, 8, 10, 12	2h						_/	
	Idle (Taxi)	4%	978	3.76	1.06	22.70	0.37	0.311	10.67	8.75	3255
	Approach	31%	4645	15.49	1.06	0.51	0.05	0.033	5.53	5.10	3255
F117-PW-100	Intermediate	68%	10408	32.72	1.06	0.32	0.04	0.026	2.3	1.42	325
	Takeoff		13905( <b>S</b> )	35.04( <b>S</b> )	1.06	0.32(S)	0.01( <b>S</b> )	0.015(C)	0 06(S)	0.05(S)	325
es: 3c, 4a (HAPs at Takeo	ff setting only), 4h (All 1	emaining Emis	sion Factors at	Takeoff set	ting), 10, 1	2e					
	Idle (Taxi)		1097	4.30	1.06	20.98	0.29	0.249	1.25	1.03	325
	Approach		3773	11.09	1.06	2.02	0.05	0.031	4.70	2.32	325
F118-GE-100	Intermediate		6350	18.01	1.06	0.85	0.03	0.022	3.05	2.72	325
	Military		10887	33.12	1.06	0.65	0.03	0.008	1.64	1.48	325
es: 3c, 10, 12e	•								l .		
	Idle (Taxi)	10%	1377	3.01	1.06	48.15	1.67	1.493	2.42	1.76	325
F119-PW-100	Approach	20%	2740	6.59	1.06	7.92	0.05	0.048	1.96	1.73	325
	Intermediate	70%	10110	12.40	1 6	2.14	0.03	0.030	1.40	1.09	325
1115-1 W-100	3 5111	40004									
es: 3d, 4a (VOC, HAP, PM	Military Afterburner  A <sub>10</sub> , and PM <sub>2.5</sub> Emission	100% 150% factors for aft	18612 50170 serburner setting	19.81 7.37 g only) 10, 1	1.06 1.06 12e	0.75 16.10	0.01 0.00( <b>C</b> )	0.010 0.024(C)	1.12 0.85( <b>C</b> )	0.97 0.75( <b>C</b> )	
	Afterburner	150% factors for aft	50170 gerburner setting	7.37 g only) 10, 1	1.06 12e	16.10	0.00( <b>C</b> )	0.024(C)	0.85(C)	0.75(C)	325
es: 3d, 4a (VOC, HAP, PM	Afterburner $I_{10}$ , and $PM_{2.5}$ Emission	150% factors for aft	50170 gerburner setting	7.37 g only) 10, 1	1.06 12e	16.10	0.00( <b>C</b> )	0.024(C)	0.85(C)	0.75(C)	325
es: 3d, 4a (VOC, HAP, PM	Afterburner  10, and PM <sub>2.5</sub> Emission  Proprietary Infe	150% factors for aft	50170 erburner settin act Air Guality	7.37 g only) 10, 1	1.06 12e tter Expert	16.10	0.00(C)	0.024(C)	0.85(C)	0.75(C)	325 tors
es: 3d, 4a (VOC, HAP, PM	Afterburner  10, and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)	150% factors for aft	50170 cerburner setting act Air Chality	7.37 g only) 10, i	1.06 12e tter Expert	16.10 for More In	0.00(C)  formation r  18.75	0.024(C)	0.85(C) s engine's E	0.75(C) mission Fac	325 tors
ss: 3d, 4a (VOC, HAP, PM F135-PW-100	Afterburner  10, and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach	150% factors for after the factor the factors for after the factor	50170 cerburner setting act Air Guality 1251 3735	7.37 g only) 10, 1 Subject Ma  1.80 4.99	1.06 12e tter Expert 1.06 1.06	16.10 for More In 106.08 21.46	0.00(C)  formation r  18.75  1.05	0.024(C)	0.85(C) s engine's E  0.49  0.30	0.75(C) mission Fac  0.44  0.27	325 tors
es: 3d, 4a (VOC, HAP, PM	Afterburner  10, and PM2 5 Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate	150% factors for after a factors for after a factors for after a factors for after a factor a	50170 cerburner setting act Air Quality 1251 3735 7125	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48	1.06 12e tter Expert 1.06 1.06	16.10  for More In  106.08  21.46  8.35	0.00(C)  formation r  18.75  1.05  0.43	egarding this	0.85(C) s engine's E  0.49  0.30  0.30	0.75(C) mission Fac  0.44 0.27 0.27	325 tors
ss: 3d, 4a (VOC, HAP, PM F135-PW-100	Afterburner  10, and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach	150% factors for after the factor the factors for after the factor	50170 cerburner setting act Air Guality 1251 3735	7.37 g only) 10, 1 Subject Ma  1.80 4.99	1.06 12e tter Expert 1.06 1.06	16.10 for More In 106.08 21.46	0.00(C)  formation r  18.75  1.05	0.024(C)	0.85(C) s engine's E  0.49  0.30	0.75(C) mission Fac  0.44  0.27	325 tors
ss: 3d, 4a (VOC, HAP, PM F135-PW-100	Afterburner  10, and PM2 5 Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate	150% factors for after a factors for after a factors for after a factors for after a factor a	50170 cerburner setting act Air Quality 1251 3735 7125	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48	1.06 12e tter Expert 1.06 1.06	16.10  for More In  106.08  21.46  8.35	0.00(C)  formation r  18.75  1.05  0.43	egarding this	0.85(C) s engine's E  0.49  0.30  0.30	0.75(C) mission Fac  0.44 0.27 0.27	325 tors
F135-PW-100 F402-RR-406A	Afterburner  M <sub>10</sub> , and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate  Military	150% factors for after a factors for after a factors for after a factors for after a factor a	50170 cerburner setting act Air Chality 1251 3735 7125 8094	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48 10.78	1.06 (12e) tter Expert 1.06 1.06 1.06	16.10 for More Ir 106.08 21.46 8.35 6.93	0.00(C)  formation r  18.75 1.05 0.43 0.43	egarding this	0.85(C) s engine's E  0.49 0.30 0.32	0.75(C) mission Fac  0.44 0.27 0.27 0.29	325 325 325 325
F135-PW-100 F402-RR-406A	Afterburner  M <sub>10</sub> , and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)	150% factors for after a factors for after a factors for after a factor after a factor after a factor after a factor a f	50170 cerburner setting act Air Chality 1251 3735 7125 8094	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48 10.78	1.06 (12e) tter Expert 1.06 1.06 1.06	16.10 for More In 106.08 21.46 8.35 6.93	0.00(C)  formation r  18.75 1.05 0.43 0.43	egarding this	0.85(C) s engine's E 0.49 0.30 0.30 0.32	0.75(C) mission Fac  0.44 0.27 0.27 0.29	325 325 325 325 325
F135-PW-100 F402-RR-406A ss: 3m, 11, 12h	Afterburner  M <sub>10</sub> , and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach	150% factors for after a factors for after a factors for after a factors for after a factor a	50170 cerburner setting act Air Chality 1251 3735 7125 8094 1449 3974	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48 10.78	1.06 (12e) tter Expert 1.06 1.06 1.06 1.06	16.10 for More Ir 106.08 21.46 8.35 6.93	0.00(C)  formation r  18.75 1.05 0.43 0.43  2.41 0.46	egarding this	0.85(C) s engine's E  0.49 0.30 0.30 0.32	0.75(C) mission Fac  0.44 0.27 0.27 0.29	325 325 325 325 325 325
F135-PW-100 F402-RR-406A	Afterburner  M <sub>10</sub> , and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate	150% factors for after a factor a fact	50170 cerburner setting act Air Chality 1251 3735 7125 8094 1449 3974 7290	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48 10.78 2.20 5.02 7.55	1.06 (12e) tter Expert 1.06 1.06 1.06 1.06 1.06 1.06	106.08 21.46 8.35 6.93 39.72 16.57 9.79	0.00(C)  formation r  18.75 1.05 0.43 0.43  2.41 0.46 0.20	egarding this	0.85(C)  s engine's E  0.49  0.30  0.30  0.32  0.16  0.19  0.02	0.75(C) mission Fac  0.44 0.27 0.27 0.29  0.14 0.17 0.02	325 325 325 325 325 325 325
F135-PW-100 F402-RR-406A ss: 3m, 11, 12h	Afterburner  M <sub>10</sub> , and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach	150% factors for after a factors for after a factors for after a factors for after a factor a	50170 cerburner setting act Air Chality 1251 3735 7125 8094 1449 3974	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48 10.78	1.06 (12e) tter Expert 1.06 1.06 1.06 1.06	16.10 for More Ir 106.08 21.46 8.35 6.93	0.00(C)  formation r  18.75 1.05 0.43 0.43  2.41 0.46	egarding this	0.85(C) s engine's E  0.49 0.30 0.30 0.32	0.75(C) mission Fac  0.44 0.27 0.27 0.29	325 325 325 325 325 325 325
F135-PW-100 F402-RR-406A ss: 3m, 11, 12h	Afterburner  M <sub>10</sub> , and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate	150% factors for after a factor a fact	50170 cerburner setting act Air Chality 1251 3735 7125 8094 1449 3974 7290	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48 10.78 2.20 5.02 7.55	1.06 (12e) tter Expert 1.06 1.06 1.06 1.06 1.06 1.06	106.08 21.46 8.35 6.93 39.72 16.57 9.79	0.00(C)  formation r  18.75 1.05 0.43 0.43  2.41 0.46 0.20	egarding this	0.85(C)  s engine's E  0.49  0.30  0.30  0.32  0.16  0.19  0.02	0.75(C) mission Fac  0.44 0.27 0.27 0.29  0.14 0.17 0.02	325 325 325 325 325 325 325
F135-PW-100  F402-RR-406A  F402-RR-408	Afterburner  M <sub>10</sub> , and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military	150% factors for after a factor a fact	50170 erburner settin act Air Chality  1251 3735 7125 8094  1449 3974 7290 8494	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48 10.78 2.20 5.02 7.55 8.38	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	106.08 21.46 8.35 6.93 39.72 16.57 9.79 8.58	0.00(C)  formation r  18.75 1.05 0.43 0.43 0.43  2.41 0.46 0.20 0.20	egarding this	0.85(C)  s engine's E  0.49 0.30 0.30 0.32  0.16 0.19 0.02 0.21	0.75(C) mission Fac  0.44 0.27 0.29  0.14 0.17 0.02 0.19	325 325 325 325 325 325 325 325
F135-PW-100  F402-RR-406A  F402-RR-408	Afterburner  M <sub>10</sub> , and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military	150% factors for after a factor a fact	50170 cerburner setting act Air Chality  1251 3735 7125 8094  1449 3974 7290 8494	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48 10.78 2.20 5.02 7.55 8.38	1.06 (12e) tter Expert 1.06 1.06 1.06 1.06 1.06 1.06	106.08 21.46 8.35 6.93 39.72 16.57 9.79 8.58	0.00(C)  formation r  18.75 1.05 0.43 0.43  2.41 0.46 0.20 0.20 3.39	0.024(C) egarding this	0.85(C) s engine's E  0.49 0.30 0.30 0.32  0.16 0.19 0.02 0.21	0.75(C) mission Fac  0.44 0.27 0.27 0.29  0.14 0.17 0.02 0.19	325 325 325 325 325 325 325 325
F135-PW-100  F402-RR-406A  F402-RR-408  F402-RR-408	Afterburner  M <sub>10</sub> , and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military	150% factors for after a factor a fact	50170 cerburner setting act Air Chality  1251 3735 7125 8094  1449 3974 7290 8494	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48 10.78 2.20 5.02 7.55 8.38	1.06 (12e) tter Expert 1.06 1.06 1.06 1.06 1.06 1.06	106.08 21.46 8.35 6.93 39.72 16.57 9.79 8.58	0.00(C)  formation r  18.75 1.05 0.43 0.43  2.41 0.46 0.20 0.20  3.39 0.04	0.024(C) egarding this	0.85(C)  s engine's E  0.49 0.30 0.30 0.32  0.16 0.19 0.02 0.21	0.75(C) mission Fac  0.44 0.27 0.27 0.29  0.14 0.17 0.02 0.19	325 325 325 325 325 325 325 325 325 325
F135-PW-100  F402-RR-406A  F402-RR-408	Afterburner  M <sub>10</sub> , and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Intermediate  Military	150% factors for after a factor a fact	50170 cerburner setting act Air Chality  1251 3735 7125 8094  1449 3974 7290 8494  685 3111 6464	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48 10.78 2.20 5.02 7.55 8.38	1.06 (12e) tter Expert 1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	106.08 21.46 8.35 6.93 39.72 16.57 9.79 8.58	0.00(C)  formation r  18.75 1.05 0.43 0.43  2.41 0.46 0.20 0.20  3.39 0.04 0.07	0.024(C) egarding this	0.85(C)  s engine's E  0.49 0.30 0.30 0.32  0.16 0.19 0.02 0.21  4.47 1.46 1.57	0.75(C) mission Fac  0.44 0.27 0.27 0.29  0.14 0.17 0.02 0.19  3.10 0.87 0.90	325 325 325 325 325 325 325 325 325 325
F135-PW-100  F402-RR-406A  F402-RR-408  F402-RR-408	Afterburner  M <sub>10</sub> , and PM <sub>2.5</sub> Emission  Proprietary Info  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military	150% factors for after a factor a fact	50170 cerburner setting act Air Chality  1251 3735 7125 8094  1449 3974 7290 8494	7.37 g only 10, 1 Subject Ma 1.80 4.99 9.48 10.78 2.20 5.02 7.55 8.38	1.06 (12e) tter Expert 1.06 1.06 1.06 1.06 1.06 1.06	106.08 21.46 8.35 6.93 39.72 16.57 9.79 8.58	0.00(C)  formation r  18.75 1.05 0.43 0.43  2.41 0.46 0.20 0.20  3.39 0.04	0.024(C) egarding this	0.85(C)  s engine's E  0.49 0.30 0.30 0.32  0.16 0.19 0.02 0.21	0.75(C) mission Fac  0.44 0.27 0.27 0.29  0.14 0.17 0.02 0.19	325 325 325 325 325 325 325 325

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Idle (Taxi)	7%	2937	5.11	1.06	40.59	5.23		0.07	0.06	3255.4
	Approach	30%	8571	15.78	1.06	2.29	0.07		0.05	0.04	3255.4
GE90-110B1	Climb out	85%	27540	33.85	1.06	0.07	0.03		0.05	0.04	3255
	Takeoff	100%	34286	44.44	1.06	0.07	0.03		0.05	0.05	3/255.4
Totes: 3b, 5, 6, 8, 10, 12a											
		_	1								
	Idle (Taxi)	7%	3016	5.19	1.06	39.11	4.88		0.07	0.06	3255.4
	Approach	30%	8968	16.50	1.06	1.98	0.07		0.05	0.04	3255.
GE90-115B	Climb out	85%	29127	35.98	1.06	0.07	0.03		0%	0.04	3255.
	Takeoff	100%	37222	50.34	1.06	0.08	0.05		0.06	0.05	3255.
otes: 3b, 5, 6, 8, 10, 12a							l.			l.	<u> </u>
	T. 11 (T. 1)	701	20.40		100	24.42	2.60		0.05	0.04	
	Idle (Taxi)	7%	2048	5.10	1.06	34.12	3.69		0.07	0.06	3255.
GE90-76B	Approach Climb out	30% 85%	5857 18103	13.76 32.43	1.06	2.77 0.32	0.08		0.05	0.04	3255. 3255.
GE90-70D	Takeoff	100%	22191	40.25	1.06	0.32	0.03		0.04	0.04	3255.
	Tuncon	10070	22171	10.20	1.00	0.51	0.05		0.01	0.01	5255.
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	2064	5.12	1.06	33.81	3.63		0.07	0.06	3255.
	Approach	30%	5913	13.87	1.06	2.71	0.08		0.05	0.04	3255.
GE90-77B	Climb out	85%	18326	32.78	1.06	0.32	0.03		0.04	0.04	3255.
22,7,1,12	Takeoff	100%	22460	40.83	1.06	0.31	0.03		0.04	0.04	3255.
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	2151	5.33	1.06	31.34	3.22		0.06	0.06	3255.
	Approach	30%	6381	14.77	1.06	2.16	0.07		0.05	0.04	3255.
GE90-85B	Climb out	85%	202.52	36.35	1.06	0.31	0.03		0.04	0.04	3255.
	Takeoff	100%	24849	45.54	1.06	0.30	0.05		0.05	0.04	3255.
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	2222	5.48	1.06	29.89	2.98		0.06	0.05	3255.
	Approach	30%	6762	15.44	1.06	1.88	0.07		0.05	0.04	3255.
GE90-90B	Climb out	85%	21706	39.07	1.06	0.31	0.03		0.04	0.04	3255.
	Takeoff	100%	26826	49.21	1.06	0.30	0.05		0.05	0.05	3255.
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	2254	5.55	1.06	29.23	2.86		0.06	0.05	3255.
	Approach	30%	6952	15.81	1.06	1.74	0.07		0.05	0.04	3255.
GE90-94B	Climb out	85%	22468	40.63	1.06	0.31	0.03		0.04	0.04	3255.
	Takeoff	100%	27881	51.33	1.06	0.30	0.05		0.05	0.05	3255.
otes: 3b, 5, 6, 8, 10, 12a											]
	Idle (Taxi)	7%	1579	4.24	1.06	21.62	0.93		0.04	0.04	3255
	Approach	30%	4794	9.03	1.06	2.99	0.07		0.08	0.07	3255.
CEnn 1D64	**	0.50/									
GEnx-1B64	Climb out Takeoff	85% 100%	14770 17976	14.61 24.82	1.06 1.06	0.38	0.02		0.04	0.04	3255. 3255.

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Antrait Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	CO	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GH
	Idle (Taxi)	7%	1611	4.30	1.06	20.70	0.83		0.04	0.04	3255
	Approach	30%	4960	9.29	1.06	2.76	0.07		0.08	0.07	3255
GEnx-1B67	Climb out	85%	15397	16.26	1.06	0.30	0.02		0.04	0.04	32 .
	Takeoff	100%	18794	28.56	1.06	0.17	0.02		0.04	0.04	3255
s: 3b, 5, 6, 8, 10, 12a											
3. 30, 3, 0, 0, 10, 124											
	Idle (Taxi)	7%	1651	4.37	1.06	19.68	0.72		0.04	0.04	3255
	Approach	30%	5159	9.63	1.06	2.49	0.07		0.08	0.07	325
GEnx-1B70	Climb out	85%	16167	18.48	1.06	0.24	0.02		.04	0.04	325
	Takeoff	100%	19794	34.06	1.06	0.17	0.02		0.04	0.04	325
s: 3b, 5, 6, 8, 10, 12a											
5. 50, 5, 6, 6, 10, 124											
	Idle (Taxi)	7%	1714	4.43	1.06	18.95	0.66		0.04	0.04	3255
	Approach	30%	5564	9.58	1.06	2.53	0.0		0.08	0.07	325
GEnx-2B67	Climb out	85%	15968	17.94	1.06	0.28	5.02		0.04	0.04	325
	Takeoff	100%	19453	31.20	1.06	0.17	0.02		0.04	0.04	325
s: 3b, 5, 6, 8, 10, 12a	1				<u> </u>	_/			l	l	l
.,.,.,.,.,.											
	Idle (Taxi)	7%	1857	5.24	1.06	33.58	4.65		0.09	0.08	325
	Approach	30%	5643	12.90	165	1.27	0.08		0.05	0.05	325
GP7270	Climb out	85%	17214	31.37	1.06	0.09	0.03		0.06	0.05	325
	Takeoff	100%	20929	41.73	1.06	0.11	0.03		0.06	0.05	325
s: 3b, 5, 6, 8, 10, 12a											<u> </u>
	_										
	Idle (Taxi)	<40%	22	0.88	1.06	720.50	47.31		60.00(S)	54.00(S)	325
CTTOLO FACILI	Pattern	40%	102	7.70	1.06	697.40	7.52		47.95( <b>S</b> )	43.16( <b>S</b> )	325
GTSIO-520-H	Climb out	75%	256	9.76	1.06	728.75	7.04		40.00(S)	36.00( <b>S</b> )	325
	Takeoff	100%	256	1.03	1.06	1045.66	11.66		20.00(S)	18.00( <b>S</b> )	325
s: 3h, 4b (for PM <sub>10</sub> and P	PM <sub>2.5</sub> at all power settings	), 5, 9, 121							I	I	
	_		1								
	Idle (Taxi)	5-10%	8	1.16	1.06	897.40	56.58		60.00( <b>S</b> )	54.00(S)	325
	Approach	30%	37	10.16	1.06	691.26	11.15		47.95( <b>S</b> )	43.16( <b>S</b> )	325
IO-360-B	Climb out	75%	72	4.59	1.06	983.26	9.38		40.00(S)	36.00( <b>S</b> )	325
	Takeof	100%	103	1.99	1.06	1199.03	11.50		20.00(S)	18.00( <b>S</b> )	325
s: 3a, 4b (for PM <sub>10</sub> and P	M <sub>2.5</sub> at all power settings	), 5, 11, 12h							I	I	
			1								
	Idle (Taxi)		30	1.10	1.06	848.00	166.75		60.00	54.00	325
10.100 P	Approach		50	4.00	1.06	912.45	54.17		47.95	43.16	325
IO-360-D	Intermediate		70	6.60	1.06	972.00	20.01		40.00	36.00	325
	Military		90	5.80	1.06	1030.00	25.88		20.00	18.00	325
s: 3g, 5, 12b	_1	1	1		1				l .	l .	
	Idle (Taxi)		1190	1.50	1.06	127.00	22.43		0.73	0.66	325
	Approach		1984	1.90	1.06	84.60	7.48		0.57	0.51	325
J33-A-35	Intermediate		4762	2.70	1.06	49.10	1.50		0.02	0.02	325
	Military		5556	3.60	1.06	31.30	0.58		0.02	0.02	325

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	sion Factor	s (lb/1000l	b fuel)		
Aircrait Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GH
	Idle (Taxi)	<35%	714	2.07	1.06	86.37	27.46		19.94	17.95	325
	3000lb Thrust	35% (C)	2301	3.91	1.06	16.57	0.94		0.18(S)	0.16(S)	325
J52-P-6B	75% Thrust	75%	3977	5.84	1.06	6.00	0.75		0.18(S)	0.16(S)	325
	Military	>75%	6328	9.00	1.06	3.01	0.38		7.75	6.98	725
s: 3i, 4i (for PM <sub>10</sub> and PM	M <sub>2.5</sub> at 3000lb and 75% th	rust power se	ttings only), 5, 7	7, 8, 11 (per	cent thrust	for 3000lb s	etting assun	nes maximu	m thrust of	8500lb %r ti	his en
	Idle (Taxi)	<32%	680	1.79	1.06	63.78	48.53		0.18( <b>S</b> )	0.16(S)	325
	3000lb Thrust	32% (C)	2300	6.34	1.06	10.54	1.98		0.18(\$	0.16( <b>S</b> )	325
J52-P-8B	75% Thrust	75%	4320	10.10	1.06	3.00	0.67		0.1 (S)	0.12(S)	325
	Military	>75%	7370	13.05	1.06	0.71	1.07		J.13(S)	0.12(S)	325
	·										
s: 3i, 4i (for PM <sub>10</sub> and PM	M <sub>2.5</sub> at all power settings)	, 5, 11 (percer	nt thrust for 300	Olb setting	assumes ma	ximum thru	st of 9300lb	for this eng	gine), 12h		
	Idla (Tavi)	70/	1/66	2.70	1.06	50.10	2.62		0.19	0.16	224
	Idle (Taxi) Approach	7% 30%	1466 3325	2.79 7.25	1.06	50.10 16.07	3.62 0.29		0.18	0.16 0.16	325
J52-P-408	Intermediate	70%	6502	7.53	1.06	7.70	0.29		0.18	0.10	325
JJ2-1 - <del>1</del> 00	Military	100%	6483	7.53	1.06	7.70	0.03		0.13	0.12	325
	14 Interior	10070	0103	7.55	1.00	7.70	0.03		0.15	0.12	32.
s: 3m, 5, 11, 12h	•										
	T			=				ı			
	Idle (Taxi)	<75%	1100	1.87	1.06	80.52	111.09		0.16(S)	0.14(S)	325
157 D 10	75% Thrust	75%	5670	7.40	1.06	3.21	0.87		0.93(S)	0.84(S)	325
J57-P-10	Normal Rated	76-99%	7250	9.00	1.06	1.79	1.15		1.92(S)	1.73(S)	325
	Military	100%	8370	10.37	1.06	1.16	0.99		1.72(S)	1.55(S)	32:
s: 3i, 4j (for PM <sub>10</sub> and PM	$I_{2.5}$ at all power settings)	, 5, 11 (assum	es 100% thrust	at Minary	setting), 12h	1	Į.	l	l	l	
	1				1	1		T	T	1	T
	Idle (Taxi)		952	2.20	1.06	79.00	88.55		0.16	0.14	325
700 D 4077	Approach		3333	5.80	1.06	7.90	1.61		0.93	0.84	325
J57-P-19W	Intermediate		6508	9.50	1.06	2.40	0.23		1.92	1.73	325
	Military		7460	11.00	1.06	1.90	0.12		1.72	1.55	325
s: 3g, 5, 7, 8, 12h					1			l			
- 6, - 7 - 7											
	Idle (Taxi)	30%	1322	1.53	1.06	80.74	87.93		0.16(S)	0.14(S)	325
	30% Thrust	30%	3413	4.45	1.06	14.83	5.22		0.93( <b>S</b> )	0.84(S)	325
J57-P-420	75% Thrust	75%	5767	6.99	1.06	4.32	1.25		1.92(S)	1.73(S)	32:
	Intermedia	75-100%	10570	12.97	1.06	0.34	0.56		1.72(S)	1.55(S)	325
01 4 (0 D) ( 1D)	Afterbriner	>100%	39721	5.16	1.06	14.20	2.92		3.10( <b>C</b> )	2.79( <b>C</b> )	325
s: 3i, 4a (for PM <sub>10</sub> and Pl	M <sub>2.5</sub> at After ourner setting	ng), 4j (for PM	$I_{10}$ and $PM_{2.5}$ at	all other se	ettings), 5, 1	1, 12h					
	Idle (Taxi)		952	2.20	1.06	78.00	86.25		0.14	0.13	32:
	Approach		1825	4.45	1.06	16.85	6.33		0.41	0.37	325
J57-P/F-43WB	Intermediate		6667	9.90	1.06	2.30	0.12		1.23	1.11	325
	Military		7778	11.00	1.06	1.50	0.12		1.74	1.57	325
				· · · · ·							
s: 3g, 5, 7, 8, 2h											
	Idle (Taxi)		1270	2.40	1.06	65.00	60.84		0.13	0.12	325
			1825	3.30	1.06	32.50	16.33		0.13	0.12	325
			1020	5.50							_
J57-P/F-59W	Approach Intermediate		3889	6.10	1.06	8.90	1.27		(),60	0.54	37
J57-P/F-59W	Intermediate  Military		3889 7937	6.10	1.06 1.06	8.90 2.40	1.27 0.23		0.60	0.54 0.76	325

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000ll	b fuel)		
	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>x</sub> <sup>1</sup>	CO	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	GHG <sup>2</sup>
	Idle (Taxi)		556	1.50	1.06	70.00	10.58		0.02	0.02	3255.4
	Approach		556	1.70	1.06	50.50	6.44		0.02	0.02	3255.4
J60-P-3A	Intermediate		1429	4.00	1.06	5.80	0.23		0.23	0.21	3255.4
	Military		3413	4.60	1.06	4.00	0.12		0.17	0.15	2,55.4
	•										
otes: 3g, 5, 7, 8, 12h										_/	
	T. 11 (T. 1)		15.	4.50	1.05	<b>5</b> 0.00	10.50		0.02	0.00	2255
	Idle (Taxi)		476	1.50	1.06	70.00	10.58		0.02	0.02	3255.4
100 D 54 5D	Approach		556	1.70	1.06	50.50	6.44		0.02	0.02	3255.4
J60-P-5A, -5B	Intermediate		1429	4.00	1.06	5.80	0.23		073	0.21	3255.4
	Military		2460	4.60	1.06	4.00	0.12		0.17	0.15	3255.4
otes: 3g, 5, 7, 8, 12h											
<i>y, , ,</i>											
	Idle (Taxi)		1320	2.46	1.06	47.16	11.25		0.18(S)	0.16(S)	3255.4
	7450 rpm		4370	7.30	1.06	12.61	1.09		0.18(S)	0.16(S)	3255.4
J65-W-5F	8000 rpm	1	5970	5.71	1.06	7.39	0.3		0.13( <b>S</b> )	0.12(S)	3255.4
	8300 rpm		7040	5.15	1.06	4.57	0.38		0.13( <b>S</b> )	0.12(S)	3255.4
	Military		6946	5.23	1.06	5.31	0.70		0.13( <b>S</b> )	0.12(S)	3255.4
otes: 3i, 4i (PM <sub>10</sub> and PM <sub>2.5</sub> a	t all power settings), 5, 1	2h									
	Idle (Taxi)		1333	2.78	1.06	50.19	4.31		0.18( <b>S</b> )	0.16(S)	3255.4
	75% rpm		2346	4.82	1.06	21.82	1.57		0.18( <b>S</b> )	0.16(S)	3255.4
J65-W-20	85% rpm		3260	7.27	1.06	16.13	0.32		0.18( <b>S</b> )	0.16(S)	3255.4
	90% rpm		3951	7.97	1.06	14.30	0.15		0.18( <b>S</b> )	0.16( <b>S</b> )	3255.4
	Intermediate (Mil)		6421	7.55	1.06	7.72	0.04		0.13( <b>S</b> )	0.12(S)	3255.4
otes: 3a, 4i (PM <sub>10</sub> and PM <sub>2.5</sub> a	at all power settings), 5, 1	2h									
	Idle (Taxi)	4%	167	0.80	1.06	160.08	2.33	1.773	3.15	1.47	3255.4
	Approach	30%	473( <b>C</b> )	1.41( <b>C</b> )	1.06	89.40( <b>C</b> )	0.50(C)	0.500( <b>C</b> )	1.87( <b>C</b> )	0.87( <b>C</b> )	3255.4
J69-T-25	Intermediate	63%	473(C	2.92	1.06	38.27	0.30(C)	0.072	0.94	0.39	3255.4
30) 1 23	Military	84%	1085	4.53	1.06	32.86	0.03	0.069	0.67	0.38	3255.4
		0.170					0.00	0.000			
otac: 3c An (for all values for	approach power setting	only), 7, 8/10	), 12e								
otes. 5c, 4a (for all values for											
nes. 3c, 4a (101 all values 101											
otes. Se, 4a (for all values for	Idle (Taxi)		1700	1.29	1.06	76.18	65.41		0.47	0.42	
	Approach		11300	11.90	1.06	1.40	0.11		0.10	0.09	3255.4
J75-P-17	Approach Intermediate		11300 12386(C)	11.90 9.79( <b>C</b> )	1.06 1.06	1.40 0.94( <b>C</b> )	0.11 0.20( <b>C</b> )		0.10 0.64( <b>C</b> )	0.09 0.58( <b>C</b> )	3255.4 3255.4
	Approach Intermediate Military		11300 12386( <b>C</b> ) 13200	11.90 9.79( <b>C</b> ) 8.20	1.06 1.06 1.06	1.40 0.94( <b>C</b> ) 0.60	0.11 0.20( <b>C</b> ) 0.26		0.10 0.64( <b>C</b> ) 1.05	0.09 0.58( <b>C</b> ) 0.95	3255.4 3255.4 3255.4
J75-P-17	Approach Intermediate Military Afterby her		11300 12386( <b>C</b> ) 13200 53700	11.90 9.79( <b>C</b> ) 8.20 4.10	1.06 1.06 1.06 1.06	1.40 0.94(C) 0.60 12.00	0.11 0.20(C) 0.26 0.14		0.10 0.64(C) 1.05 1.43(C)	0.09 0.58( <b>C</b> )	3255.4 3255.4 3255.4
J75-P-17	Approach Intermediate Military Afterby her		11300 12386( <b>C</b> ) 13200 53700	11.90 9.79( <b>C</b> ) 8.20 4.10	1.06 1.06 1.06 1.06	1.40 0.94(C) 0.60 12.00	0.11 0.20(C) 0.26 0.14		0.10 0.64(C) 1.05 1.43(C)	0.09 0.58( <b>C</b> ) 0.95	3255.4 3255.4 3255.4
J75-P-17	Approach Intermediate Military Afterburner  A <sub>2 5</sub> at Afterburner settin	   g only), 5, 7,	11300 12386(C) 13200 53700 8, 11 (assumes	11.90 9.79( <b>C</b> ) 8.20 4.10 military sett	1.06 1.06 1.06 1.06 ting has max	1.40 0.94( <b>C</b> ) 0.60 12.00 ximum perce	0.11 0.20( <b>C</b> ) 0.26 0.14 ent thrust of	   f 100%), 12h	0.10 0.64( <b>C</b> ) 1.05 1.43( <b>C</b> )	0.09 0.58(C) 0.95 1.28(C)	3255.4 3255.4 3255.4 3255.4
J75-P-17	Approach Intermediate Military Afterburner A <sub>2.5</sub> at Afterburner settin Idle (Taxi)	  g only), 5, 7,	11300 12386(C) 13200 53700 8, 11 (assumes	11.90 9.79(C) 8.20 4.10 military sett	1.06 1.06 1.06 1.06 ting has max	1.40 0.94(C) 0.60 12.00 ximum perce	0.11 0.20(C) 0.26 0.14 ent thrust of	  f 100%), 12h	0.10 0.64(C) 1.05 1.43(C)	0.09 0.58(C) 0.95 1.28(C)	3255.4 3255.4 3255.4 3255.4
J75-P-17 otes: 3a, 4a (for PM <sub>10</sub> and PM	Approach Intermediate Military Afterburner A <sub>2.5</sub> at Afterburner settin Idle (Taxi) 75% rpm	  g only), 5, 7, 7% 30%	11300 12386(C) 13200 53700 8, 11 (assumes	11.90 9.79(C) 8.20 4.10 military sett 2.36 2.97	1.06 1.06 1.06 1.06 ting has max 1.06 1.06	1.40 0.94(C) 0.60 12.00 ximum perce 55.59 30.55	0.11 0.20(C) 0.26 0.14 ent thrust of 16.14 4.20	  f 100%), 12h	0.10 0.64(C) 1.05 1.43(C) 0.44 0.90	0.09 0.58(C) 0.95 1.28(C) 0.40 0.81	3255.4 3255.4 3255.4 3255.4 3255.4 3255.4
J75-P-17	Approach Intermediate Military Afterby her A <sub>1.5</sub> at Afty burner settin Idle (Taxi) 75% rpm 87% rpm	  g only), 5, 7, 7% 30% 70%	11300 12386(C) 13200 53700 8, 11 (assumes 1325 1550 8310	11.90 9.79(C) 8.20 4.10 military sett 2.36 2.97 8.44	1.06 1.06 1.06 1.06 1.06 ting has ma: 1.06 1.06	1.40 0.94(C) 0.60 12.00 ximum perce 55.59 30.55 2.56	0.11 0.20(C) 0.26 0.14 ent thrust of 16.14 4.20 0.12	  f 100%), 12h	0.10 0.64(C) 1.05 1.43(C) 0.44 0.90 0.15	0.09 0.58(C) 0.95 1.28(C) 0.40 0.81 0.14	3255.4 3255.4 3255.4 3255.4 3255.4 3255.4
J75-P-17 otes: 3a, 4a (for PM <sub>10</sub> and PM	Approach Intermediate Military Afterby her A <sub>1.5</sub> at Afty burner settin Idle (Taxi) 75% rpm 87% rpm Military	  g only), 5, 7, 7% 30% 70% 100%	11300 12386(C) 13200 53700 8, 11 (assumes 1325 1550 8310 9544	11.90 9.79(C) 8.20 4.10 military sett 2.36 2.97 8.44 10.42	1.06 1.06 1.06 1.06 ting has max 1.06 1.06 1.06	1.40 0.94(C) 0.60 12.00 ximum perce 55.59 30.55 2.56 2.56	0.11 0.20(C) 0.26 0.14 ent thrust of 16.14 4.20 0.12 0.12	  f 100%), 12h	0.10 0.64(C) 1.05 1.43(C) 0.44 0.90 0.15 0.18	0.09 0.58(C) 0.95 1.28(C) 0.40 0.81 0.14 0.16	3255.4 3255.4 3255.4 3255.4 3255.4 3255.4
J75-P-17 otes: 3a, 4a (for PM <sub>10</sub> and PM J79-GE-8D	Approach Intermediate Military Afterby her A <sub>1.5</sub> at Afty burner settin Idle (Taxi) 75% rpm 87% rpm	  g only), 5, 7, 7% 30% 70%	11300 12386(C) 13200 53700 8, 11 (assumes 1325 1550 8310	11.90 9.79(C) 8.20 4.10 military sett 2.36 2.97 8.44	1.06 1.06 1.06 1.06 1.06 ting has ma: 1.06 1.06	1.40 0.94(C) 0.60 12.00 ximum perce 55.59 30.55 2.56	0.11 0.20(C) 0.26 0.14 ent thrust of 16.14 4.20 0.12	  f 100%), 12h	0.10 0.64(C) 1.05 1.43(C) 0.44 0.90 0.15	0.09 0.58(C) 0.95 1.28(C) 0.40 0.81 0.14	3255.4 3255.4 3255.4 3255.4 3255.4 3255.4 3255.4
J75-P-17 otes: 3a, 4a (for PM <sub>10</sub> and PM J79-GE-8D	Approach Intermediate Military Afterby her A <sub>1.5</sub> at Afty burner settin Idle (Taxi) 75% rpm 87% rpm Military	  g only), 5, 7, 7% 30% 70% 100%	11300 12386(C) 13200 53700 8, 11 (assumes 1325 1550 8310 9544	11.90 9.79(C) 8.20 4.10 military sett 2.36 2.97 8.44 10.42	1.06 1.06 1.06 1.06 ting has max 1.06 1.06 1.06	1.40 0.94(C) 0.60 12.00 ximum perce 55.59 30.55 2.56 2.56	0.11 0.20(C) 0.26 0.14 ent thrust of 16.14 4.20 0.12 0.12	  f 100%), 12h	0.10 0.64(C) 1.05 1.43(C) 0.44 0.90 0.15 0.18	0.09 0.58(C) 0.95 1.28(C) 0.40 0.81 0.14 0.16	3255.4 3255.4 3255.4 3255.4 3255.4 3255.4
J75-P-17 otes: 3a, 4a (for PM <sub>10</sub> and PM J79-GE-8D	Approach Intermediate Military Afterby her A <sub>1.5</sub> at Afty burner settin Idle (Taxi) 75% rpm 87% rpm Military	  g only), 5, 7, 7% 30% 70% 100%	11300 12386(C) 13200 53700 8, 11 (assumes 1325 1550 8310 9544	11.90 9.79(C) 8.20 4.10 military sett 2.36 2.97 8.44 10.42	1.06 1.06 1.06 1.06 ting has max 1.06 1.06 1.06	1.40 0.94(C) 0.60 12.00 ximum perce 55.59 30.55 2.56 2.56	0.11 0.20(C) 0.26 0.14 ent thrust of 16.14 4.20 0.12 0.12	  f 100%), 12h	0.10 0.64(C) 1.05 1.43(C) 0.44 0.90 0.15 0.18	0.09 0.58(C) 0.95 1.28(C) 0.40 0.81 0.14 0.16	3255.4 3255.4 3255.4 3255.4 3255.4 3255.4 3255.4 3255.4
J75-P-17 otes: 3a, 4a (for PM <sub>10</sub> and PM	Approach Intermediate Military Afterburner Afterburner settin  Idle (Taxi) 75% rpm 87% rpm Military Afterburner	 g only), 5, 7, 7% 30% 70% 100% 110-150%	11300 12386(C) 13200 53700 8, 11 (assumes 1325 1550 8310 9544 34647	11.90 9.79(C) 8.20 4.10 military sett 2.36 2.97 8.44 10.42 4.71	1.06 1.06 1.06 1.06 1.06 ting has max 1.06 1.06 1.06 1.06	1.40 0.94(C) 0.60 12.00 ximum perce 55.59 30.55 2.56 2.56 8.14	0.11 0.20(C) 0.26 0.14 ent thrust of 16.14 4.20 0.12 0.12	  F 100%), 12h	0.10 0.64(C) 1.05 1.43(C) 0.44 0.90 0.15 0.18 0.56	0.09 0.58(C) 0.95 1.28(C) 0.40 0.81 0.14 0.16	3255,4 3255,4 3255,4 3255,4 3255,4 3255,4 3255,4 3255,4
J75-P-17 otes: 3a, 4a (for PM <sub>10</sub> and PM J79-GE-8D	Approach Intermediate Military Afterburner Afterburner settin  Idle (Taxi) 75% rpm 87% rpm Military Afterburner  Idle (Taxi)	 g only), 5, 7, 7% 30% 70% 110-150%	11300 12386(C) 13200 53700 8, 11 (assumes 1325 1550 8310 9544 34647	11.90 9.79(C) 8.20 4.10 military sett 2.36 2.97 8.44 10.42 4.71	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1.40 0.94(C) 0.60 12.00 ximum perce 55.59 30.55 2.56 2.56 8.14	0.11 0.20(C) 0.26 0.14 ent thrust of 16.14 4.20 0.12 0.12 0.19	  F 100%), 12t	0.10 0.64(C) 1.05 1.43(C) 1 0.44 0.90 0.15 0.18 0.56	0.09 0.58(C) 0.95 1.28(C) 0.40 0.81 0.14 0.16 0.50	3255,4 3255,4 3255,4 3255,4 3255,4 3255,4 3255,4 3255,4 3255,4
J75-P-17  otes: 3a, 4a (for PM <sub>10</sub> and PM  J79-GE-8D  otes: 3m, 5, 11, 12h	Approach Intermediate Military Afterbuner  Afterbuner settin  Idle (Taxi) 75% rpm 87% rpm Military Afterburner  Idle (Taxi) Afterburner	 g only), 5, 7, 7% 30% 70% 100% 110-150%	11300 12386(C) 13200 53700 8, 11 (assumes 1325 1550 8310 9544 34647	11.90 9.79(C) 8.20 4.10 military sett 2.36 2.97 8.44 10.42 4.71	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1.40 0.94(C) 0.60 12.00 ximum perce 55.59 30.55 2.56 2.56 8.14	0.11 0.20(C) 0.26 0.14 ent thrust of 16.14 4.20 0.12 0.12 0.19	  F 100%), 12P	0.10 0.64(C) 1.05 1.43(C) 1 0.44 0.90 0.15 0.18 0.56	0.09 0.58(C) 0.95 1.28(C) 0.40 0.81 0.14 0.16 0.50 0.79 0.57	3255.4 3255.4 3255.4 3255.4 3255.4

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Frains	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	GH
	Idle (Taxi)		1111	2.50	1.06	57.00	13.80		0.50	0.45	3255
	Approach		3492	4.80	1.06	9.40	1.27		1.80	1.62	3255
J79-GE-15	Intermediate		5397	5.60	1.06	4.60	0.35		2.80	2.52	325
	Military		8889	8.90	1.06	2.20	0.23		2.20	1.98	37.5
	Afterburner		32223	9.10	1.06	4.00	0.01		0.15	0.14	325
es: 3g, 5, 7, 8, 12h										_/	
	Idle (Taxi)		1032	2.70	1.06	66.00	26.57		0.18	0.16	325
	Approach		3492	4.50	1.06	15.40	0.58		0.51	0.46	325
J79-GE-17	Intermediate		6984	5.80	1.06	7.80	0.12		0.7	0.65	325
	Military		9841	10.60	1.06	5.20	0.12		0.92	0.83	325
	Afterburner		34921	8.10	1.06	4.00	0.01		0.15	0.14	325
es: 3g, 5, 7, 8, 12h		•	•		•	•					
	T										
	Idle (Taxi)	4%	434	1.34	1.06	250.22	2.00	1.535	4.70	4.02	325
J85-GE-5A	Approach	13%(C)	864(C)	1.42(C)	1.06	154.82(C)	1.29(C	1.127( <b>C</b> )	2.80(C)	1.85(C)	325
J83-UE-3A	Intermediate Military	15% 88%	950 2740	1.47 2.64	1.06	104.02 32.91	0.12	0.909	1.79	0.69	325 325
	Afterburner-1	116%	8138	1.98	1.06	13.46	0.12	0.123	0.25	0.04	325
es: 3c, 10, 12e	Arterouner-1	110/0	0130	1.70	1.00	13.40	0.03	0.043	0.23	0.07	323
	Idle (Taxi)		524	1.34	1.06	178.05	34.46		4.70(S)	4.02(S)	325
	75% rpm		798	2.13	1.06	78.20	2.59		3.01( <b>C</b> )	1.84(C)	325
J85-GE-5F	85% rpm		1098	2.73	1 56	58.01	1.36		2.15( <b>C</b> )	1.20(C)	325
	Intermediate		1297	2.31	1.06	43.02	3.99		1.79(S)	0.69(S)	325
	Afterburner		8470	2.60	1.06	29.00	0.92		0.25(S)	0.09(S)	325
es: 3a, 4a (for PM <sub>10</sub> and F	PM <sub>2.5</sub> at 75% rpm and 85	% rpm power	settings), 4l (Pl	M <sub>10</sub> ar 1 PN	I <sub>2.5</sub> for rem	aining power	r settings), 5	5, 12h			
	Idle (Taxi)		434	1.14	1.06	211.97	39.12		4.70	4.02	325
			864(C)	1.53(C)	1.06	154.2(C)	17.84(C)		2.80( <b>C</b> )	1.85(C)	325
	Approach				1.00		6.51		1.79	0.69	325
J85-GE-5H	Approach Intermediate		95		1.06	123.43					
J85-GE-5H	Intermediate		953	1.74	1.06	123.43 36.40					
J85-GE-5H					1.06 1.06 1.06	123.43 36.40 14.19	0.67		1.79 1.13 0.25	0.04	325
J85-GE-5H es: 3j, 7, 10, 12h	Intermediate Military		95.1 2740	1.74 2.92	1.06	36.40	0.67		1.13	0.04	325
	Intermediate Military Afterburner		95 2740 8138	1.74 2.92 2.09	1.06 1.06	36.40 14.19	0.67 2.63		1.13 0.25	0.04	325 325
	Intermediate Military Afterburner  Idle (Taxi)		95 2740 8138	1.74 2.92 2.09	1.06 1.06	36.40 14.19	0.67 2.63 4.01	3.112	1.13 0.25 7.02	0.04 0.09 4.90	325 325 325
es: 3j, 7, 10, 12h	Intermediate Military Afterburner  Idle (Taxi) Approach		95 2740 8138 525 871(C)	1.74 2.92 2.09 0.79 1.47(C)	1.06 1.06 1.06	36.40 14.19 191.41 96.59(C)	0.67 2.63 4.01 1.70(C)	3.112 1.34(C)	1.13 0.25 7.02 10.53(C)	0.04 0.09 4.90 8.05(C)	325 325 325 325
	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate		95 2740 8138 525 871(C) 1045	1.74 2.92 2.09 0.79 1.47(C) 1.81	1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90	0.67 2.63 4.01 1.70(C) 0.54	3.112 1.34(C) 0.452	1.13 0.25 7.02 10.53(C) 12.30	0.04 0.09 4.90 8.05(C) 9.63	325 325 325 325 325
ss: 3j, 7, 10, 12h	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military		95 2740 8138 525 871(C) 1045 2550	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65	1.06 1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90 25.35	0.67 2.63 4.01 1.70( <b>C</b> ) 0.54 0.04	3.112 1.34(C) 0.452 0.033	1.13 0.25 7.02 10.53(C) 12.30 4.25	0.04 0.09 4.90 8.05(C) 9.63 2.43	325 325 325 325 325 325
ss: 3j, 7, 10, 12h J85-GE-5M	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburner		95 2740 8138 525 871(C) 1045 2550 7695	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65 1.21	1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90	0.67 2.63 4.01 1.70(C) 0.54	3.112 1.34(C) 0.452	1.13 0.25 7.02 10.53(C) 12.30	0.04 0.09 4.90 8.05(C) 9.63	325 325 325 325 325 325
ss: 3j, 7, 10, 12h J85-GE-5M	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburner		95 2740 8138 525 871(C) 1045 2550 7695	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65 1.21	1.06 1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90 25.35	0.67 2.63 4.01 1.70(C) 0.54 0.04	3.112 1.34(C) 0.452 0.033	1.13 0.25 7.02 10.53(C) 12.30 4.25	0.04 0.09 4.90 8.05(C) 9.63 2.43	325 325 325 325 325 325
ss: 3j, 7, 10, 12h J85-GE-5M	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburder		95 2740 8138 8138 525 871(C) 1045 2550 7695 r setting only),	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65 1.21 10, 12f	1.06 1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90 25.35 10.19	0.67 2.63 4.01 1.70(C) 0.54 0.04 0.05(S)	3.112 1.34(C) 0.452 0.033	7.02 10.53(C) 12.30 4.25 0.25(S)	0.04 0.09 4.90 8.05(C) 9.63 2.43 0.09(S)	325 325 325 325 325 325 325
J85-GE-5M ss: 3j, 4l (for VOC, HAPs	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburner  Afterburner		95 2740 8138 8138 525 871(C) 1045 205 7695 r setting only), 520 854(C)	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65 1.21	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90 25.35 10.19	0.67 2.63 4.01 1.70(C) 0.54 0.04 0.05(S) 16.80 7.84(C)	3.112 1.34(C) 0.452 0.033 0.045(S)	1.13 0.25 7.02 10.53(C) 12.30 4.25 0.25(S) 4.70(S) 2.80(S)	0.04 0.09 4.90 8.05(C) 9.63 2.43 0.09(S) 4.02(S) 1.85(S)	325. 325. 325. 325. 325. 325. 325. 325.
ss: 3j, 7, 10, 12h J85-GE-5M	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburder Afterburder Idle (Taxi) Approach Intermediate Idle (Taxi) Approach Intermediate		95 2740 8138 8138 525 871(C) 1045 2550 7695 r setting only), 520 854(C) 1030	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65 1.21 10, 12f 1.08 0.84(C) 0.70	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90 25.35 10.19 177.45 106.29(C) 65.07	0.67 2.63 4.01 1.70(C) 0.54 0.04 0.05(S) 16.80 7.84(C) 2.78	3.112 1.34(C) 0.452 0.033 0.045(S)	7.02 10.53(C) 12.30 4.25 0.25(S) 4.70(S) 2.80(S) 1.79(S)	0.04 0.09 8.05(C) 9.63 2.43 0.09(S) 4.02(S) 1.85(S) 0.69(S)	325 325 325 325 325 325 325 325 325 325
J85-GE-5M ss: 3j, 4l (for VOC, HAPs	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburler Afterburler Afterburler Approach Idle (Taxi) Approach Intermediate Military Approach Intermediate Military	erburner powe	95 2740 8138 8138 525 871(C) 1045 2550 7695 r setting only), 520 854(C) 1030 2220	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65 1.21 10, 12f 1.08 0.84(C) 0.70 1.92	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90 25.35 10.19 177.45 106.29(C) 65.07 30.99	0.67 2.63 4.01 1.70(C) 0.54 0.04 0.05(S) 16.80 7.84(C) 2.78 0.75	3.112 1.34(C) 0.452 0.033 0.045(S)	7.02 10.53(C) 12.30 4.25 0.25(S) 4.70(S) 2.80(S) 1.79(S) 1.13(S)	0.04 0.09 8.05(C) 9.63 2.43 0.09(S) 4.02(S) 1.85(S) 0.69(S) 0.04(S)	325 325 325 325 325 325 325 325 325 325
J85-GE-5M  J85-GE-5M  J85-GE-5R	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburler Afterburler Approach Idle (Taxi) Approach Intermediate Military Approach Intermediate Military Afterburler		95 2740 8138 8138 525 871(C) 1045 2550 7695 r setting only), 520 854(C) 1030	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65 1.21 10, 12f 1.08 0.84(C) 0.70	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90 25.35 10.19 177.45 106.29(C) 65.07	0.67 2.63 4.01 1.70(C) 0.54 0.04 0.05(S) 16.80 7.84(C) 2.78	3.112 1.34(C) 0.452 0.033 0.045(S)	7.02 10.53(C) 12.30 4.25 0.25(S) 4.70(S) 2.80(S) 1.79(S)	0.04 0.09 8.05(C) 9.63 2.43 0.09(S) 4.02(S) 1.85(S) 0.69(S)	325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325.
J85-GE-5M J85-GE-5M J85-GE-5R	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburler Afterburler Afterburler Approach Idle (Taxi) Approach Intermediate Military Approach Intermediate Military		95 2740 8138 8138 525 871(C) 1045 2550 7695 r setting only), 520 854(C) 1030 2220	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65 1.21 10, 12f 1.08 0.84(C) 0.70 1.92	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90 25.35 10.19 177.45 106.29(C) 65.07 30.99	0.67 2.63 4.01 1.70(C) 0.54 0.04 0.05(S) 16.80 7.84(C) 2.78 0.75	3.112 1.34(C) 0.452 0.033 0.045(S)	7.02 10.53(C) 12.30 4.25 0.25(S) 4.70(S) 2.80(S) 1.79(S) 1.13(S)	0.04 0.09 8.05(C) 9.63 2.43 0.09(S) 4.02(S) 1.85(S) 0.69(S) 0.04(S)	325 325 325 325 325 325 325 325 325 325
J85-GE-5M J85-GE-5M J85-GE-5R	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburner  Afterburner  Approach Idle (Taxi) Approach Intermediate Military Approach Intermediate Military Afterburner at all power settings), 5,		95 2740 8138 525 871(C) 1045 2550 7695 r setting only), 520 854(C) 1030 2220 7695	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65 1.21 10, 12f 1.08 0.84(C) 0.70 1.92 6.23	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90 25.35 10.19 177.45 106.29(C) 65.07 30.99 53.43	0.67 2.63 4.01 1.70(C) 0.54 0.04 0.05(S) 16.80 7.84(C) 2.78 0.75 6.97	3.112 1.34(C) 0.452 0.033 0.045(S)	7.02 10.53(C) 12.30 4.25 0.25(S) 4.70(S) 2.80(S) 1.79(S) 1.13(S) 0.25(S)	0.04 0.09 4.90 8.05(C) 9.63 2.43 0.09(S) 4.02(S) 1.85(S) 0.69(S) 0.04(S) 0.09(S)	325 325 325 325 325 325 325 325 325 325
J85-GE-5M J85-GE-5M J85-GE-5R	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburner  Afterburner  Afterburner  Approach Idle (Taxi) Approach Intermediate Military Afterburner at all power settings), 5,	rburner powe	95 2740 8138 525 871(C) 1045 2550 7695 r setting only), 520 854(C) 1030 2220 7695	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65 1.21 10, 12f 0.84(C) 0.70 1.92 6.23	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90 25.35 10.19 177.45 106.29(C) 65.07 30.99 53.43	0.67 2.63 4.01 1.70(C) 0.54 0.04 0.05(S) 16.80 7.84(C) 2.78 0.75 6.97	3.112 1.34(C) 0.452 0.033 0.045(S)	1.13 0.25 7.02 10.53(C) 12.30 4.25 0.25(S) 4.70(S) 2.80(S) 1.79(S) 1.13(S) 0.25(S)	0.04 0.09 4.90 8.05(C) 9.63 2.43 0.09(S) 4.02(S) 1.85(S) 0.69(S) 0.04(S) 0.09(S)	325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325.
J85-GE-5M  J85-GE-5M  J85-GE-5R  J85-GE-5R	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburner  Afterburner  Afterburner  Afterburner  Approach Idle (Taxi) Approach Intermediate Military Afterburner  at all power settings), 5,  Idle (Taxi) Approach		95 2740 8138 8138 525 871(C) 1045 2550 7695 r setting only), 520 854(C) 1030 2220 7695 556 1230	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65 1.21 10, 12f 0.84(C) 0.70 1.92 6.23	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90 25.35 10.19 177.45 106.29(C) 65.07 30.99 53.43	0.67 2.63 4.01 1.70(C) 0.54 0.04 0.05(S) 16.80 7.84(C) 2.78 0.75 6.97	3.112 1.34(C) 0.452 0.033 0.045(S)	1.13 0.25 7.02 10.53(C) 12.30 4.25 0.25(S) 4.70(S) 2.80(S) 1.79(S) 1.13(S) 0.25(S)	0.04 0.09 8.05(C) 9.63 2.43 0.09(S) 4.02(S) 1.85(S) 0.04(S) 0.04(S) 0.09(S)	325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325.
J85-GE-5M J85-GE-5M J85-GE-5R	Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburner  Afterburner  Afterburner  Approach Idle (Taxi) Approach Intermediate Military Afterburner at all power settings), 5,	rburner powe	95 2740 8138 525 871(C) 1045 2550 7695 r setting only), 520 854(C) 1030 2220 7695	1.74 2.92 2.09 0.79 1.47(C) 1.81 1.65 1.21 10, 12f 0.84(C) 0.70 1.92 6.23	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	36.40 14.19 191.41 96.59(C) 48.90 25.35 10.19 177.45 106.29(C) 65.07 30.99 53.43	0.67 2.63 4.01 1.70(C) 0.54 0.04 0.05(S) 16.80 7.84(C) 2.78 0.75 6.97	3.112 1.34(C) 0.452 0.033 0.045(S)	1.13 0.25 7.02 10.53(C) 12.30 4.25 0.25(S) 4.70(S) 2.80(S) 1.79(S) 1.13(S) 0.25(S)	0.04 0.09 4.90 8.05(C) 9.63 2.43 0.09(S) 4.02(S) 1.85(S) 0.69(S) 0.04(S) 0.09(S)	325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325. 325.

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

A	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	$SO_X^{-1}$	CO	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GH
	Idle (Taxi)		556	1.30	1.06	178.00	34.50		0.00(S)	0.00(S)	3255
	Approach		1230	2.05	1.06	58.30	5.69		0.01(S)	0.01(S)	3255
J85-GE-17A	Intermediate		2222	2.30	1.06	43.00	4.03		0.01(S)	0.01(S)	325
	Military		3810	2.60	1.06	29.00	0.92		0.02(S)	0.02(S)	325
es: 3g, 4c (PM <sub>10</sub> and PM <sub>10</sub>	2.5 for all power settings), 5	, 7, 8, 10, 12h	1								
	T.11 (T)		100	1.05	1.00	150.00	27.00		0.00(0)	0.000	225
	Idle (Taxi)		400	1.25	1.06	159.00	27.89		0.00(S)	0.00(S)	325
195 CE 21	75% rpm		700	2.00	1.06	92.14	14.29		0.01(S)	0.01(S)	325
J85-GE-21	85% rpm		1200	2.92	1.06	46.17	2.97 0.29		0.01(S) 0.02(S)	0.01(S) 0.02(S)	325 325
	Intermediate (Military) Afterburner		3200 10650	5.00	1.06	21.56 36.40	0.29		0.01(S)	0.02(S) 0.01(S)	325
es: 3a 4c (PM <sub>10</sub> and PM	5 at all power settings), 5,		10030	3.00	1.00	30.40	0.12		0.01(3)	0.01(3)	323.
50. 5a, 10 (1 1/1 <sub>[]</sub> ) and 1 1/1	y at an power settings), s,	7, 0, 1211									
	Idle (Taxi)	7%	1071	2.50	1.06	98.00	128.80		0.16(S)	0.14(S)	325
	Approach	30%	2746	4.80	1.06	24.50	4.60		0.93( <b>S</b> )	0.84(S)	325
JT3D-3B	Climb out	85%	7397	9.90	1.06	2.80	2.30		1.92(S)	1.73(S)	325
	Takeoff	100%	9318	12.10	1.06	1.50	1.60		1.72(S)	1.55(S)	325
es: 3b, 4j (for PM <sub>10</sub> and F	M <sub>2.5</sub> at all power settings),	5, 6, 8, 10, 1	2a								
	I.II. (T')	70/	1016	2.20	1.00	10.00	141 45		0.16(0)	0.14(6)	225
	Idle (Taxi)	7% 30%	1016	2.20	1.06	38.99 19.50	141.45 2.42		0.16(S)	0.14(S)	325
JT3D-7 Series	Approach Climb out	85%	3087 8191	5.30 9.59	1.06	1.90	0.46		0.93( <b>S</b> )	0.84(S)	325. 325.
JID-/ Selles	Takeoff	100%	9952	12.69	.06		0.46		1.92(S) 1.72(S)	1.73(S) 1.55(S)	325
	Takeon	100%	9932	12.09	.00	0.89	0.38		1.72(3)	1.33(3)	323.
es: 3b. 4i (for PM <sub>10</sub> and P	M <sub>2.5</sub> at all power settings),	5, 6, 8, 10, 1	2a								l .
50, 50, 13 (101 1 112]) und 1	1112.3 at an power settings);	2, 0, 0, 10, 1									
	Idle (Taxi)	7%	1025	2.70	1.06	35.50	12.19		0.23	0.20	325
	Approach	30%	2271	5.50	1.06	10.50	1.84		0.22	0.20	325
JT8D-7 Series	Climb out	85%	6439	13.50	1.06	2.00	0.58		0.31	0.28	325
	Takeoff	100%	7531	17.10	1.06	1.50	0.46		0.32	0.28	325
a. 2h 5 6 9 10 12a					•						
es: 3b, 5, 6, 8, 10, 12a											
es: 3b, 5, 6, 8, 10, 12a		7.0	1050	2.90	1.06	14.14	3.59		0.10	0.09	325
es: 3b, 5, 6, 8, 10, 12a	Idle (Taxi)	30%	1050 2363	2.90	1.06 1.06	14.14	3.59 0.69		0.10	0.09	
ss: 3b, 5, 6, 8, 10, 12a		30%		2.90 6.00 14.50	1.06 1.06 1.06		3.59 0.69 0.21			0.09 0.10 0.12	325
	Idle (Taxi) Approach		2363	6.00	1.06	2.14	0.69		0.11	0.10	325 325
JT8D-9 Series	Idle (Taxi) Approach Climb out	30% 85%	2363 6709	6.00 14.50	1.06 1.06	2.14 1.11	0.69 0.21		0.11 0.14	0.10 0.12	325 325
	Idle (Taxi) Approach Climb out	30% 85%	2363 6709	6.00 14.50	1.06 1.06	2.14 1.11	0.69 0.21		0.11 0.14	0.10 0.12	325 325
JT8D-9 Series	Idle (Taxi) Approach Climb out Takeoff	30% 85% 100%	2363 6709 8254	6.00 14.50 19.30	1.06 1.06 1.06	2.14 1.11 1.04	0.69 0.21 0.17		0.11 0.14 0.14	0.10 0.12 0.13	325. 325. 325.
JT8D-9 Series	Idle (Taxi) Approach Climb out Takeoff	30% 85% 100%	2363 6709 8254	6.00 14.50 19.30	1.06 1.06 1.06	2.14 1.11 1.04	0.69 0.21 0.17		0.11 0.14 0.14 0.21	0.10 0.12 0.13	325. 325. 325.
JT8D-9 Series	Idle (Taxi) Approach Climb out Takeoff  dle (Taxi) Approach	30% 85% 100% 7% 30%	2363 6709 8254 1155 2409	6.00 14.50 19.30 2.89 5.99	1.06 1.06 1.06 1.06	2.14 1.11 1.04 14.11 2.14	0.69 0.21 0.17 2.95 0.57		0.11 0.14 0.14 0.21 0.25	0.10 0.12 0.13 0.19 0.23	325. 325. 325. 325. 325.
JT8D-9 Series	Idle (Taxi) Approach Climb out Takeoff  ddle (Taxi) Approach Intermediate	30% 85% 100% 7% 30% 70%	2363 6709 8254 1155 2409 6794	6.00 14.50 19.30 2.89 5.99 14.47	1.06 1.06 1.06 1.06 1.06 1.06	2.14 1.11 1.04 14.11 2.14 1.07	0.69 0.21 0.17 2.95 0.57 0.16		0.11 0.14 0.14 0.21 0.25 0.27	0.10 0.12 0.13 0.19 0.23 0.24	325. 325. 325. 325. 325. 325.
JT8D-9 Series	Idle (Taxi) Approach Climb out Takeoff  dle (Taxi) Approach	30% 85% 100% 7% 30%	2363 6709 8254 1155 2409	6.00 14.50 19.30 2.89 5.99	1.06 1.06 1.06 1.06	2.14 1.11 1.04 14.11 2.14	0.69 0.21 0.17 2.95 0.57		0.11 0.14 0.14 0.21 0.25	0.10 0.12 0.13 0.19 0.23	325 325 325 325 325 325 325
JT8D-9 Series	Idle (Taxi) Approach Climb out Takeoff  ddle (Taxi) Approach Intermediate	30% 85% 100% 7% 30% 70%	2363 6709 8254 1155 2409 6794	6.00 14.50 19.30 2.89 5.99 14.47	1.06 1.06 1.06 1.06 1.06 1.06	2.14 1.11 1.04 14.11 2.14 1.07	0.69 0.21 0.17 2.95 0.57 0.16		0.11 0.14 0.14 0.21 0.25 0.27	0.10 0.12 0.13 0.19 0.23 0.24	325 325 325 325 325 325 325
JT8D-9 Series es: 3b, 5, 6, 8, 10, 12a JT8D-9A	Idle (Taxi) Approach Climb out Takeoff  ddle (Taxi) Approach Intermediate	30% 85% 100% 7% 30% 70%	2363 6709 8254 1155 2409 6794	6.00 14.50 19.30 2.89 5.99 14.47	1.06 1.06 1.06 1.06 1.06 1.06	2.14 1.11 1.04 14.11 2.14 1.07	0.69 0.21 0.17 2.95 0.57 0.16		0.11 0.14 0.14 0.21 0.25 0.27	0.10 0.12 0.13 0.19 0.23 0.24 0.24	325. 325. 325. 325. 325. 325.
JT8D-9 Series es: 3b, 5, 6, 8, 10, 12a JT8D-9A	Idle (Taxi) Approach Climb out Takeoff  dle (Taxi) Approach Intermediate Military	30% 85% 100% 7% 30% 70% 100%	2363 6709 8254 1155 2409 6794 8334	2.89 5.99 14.47 19.26	1.06 1.06 1.06 1.06 1.06 1.06 1.06	2.14 1.11 1.04 14.11 2.14 1.07	0.69 0.21 0.17 2.95 0.57 0.16 0.16		0.11 0.14 0.14 0.21 0.25 0.27 0.27	0.10 0.12 0.13 0.19 0.23 0.24 0.11(S)	325 325 325 325 325 325 325 325
JT8D-9 Series es: 3b, 5, 6, 8, 10, 12a  JT8D-9A es: 3m, 11, 12h	Idle (Taxi) Approach Climb out Takeoff  dle (Taxi) Approach Intermediate Military  Idle (Taxi) Approach	30% 85% 100% 7% 30% 70% 100%	2363 6709 8254 1155 2409 6794 8334 1155 2650	2.89 5.99 14.47 19.26	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	2.14 1.11 1.04 14.11 2.14 1.07 1.07	0.69 0.21 0.17 2.95 0.57 0.16 0.16		0.11 0.14 0.14 0.21 0.25 0.27 0.27 0.13( <b>S</b> ) 0.13( <b>S</b> )	0.10 0.12 0.13 0.19 0.23 0.24 0.24 0.11(S) 0.12(S)	325. 325. 325. 325. 325. 325. 325. 325.
JT8D-9 Series es: 3b, 5, 6, 8, 10, 12a JT8D-9A	Idle (Taxi) Approach Climb out Takeoff  dle (Taxi) Approach Intermediate Military  Idle (Taxi) Approach Climb out	7% 30% 85% 100% 7% 30% 70% 100%	2363 6709 8254 1155 2409 6794 8334 1155 2650 7251	2.89 5.99 14.47 19.26 2.75 5.80 14.60	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	2.14 1.11 1.04 14.11 2.14 1.07 1.07 35.00 9.40 1.90	0.69 0.21 0.17 2.95 0.57 0.16 0.16 11.50 1.61 0.52		0.11 0.14 0.14 0.21 0.25 0.27 0.27 0.13(S) 0.13(S)	0.10 0.12 0.13 0.19 0.23 0.24 0.24 0.11(S) 0.12(S) 0.19(S)	325: 325: 325: 325: 325: 325: 325: 325: 325: 325: 325: 325: 325:
JT8D-9 Series es: 3b, 5, 6, 8, 10, 12a  JT8D-9A es: 3m, 11, 12h	Idle (Taxi) Approach Climb out Takeoff  dle (Taxi) Approach Intermediate Military  Idle (Taxi) Approach	30% 85% 100% 7% 30% 70% 100%	2363 6709 8254 1155 2409 6794 8334 1155 2650	2.89 5.99 14.47 19.26	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	2.14 1.11 1.04 14.11 2.14 1.07 1.07	0.69 0.21 0.17 2.95 0.57 0.16 0.16		0.11 0.14 0.14 0.21 0.25 0.27 0.27 0.13( <b>S</b> ) 0.13( <b>S</b> )	0.10 0.12 0.13 0.19 0.23 0.24 0.24 0.11(S) 0.12(S)	325. 325. 325. 325. 325. 325. 325. 325.

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Hole Class)   7%   1172   3.20   1.06   11.00   1.68     0.13   0.11   2025	Aircraft Frains	Power	Percent	Fuel Flow			Emiss	sion Factor	s (lb/1000l	b fuel)		
Approach   30%   2700   6.90   1.06   2.77   0.63     0.13   0.12   325	Aircran Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
JT8D-15		Idle (Taxi)	7%	1172	3.20	1.06	11.00	1.68		0.13	0.11	3255.4
Takeoff   100%   9349   19.40   1.06   1.03   0.28     0.22   0.19   2.55		Approach	30%	2700	6.90	1.06	2.77	0.63		0.13	0.12	3255.4
Idle (Tax)	JT8D-15	Climb out	85%	7500	15.10	1.06	1.15	0.32		0.21	0.19	3255
Idle (Taxi)		Takeoff	100%	9349	19.40	1.06	1.03	0.28		0.22	0.19	37.55.4
Idle (Taxi)	otes: 3b. 5. 6. 8. 10. 12a											
Approach   39%   2476   6.69   1.06   2.90   0.75     0.14   0.12   3255												
TIND-15A		Idle (Taxi)	7%	1089	3.10	1.06	12.93	2.14		0.13	0.12	3255.4
Takeoff   100%   8849   18.10   1.06   1.08   0.29     0.22   0.20   3.25		Approach	30%	2476	6.60	1.06	2.90	0.75		0.14	0.12	3255.4
Ide (Taxi)   7%   1170   3.20   1.06   10.46   1.44     0.13   0.12   3255	JT8D-15A	Climb out	85%	7107	13.90	1.06	1.20	0.38			0.19	3255.4
Idle (Taxi)   7%   1170   3.20   1.06   10.46   1.44     0.13   0.12   3255		Takeoff	100%	8849	18.10	1.06	1.08	0.29		0.22	0.20	3255.
Idle (Taxi)	otes: 3b, 5, 6, 8, 10, 12a			<u> </u>				<u>l</u>				
Approach   30%   2810   8.00   1.06   2.67   0.60     0.13   0.12   3255	, , , , ,											
TRD-17		Idle (Taxi)	_									3255.4
Takeoff   100%   9881   20.60   1.06   0.95   0.25     0.22   0.20   3.25												3255.4
Idle (Taxi)	JT8D-17		_									3255.4
Idle (Taxi)		Takeoff	100%	9881	20.60	1.06	0.95	0.25		0.22	0.20	3255.4
Idle (Taxi)	otes: 3b, 5, 6, 8, 10, 12a							1	l			
Approach   30%   2622   6.70   1.06   2.88   0.74     0.14   0.13   3255	, , , , ,											
TIRD-17A   Climb out   85%   7416   14.30   76   1.16   0.35     0.22   0.20   3255		Idle (Taxi)	7%	1112	3.20	1.06	12.46	7.59		0.17	0.15	3255.4
Takeoff   100%   9310   19.10   1.06   1.07   0.29     0.23   0.21   3255		Approach	30%	2622	6.70		2.88	0.74		0.14	0.13	3255.4
Idle (Taxi)   7%   1172   3.20   1.06   10.70   1.53     0.15   0.13   3255	JT8D-17A	Climb out	85%	7416	14.30		1.16	0.35		0.22	0.20	3255.
Idle (Taxi)		Takeoff	100%	9310	19.10	1.06	1.07	0.29		0.23	0.21	3255.4
Idle (Taxi)	otes: 3h 5 6 8 10 12a					1						
Approach   30%   2837   8.00   1.06   2.68   0.63     0.15   0.13   3255	xes, 50, 5, 0, 0, 10, 12a											
TRD-17AR		Idle (Taxi)	7%	1172	3.20	1.06	10.70	1.53		0.15	0.13	3255.4
Takeoff   100%   6833   24.50   1.06   0.93   0.24     0.25   0.23   3255		Approach	30%	2837	8.00	1.06	2.68	0.63		0.15	0.13	3255.4
Idle (Taxi)	JT8D-17AR	Climb out	85%		16.00	1.06	1.08	0.31		0.25		3255.4
Idle (Taxi)		Takeoff	100%	70833	24.50	1.06	0.93	0.24		0.25	0.23	3255.4
Idle (Taxi)	otes: 3h 5 6 8 10 12a											
Approach   30%   2980   8.40   1.06   2.54   0.61     0.15   0.13   3255	xcs. 50, 5, 0, 0, 10, 12a											
JT8D-17R		Idle (Taxi)	1%	1230	3.30	1.06	9.43	1.09		0.14	0.13	3255.4
Takeoff 100% 11246 25.30 1.06 0.95 0.24 0.25 0.23 3255  otes: 3b, 5, 6, 8, 10, 12a    Idle (Taxi)		Approach	30%	2980	8.40	1.06	2.54	0.61		0.15	0.13	3255.4
Idle (Taxi)	JT8D-17R	Climb out	85%	8754	17.60	1.06	1.03	0.31		0.25	0.22	3255.4
Idle (Taxi)		Takeoff	100%	11246	25.30	1.06	0.95	0.24		0.25	0.23	3255.4
Idle (Taxi)	otes: 3h 5 6 8 10 12a											
Approach   30%   2851   8.80   1.06   4.37   1.94     0.19   0.17   3255	ics. 50, 5, 0, 0, 10, 12a											
JT8D-209 Climb out 85% 7800 19.00 1.06 1.40 0.58 0.21 0.19 3255 Takeoff 100% 9452 22.80 1.06 1.03 0.40 0.21 0.19 3255  lotes: 3b, 5, 6, 8, 16, 12a    Idle (Taxi) 7% 1089 4.57 1.06 15.31 0.00 0.07 0.06 3255   Approach 30% 3042 7.66 1.06 3.54 0.00 0.06 0.06 3255   Climb out 85% 8556 13.54 1.06 0.47 0.00 0.10 0.09 3255   Takeoff 100% 10476 17.54 1.06 0.42 0.00 0.10 0.09 3255		Idle (Taxi)	7%	1034	3.50	1.06	14.10	4.63		0.13	0.12	3255.4
Takeoff 100% 9452 22.80 1.06 1.03 0.40 0.21 0.19 3255  [otes: 3b, 5, 6, 8, 16, 12a]    Idle (Taxi) 7% 1089 4.57 1.06 15.31 0.00 0.07 0.06 3255   Approach 30% 3042 7.66 1.06 3.54 0.00 0.06 0.06 3255   Climb out 85% 8556 13.54 1.06 0.47 0.00 0.10 0.09 3255   Takeoff 100% 10476 17.54 1.06 0.42 0.00 0.10 0.09 3255		Approach	30%	2851	8.80	1.06	4.37	1.94		0.19	0.17	3255.4
Otes: 3b, 5, 6, 8, 76, 12a    Idle (Taxi)	JT8D-209	Climb out	85%	7800	19.00	1.06	1.40	0.58		0.21	0.19	3255.4
JT8D-217         Idle (Taxi)         7%         1089         4.57         1.06         15.31         0.00          0.07         0.06         3255           Approach         30%         3042         7.66         1.06         3.54         0.00          0.06         0.06         3255           Climb out         85%         8556         13.54         1.06         0.47         0.00          0.10         0.09         3255           Takeoff         100%         10476         17.54         1.06         0.42         0.00          0.10         0.09         3255		Takeoff	100%	9452	22.80	1.06	1.03	0.40		0.21	0.19	3255.4
JT8D-217         Idle (Taxi)         7%         1089         4.57         1.06         15.31         0.00          0.07         0.06         3255           Approach         30%         3042         7.66         1.06         3.54         0.00          0.06         0.06         3255           Climb out         85%         8556         13.54         1.06         0.47         0.00          0.10         0.09         3255           Takeoff         100%         10476         17.54         1.06         0.42         0.00          0.10         0.09         3255	otes: 3h 5 6 8 1 12a							<u> </u>				
JT8D-217         Approach         30%         3042         7.66         1.06         3.54         0.00          0.06         0.06         3255           Climb out         85%         8556         13.54         1.06         0.47         0.00          0.10         0.09         3255           Takeoff         100%         10476         17.54         1.06         0.42         0.00          0.10         0.09         3255	nes. 50, 5, 0, 0, 7, 12a											
JT8D-217         Approach         30%         3042         7.66         1.06         3.54         0.00          0.06         0.06         3255           Climb out         85%         8556         13.54         1.06         0.47         0.00          0.10         0.09         3255           Takeoff         100%         10476         17.54         1.06         0.42         0.00          0.10         0.09         3255		Idle (Taxi)	7%	1089	4.57	1.06	15.31	0.00		0.07	0.06	3255.4
JT8D-217         Climb out         85%         8556         13.54         1.06         0.47         0.00          0.10         0.09         3255           Takeoff         100%         10476         17.54         1.06         0.42         0.00          0.10         0.09         3255												3255.
Takeoff 100% 10476 17.54 1.06 0.42 0.00 0.10 0.09 3255	JT8D-217											3255.4
												3255.4
		Takcon	10070	10170	17.0					0.00	0.07	

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Ancian Engine	Setting	Thrust/hp	Rate (lb/hr)	$NO_X$	SO <sub>X</sub> <sup>1</sup>	CO	VOC	HAP's	$PM_{10}$	$PM_{2.5}$	GHG
	Idle (Taxi)	7%	1089	4.57	1.06	15.31	0.00		0.07	0.06	3255.4
	Approach	30%	3042	7.66	1.06	3.54	0.00		0.06	0.06	3255.
JT8D-217A	Climb out	85%	8556	13.54	1.06	0.47	0.00		0.10	0.09	3255
	Takeoff	100%	10476	17.54	1.06	0.42	0.00		0.10	0.09	<i>37.</i> 55.
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1087	4.05	1.06	17.89	0.00		0.04	0.03	3255.
	Approach	30%	2881	7.65	1.06	3.79	0.00		0.06	0.05	3255
JT8D-217C	Climb out	85%	8294	13.02	1.06	0.49	0.00		0.00	0.07	3255
310D 217C	Takeoff	100%	10175	16.49	1.06	0.42	0.00		0.10	0.09	3255
	Takeon	10070	10173	10.49	1.00	0.42	0.00		0.10	0.09	3233
tes: 3b, 5, 6, 8, 10, 12a		L	l l								
		1	I I								
	Idle (Taxi)	7%	1067	3.60	1.06	12.63	4.00		0.15	0.14	3255
	Approach	30%	3029	9.13	1.06	4.07	1.83		0.20	0.18	3255
JT8D-219	Climb out	85%	8611	20.80	1.06	1.20	0/8		0.25	0.22	3255
	Takeoff	100%	10746	27.00	1.06	0.73	0.31		0.25	0.22	3255
tes: 3b, 5, 6, 8, 10, 12a											<u> </u>
	Idle (Taxi)	7%	1667	3.10	1.06	84.10	41.98		0.27	0.24	3255
	Approach	30%	4833	7.60	1.06	7.80	1.50		0.13	0.11	3255
JT9D-7	Climb out	85%	14000	27.70	1.6	0.00	0.12		0.09	0.08	3255
	Takeoff	100%	16532	37.90	1.06	0.00	0.12		0.10	0.09	3255
tes: 3b, 5, 6, 8, 10, 12a											
103. 30, 3, 0, 0, 10, 124											
	Idle (Taxi)	7%	1675	3.10	1.06	83.60	41.52		0.26	0.24	3255
	Approach	30%	4913	7.60	1.06	7.60	1.50		0.13	0.11	3255
JT9D-7A	Climb out	85%	141/9	28.50	1.06	0.00	0.12		0.09	0.08	3255
	Takeoff	100%	6659	38.70	1.06	0.00	0.12		0.10	0.09	3255
tes: 3b, 5, 6, 8, 10, 12a											
tes: 50, 5, 6, 8, 10, 12a											
	Idle (Taxi)	1%	1841	3.20	1.06	68.60	29.79		0.24	0.21	3255
	Approach	30%	4952	9.10	1.06	5.80	0.69		0.10	0.09	3255
JT9D-7F	Climb out	85%	14119	31.50	1.06	0.90	0.00		0.11	0.10	3255
	Takeoff	100%	17151	41.70	1.06	0.90	0.00		0.11	0.10	3255
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1889	3.30	1.06	66.70	28.18		0.24(S)	0.21(S)	3255
	Approach	30%	5389	9.40	1.06	5.50	0.58		0.10(S)	0.09(S)	3255
JT9D-7J	Climb out	85%	15095	34.90	1.06	0.90	0.00		0.11(S)	0.10(S)	3255
	Takeoff	100%	18373	44.90	1.06	0.90	0.00		0.11(S)	0.10(S)	3255
tes: 3b, 4n (PM $_0$ and PM $_2$	5 at all power settings),	5, 6, 8, 10, 12a									
	Idle (Taxi)	7%	1881	3.00	1.06	53.00	13.80		0.24(S)	0.21(S)	3255
	Approach	30%	5400	7.80	1.06	1.70	0.35		0.24(S) 0.10(S)	0.21(S) 0.09(S)	3255
JT9D-7Q	Climb out	85%	15870			0.20			0.10( <b>S</b> )		3255
31)15-10				25.60	1.06		0.23		. ,	0.10(S)	
	Takeoff	100%	19380	31.60	1.06	0.20	0.23		0.11( <b>S</b> )	0.10(S)	3255

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	sion Factor	s (lb/1000l	b fuel)		
Aircran Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	co	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	$GHG^2$
	Idle (Taxi)	7%	1630	4.10	1.06	8.84	1.44		0.05	0.05	3255.41
	Approach	30%	5233	9.80	1.06	1.36	0.15		0.05	0.05	3255.41
JT9D-7R4D, -7R4D1	Climb out	85%	13318	30.00	1.06	0.48	0.14		0.06	0.06	3255.41
	Takeoff	100%	16310	38.50	1.06	0.51	0.17		0.07	0.06	2.55.41
21. 5. 6. 0. 40. 42											
otes: 3b, 5, 6, 8, 10, 12a										_/	
	Idle (Taxi)	7%	1754	4.10	1.06	8.27	1.28		0.05	0.05	3255.41
	Approach	30%	5182	10.40	1.06	1.23	0.15		0.05	0.05	3255.4
JT9D-7R4E, -7R4E1	Climb out	85%	13683	34.20	1.06	0.53	0.15		0.0	0.06	3255.4
	Takeoff	100%	16810	41.60	1.06	0.57	0.18		0.07	0.07	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
		1	T		1						
	Idle (Taxi)	7%	1750	3.50	1.06	16.00	3.85		0.07	0.06	3255.4
JT9D-7R4E4	Approach	30%	5079	8.50	1.06	1.46	0.25		0.06	0.05	3255.41
J19D-/K4E4	Climb out	85% 100%	14516 17603	29.70 36.90	1.06	0.67 0.67	0.15		0.06	0.06	3255.41 3255.41
	Takeoff	100%	17603	30.90	1.00	0.67	0.17		0.07	0.06	3233.4
otes: 3b, 5, 6, 8, 10, 12a			ĮĮ					1	l	l	l
	Idle (Taxi)	7%	1777	3.80	1.06	11.82	1.78		0.06	0.06	3255.4
	Approach	30%	5230	8.80	1.06	1.40	0.21		0.06	0.05	3255.4
JT9D-7R4G2	Climb out	85%	14921	29.50	1.06	0.63	0.16		0.08	0.07	3255.4
	Takeoff	100%	19278	41.30	1.06	0.74	0.17		0.08	0.07	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1948	3.80	1.06	11.63	1.70		0.06	0.06	3255.41
	Approach	30%	5736	8.90	1.06	1.39	0.21		0.06	0.05	3255.4
JT9D-7R4H1	Climb out	85%	15,65	30.00	1.06	0.63	0.16		0.08	0.03	3255.4
7172 /10111	Takeoff	100%	19937	45.20	1.06	0.74	0.17		0.09	0.08	3255.41
-		20070							0.05		
otes: 3b, 5, 6, 8, 10, 12a											
1						1	1		1	1	
_	Idle (Taxi)	7%	1675	3.10	1.06	83.60	41.52		0.26	0.24	3255.4
	Approach	30%	4913	7.60	1.06	7.60	1.50		0.13	0.11	3255.4
JT9D-20	Climb out	85%	14199	28.50	1.06	0.00	0.12		0.09	0.08	3255.4
-	Takeoff	100%	16659	38.70	1.06	0.00	0.12		0.10	0.09	3255.4
otes: 3b, 5, 6, 8, 10, 12h								1			
	Idle (Taxi)	7%	1889	3.30	1.06	66.70	28.18		0.26(S)	0.24(S)	3255.4
	Approach	30%	5389	9.40	1.06	5.50	0.58		0.13( <b>S</b> )	0.11(S)	3255.41
JT9D-20J	Climb out	85%	15095	34.90	1.06	0.90	0.00		0.09(S)	0.08(S)	3255.4
	Takeoff	100%	18373	44.90	1.06	0.90	0.00		0.10(S)	0.09(S)	3255.4
otes: 3b, 4o (PM $_0$ and PM $_{2.5}$ a	at all power settings), 5	5, 6, 8, 10, 12a									
	I.II. (T')	70/	1001	2.00	1.00	52.00	12.00		0.26(8)	0.24(6)	2255 4
	Idle (Taxi)	7%	1881	3.00	1.06	53.00	13.80		0.26(S)	0.24(S)	3255.4
	Approach	30% 85%	5400 15870	7.80 25.60	1.06	1.70 0.20	0.35 0.23		0.13( <b>S</b> ) 0.09( <b>S</b> )	0.11( <b>S</b> ) 0.08( <b>S</b> )	3255.4 3255.4
IT9D-59A -70A				/ 1 OU	1.00	0.20	0.23		0.09(3)		1 3433.4
JT9D-59A, -70A	Climb out Takeoff	100%	19380	31.60	1.06	0.20	0.23		0.10(S)	0.09(S)	3255.4

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Idle (Taxi)	7%	183	1.75	1.06	132.00	58.08		0.39	0.35	3255.4
	Approach	30%	405	3.44	1.06	40.50	5.09		0.32	0.28	3255.
JT15D-1 Series	Climb out	85%	984	6.77	1.06	3.50	0.01		0.11	0.10	3255.
	Takeoff	100%	1175	7.60	1.06	2.65	0.01		0.11	0.10	2255.
otes: 3b, 5, 6, 8, 10, 12b										_/	
	Idle (Taxi)	7%	235	1.66	1.06	119.20	136.97		0.82	0.74	3255.
	Approach	30%	524	4.93	1.06	38.60	13.46		0.73	0.66	3255.
JT15D-5, -5A, -5B	Climb out	85%	1371	10.08	1.06	1.15	1.50		0/3	0.20	3255.
, ,	Takeoff	100%	1630	11.13	1.06	0.00	0.00		0.13	0.12	3255.
tes: 3b, 5, 6, 8, 10, 12b								_/_			
	Idle (Taxi)	7%	360	3.28	1.06	37.83	5.43		0.13	0.12	3255.
	Approach	30%	860	6.39	1.06	4.43	0.14		0.13	0.12	3255.
LF507-1F	Climb out	85%	2350	12.02	1.06	0.30	0.14		0.09	0.08	3255.
LI 50/-11	Takeoff	100%	2840	14.52	1.06	0.30	0.01		0.09	0.08	3255
		20070					0.00				
tes: 3b, 5, 6, 8, 10, 12b											
	T.11 (T. )	70/	1005	2.70	1.06	116.00	110.27		2 (0(0)	1.12(0)	22.55
	Idle (Taxi)	7%	1905	2.70	1.06	116.00	119.37		2.60(S)	1.12(S)	3255.
NIZ O OLI	Approach	30%	4603	5.40	1.06	21.00	5.75		1.37( <b>S</b> )	0.91( <b>S</b> )	3255
NK-8-2U	Climb out	85%	9286	12.90	1.06	6.00	0.63		0.58( <b>S</b> )	0.41( <b>S</b> )	3255
	Takeoff	100%	13889	13.90	1.06	5.50	0.52		0.14(S)	0.00(S)	3255
tes: 3b, 4g (PM <sub>10</sub> and PM <sub>2</sub>	5 at all power settings), 5	, 6, 8, 10, 12h									
tes: 3b, 4g ( $PM_{10}$ and $PM_2$ )		1			I	I			I	I	
tes: 3b, 4g (PM <sub>10</sub> and PM <sub>2</sub> )	Idle (Taxi)	<40%	8	1.58	1.06	644.42	33.36		60.00(S)	54.00(S)	
	Idle (Taxi) Approach	<40% 40%	8 26	1.14	1.06	1187.84	38.20		47.95( <b>S</b> )	43.16( <b>S</b> )	3255
otes: 3b, 4g (PM <sub>10</sub> and PM <sub>2</sub> ) O-200	Idle (Taxi) Approach Climb out	<40% 40% 75-100%	26 13	1.14 4.87	1.06 1.06	1187.84 974.10	38.20 23.93		47.95( <b>S</b> ) 40.00( <b>S</b> )	43.16( <b>S</b> ) 36.00( <b>S</b> )	3255 3255
	Idle (Taxi) Approach	<40% 40%		1.14	1.06	1187.84	38.20		47.95( <b>S</b> )	43.16( <b>S</b> )	3255 3255
	Idle (Taxi) Approach Climb out Takeoff	<40% 40% 75-100% 100%	26 13	1.14 4.87	1.06 1.06	1187.84 974.10	38.20 23.93		47.95( <b>S</b> ) 40.00( <b>S</b> )	43.16( <b>S</b> ) 36.00( <b>S</b> )	3255 3255 3255 3255
O-200	Idle (Taxi) Approach Climb out Takeoff	<40% 40% 75-100% 100%	26 13	1.14 4.87	1.06 1.06	1187.84 974.10	38.20 23.93		47.95( <b>S</b> ) 40.00( <b>S</b> )	43.16( <b>S</b> ) 36.00( <b>S</b> )	3255. 3255.
O-200	Idle (Taxi) Approach Climb out Takeoff	<40% 40% 75-100% 100%	26 45 45	1.14 4.87 4.87 0.52	1.06 1.06 1.06	1187.84 974.10 974.10	38.20 23.93 23.93 42.46		47.95(S) 40.00(S) 20.00(S) 60.00(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S)	3255. 3255. 3255.
O-200 otes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub>	Idle (Taxi) Approach Climb out Takeoff  at all power settings), 5	<40% 40% 75-100% 100% 11, 12h 40% 40%	26 45 45 9 47	1.14 4.87 4.87 0.52 0.95	1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51	38.20 23.93 23.93 42.46 22.13		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S)	3255. 3255. 3255. 3255. 3255.
O-200	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out	<40% 40% 75-100% 100% 11, 12h 40% 40% 75-100%	26 45 45 9 47 67	1.14 4.87 4.87 0.52 0.95 3.97	1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51 989.51	38.20 23.93 23.93 42.46 22.13 14.24		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S)	3255 3255 3255 3255 3255 3255 3255
O-200 otes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub>	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach	<40% 40% 75-100% 100% 11, 12h 40% 40%	26 45 45 9 47	1.14 4.87 4.87 0.52 0.95	1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51	38.20 23.93 23.93 42.46 22.13		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S)	3255 3255 3255 3255 3255 3255
O-200  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-320	Idle (Taxi) Approach Climb out Takeoff  at all power settings), 5  Idle (Taxi) Approach Climb out Takeoff	<40% 40% 75-100% 100% 11, 12h 40% 40% 75-100% 100%	26 45 45 9 47 67	1.14 4.87 4.87 0.52 0.95 3.97	1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51 989.51	38.20 23.93 23.93 42.46 22.13 14.24		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S)	3255 3255 3255 3255 3255 3255
O-200  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-320	Idle (Taxi) Approach Climb out Takeoff  at all power settings), 5  Idle (Taxi) Approach Climb out Takeoff	<40% 40% 75-100% 100% 11, 12h 40% 40% 75-100% 100%	26 45 45 9 47 67	1.14 4.87 4.87 0.52 0.95 3.97	1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51 989.51	38.20 23.93 23.93 42.46 22.13 14.24		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S)	3255 3255 3255 3255 3255 3255
O-200 otes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub>	Idle (Taxi) Approach Climb out Takeoff  at all power settings), 5  Idle (Taxi) Approach Climb out Takeoff	<40% 40% 75-100% 100% 11, 12h 40% 40% 75-100% 100%	26 45 45 9 47 67	1.14 4.87 4.87 0.52 0.95 3.97	1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51 989.51	38.20 23.93 23.93 42.46 22.13 14.24		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S)	3255 3255 3255 3255 3255 3255 3255
O-200  stes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-320	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Approach Climb out Takeoff	<40% 40% 75-100% 100% 11, 12h 40% 40% 75-100% 100% 11, 12h	26 45 45 9 47 67 89	1.14 4.87 4.87 0.52 0.95 3.97 2.19	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51 989.51 1077.44	38.20 23.93 23.93 42.46 22.13 14.24 13.55		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 20.00(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S) 18.00(S)	3255 3255 3255 3255 3255
O-200  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-320	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Idle (Taxi)	<40% 40% 75-100% 100% 11, 12h 40% 40% 75-100% 100% 11, 12h	26 45 45 9 47 67 89	1.14 4.87 4.87 0.52 0.95 3.97 2.19	1.06 1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51 989.51 1077.44	38.20 23.93 23.93 42.46 22.13 14.24 13.55		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 47.95(S) 40.00(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S) 18.00(S)	3255 3255 3255 3255 3255 3255 3255 3255
O-200  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-320  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub>	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Sat all power settings), 5	<40% 40% 75-100% 100% 11, 12h 40% 40% 75-100% 100%  11, 12h 5-10% 30%	26 45 45 9 47 67 89	1.14 4.87 4.87 0.52 0.95 3.97 2.19	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51 989.51 1077.44 741.72 691.59	38.20 23.93 23.93 42.46 22.13 14.24 13.55		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S)	3255 3255 3255 3255 3255 3255 3255 3255
O-200  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-320  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-470C	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Intermediate Military	40% 40% 75-100% 100% 11, 12h 40% 40% 75-100% 100% 11, 12h 5-10% 30% 70% (C) 100%	26 45 45 9 47 67 89 15 86 111.71(C)	1.14 4.87 4.87 0.52 0.95 3.97 2.19 1.32 9.35 4.44(C)	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 974.10 1077.00 1221.51 989.51 1077.44 741.72 691.59 956.61(C)	38.20 23.93 23.93 42.46 22.13 14.24 13.55 220.86 10.47 6.61(C)		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 47.95(S) 40.00(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S) 54.00(S) 43.16(S) 36.00(S)	3255 3255 3255 3255 3255 3255 3255 3255
O-200  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-320  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub>	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Intermediate Military	40% 40% 75-100% 100% 11, 12h 40% 40% 75-100% 100% 11, 12h 5-10% 30% 70% (C) 100%	26 45 45 9 47 67 89 15 86 111.71(C)	1.14 4.87 4.87 0.52 0.95 3.97 2.19 1.32 9.35 4.44(C)	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 974.10 1077.00 1221.51 989.51 1077.44 741.72 691.59 956.61(C)	38.20 23.93 23.93 42.46 22.13 14.24 13.55 220.86 10.47 6.61(C)		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 47.95(S) 40.00(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S) 54.00(S) 43.16(S) 36.00(S)	3255 3255 3255 3255 3255 3255 3255 3255
O-200  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-320  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-470C	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Intermediate Military	<ul> <li>&lt;40%</li> <li>40%</li> <li>75-100%</li> <li>100%</li> <li>11, 12h</li> <li>40%</li> <li>40%</li> <li>75-100%</li> <li>100%</li> <li>11, 12h</li> <li>5-10%</li> <li>30%</li> <li>70% (C)</li> <li>100%</li> <li>11, 12h</li> </ul>	9 47 67 89 15 86 111.71(C)	1.14 4.87 4.87 0.52 0.95 3.97 2.19 1.32 9.35 4.44(C) 0.76	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51 989.51 1077.44 741.72 691.59 956.61(C) 1155.37	38.20 23.93 23.93 42.46 22.13 14.24 13.55 220.86 10.47 6.61(C) 3.50		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 20.00(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S) 54.00(S) 43.16(S) 36.00(S) 18.00(S)	3255 3255 3255 3255 3255 3255 3255 3255
O-200  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-320  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-470C	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Intermediate Military  Idle (Taxi) Approach Intermediate Military	<40% 40% 75-100% 100% 11, 12h 40% 40% 75-100% 100%  11, 12h 5-10% 30% 70% (C) 100% 11, 12h <30%	26 45 45 9 47 67 89 115 86 111.71(C) 131	1.14 4.87 4.87 4.87 0.52 0.95 3.97 2.19 1.32 9.35 4.44(C) 0.76	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51 989.51 1077.44 741.72 691.59 956.61(C) 1155.37	38.20 23.93 23.93 42.46 22.13 14.24 13.55 220.86 10.47 6.61(C) 3.50		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 40.00(S) 40.00(S) 40.00(S) 40.00(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S) 18.00(S)	3255 3255 3255 3255 3255 3255 3255 3255
O-200  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> )  O-320  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> )  O-470C  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> )	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Intermediate Military  Idle (Taxi) Approach Intermediate Military	<40% 40% 75-100% 100% 11, 12h 40% 40% 75-100% 100%  11, 12h 5-10% 30% 70%(C) 100% 11, 12h <30% 30% 30%	26 45 45 9 47 67 89 15 86 111.71(C) 131	1.14 4.87 4.87 4.87 0.52 0.95 3.97 2.19 1.32 9.35 4.44(C) 0.76	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51 989.51 1077.44 741.72 691.59 956.61(C) 1155.37	38.20 23.93 23.93 23.93 42.46 22.13 14.24 13.55 220.86 10.47 6.61(C) 3.50		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 20.00(S) 60.00(S) 40.00(S) 20.00(S) 0.50(S) 0.50(S) 0.10(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S) 18.00(S) 0.45(S) 0.09(S)	3255 3255 3255 3255 3255 3255 3255 3255
O-200  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-320  tes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub> O-470C	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Intermediate Military  Idle (Taxi) Approach Intermediate Military	<40% 40% 75-100% 100% 11, 12h 40% 40% 75-100% 100%  11, 12h 5-10% 30% 70% (C) 100% 11, 12h <30%	26 45 45 9 47 67 89 115 86 111.71(C) 131	1.14 4.87 4.87 4.87 0.52 0.95 3.97 2.19 1.32 9.35 4.44(C) 0.76	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1187.84 974.10 974.10 1077.00 1221.51 989.51 1077.44 741.72 691.59 956.61(C) 1155.37	38.20 23.93 23.93 42.46 22.13 14.24 13.55 220.86 10.47 6.61(C) 3.50		47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 20.00(S) 60.00(S) 47.95(S) 40.00(S) 40.00(S) 40.00(S) 40.00(S) 40.00(S)	43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S) 18.00(S) 54.00(S) 43.16(S) 36.00(S) 18.00(S)	3255 3255 3255 3255 3255 3255 3255 3255

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
All Clait Eligille	Setting	Thrust/hp	Rate (lb/hr)	$NO_X$	SO <sub>X</sub> <sup>1</sup>	CO	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Idle (Taxi)	7%	103	2.09	1.06	82.44	2.09		0.50	0.45	3255.4
	Approach	30%	275	4.79	1.06	7.29	0.00		0.10	0.09	3255.
PT6A-38	Climb out	70%	450	6.69	1.06	2.17	0.00		0.25	0.23	325 3.
	Takeoff	90%	489	7.08	1.06	2.05	0.00		0.24	0.22	3255.
otes: 3m, 11, 12h											1
ics. 511, 11, 1211											
	Idle (Taxi)	<30%	147	1.97	1.06	115.31	116.88		0.50(S)	0.45(S)	3255.
	Approach	30%	273	4.65	1.06	34.80	26.12		0.10(8)	0.09( <b>S</b> )	3255.
PT6A-41	Climb out	90%	473	7.57	1.06	6.49	2.33		0.25(S)	0.23(S)	3255.
	Takeoff	100%	510	7.98	1.06	5.10	2.01		0.24(S)	0.22(S)	3255.
2 / (7)/									1		
tes: $3a$ , $4p$ ( $PM_{10}$ and $PM_{2}$	5 for all power settings),	5, 11, 12h						_/_			
	Idle (Taxi)	7%	103	2.16	1.06	76.55	16.61		0.45	0.41	3255.
	Approach	30%	275	4.89	1.06	6.89	0.00		0.10	0.09	3255.
PT6A-42	Intermediate	70%	466	6.88	1.06	1.95	2.00		0.24	0.22	3255.
	Military	90%	513	7.28	1.06	1.95	0.00		0.23	0.21	3255.
tes: 3m, 11, 12h											
	III (T. )	70/	121	1.00	1.06	166.42	52.66	I	1 22		2255
	Idle (Taxi)	7%	131	1.89	1.06	166.43	53.66		1.23	1.11	3255.
PT6A-65	Approach Intermediate	30% 70%	340 571	4.59 6.69	1.06	20.86 6.72	3.31 0.72		0.74	0.67	3255. 3255.
F 10A-03	Military	90%	633	7.08	1.06	5.36	0.72		0.29	0.28	3255.
	TVIIII Y	7070	033	7.00	1.00	3.30	0.55		0.20	0.23	3233.
tes: 3m, 11, 12h	· ·	1									
	Idle (Taxi)	7%	143	1.83	1.06	183.80	61.52		1.38	1.24	3255.
	Approach	30%	364	4.59	1.06	20.96	3.24		0.72	0.65	3255.
PT6A-67B	Intermediate	70%	19	6.59	1.06	6.12	0.61		0.32	0.29	3255.
	Military	90%	681	6.98	1.06	5.73	0.45		0.25	0.23	3255.
otes: 3m, 11, 12h	Į.										
, ,											
	Idle (Taxi)	7%	149	1.83	1.06	177.91	57.94		1.31	1.18	3255.
	Approach	30%	372	4.69	1.06	19.76	2.93		0.66	0.59	3255.
PT6A-67D	Intermediate	70%	643	6.69	1.06	5.35	0.50		0.28	0.25	3255.
	Military	90%	713	7.18	1.06	5.09	0.35		0.24	0.22	3255.
otes: 3m, 11, 12h											
	Ground Idle	2%	156	1.77	1.06	117.85	7.89	6.802	3.95	2.16	3255.
	Flight Idle	3%	180	1.95	1.06	94.99	1.33	1.327	4.18	1.96	3255.
PT6A-68	Descend	19%	328	5.03	1.06	33.69	3.29	3.212	4.15	1.23	3255.
	Approach	46%	449	4.73	1.06	10.91	0.71	0.698	3.34	0.70	3255.
	Max. Continuous	88%	612	8.18	1.06	3.88	0.20	0.105	4.30	0.61	3255.
tes: 3k, 10, 11 percent hp	calculated assuming maxi	mum hp of 12	50 per manufac	turer's stat	ed specificat	tions), 12f					
			0.7-	16-		24		1			0
	Idle (Taxi)	7%	335	4.26	1.06	36.35	5.01		0.07	0.06	3255
DW/2064	Approach	30%	773	11.87	1.06	7.11	0.00		0.04	0.03	3255.
PW306A	Climb out Takeoff	85% 100%	2096 2517	19.26 20.08	1.06	2.51	0.00		0.05	0.04	3255. 3255.
	Lakeon	100%	2317	20.08	1.06	2.27	0.00		0.08	0.07	3233

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power Perce	ent Fuel Flow			Emiss	sion Factor	rs (lb/1000l	b fuel)		
Aircraft Engine	Setting Thrus	t/hp Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG <sup>2</sup>
	Idle (Taxi) 7%	353	3.65	1.06	38.21	7.61		0.14	0.12	325 3.41
	Approach 30%	6 980	8.03	1.06	4.08	0.02		0.11	0.10	255.41
PW308A	Climb out 85%	6 2374	14.06	1.06	1.06	0.00		0.44	0.39	3255.41
	Takeoff 100	% 2860	16.74	1.06	0.83	0.00		0.39	0.3	3255.41
lotes: 3b, 5, 6, 8, 10, 12a										<u> </u>
	Idle (Taxi) 7%	1206	4.10	1.06	22.36	2.21		0.06	0.05	3255.41
	Approach 30%		9.77	1.06	1.95	0.13		0.06	0.06	3255.41
PW2037	Climb out 85%		23.96	1.06	0.34	0.02		0.09	0.08	3255.4
	Takeoff 100	% 12468	29.41	1.06	0.33	0.02		0.06	0.06	3255.4
otes: 3b, 5, 6, 8, 10, 12a				1	1				<u> </u>	
	Idle (Taxi) 7%		4.37	1.06	19.95	1.90		0.05	0.05	3255.41
	Approach 30%	6 3937	10.49	1.06	1.42	0.12		0.07	0.06	3255.41
PW2040	Climb out 85%		26.62	1.06	0.41	0.02		0.08	0.08	3255.4
	Takeoff 100	% 13905	35.04	1.06	0/2	0.01		0.06	0.05	3255.41
otes: 3b, 5, 6, 8, 10, 12a										L
	Idle (Taxi) 7%		4.49	.06	23.05	2.13		0.15	0.14	3255.41
	Approach 30%		10.98	1.06	2.49	0.15		0.13	0.12	3255.41
PW2041	Climb out 709		28.94	1.06	0.20	0.03		0.12	0.11	3255.41
	Takeoff 100	% 15362	30.92	1.06	0.20	0.03		0.12	0.11	3255.41
Totes: 3m, 11, 12h				II.	II.	ļ.	<u> </u>	l	ı.	l
	I.I. (T. )		4.00	1.06	21.00	2.21	1	0.07	0.06	2255 41
	Idle (Taxi) 7%		4.80	1.06	21.86	2.21		0.07	0.06	3255.41
PW4056	Approach 30% Climb out 85%		11.60	1.06	2.00	0.15		0.06	0.05	3255.41
F W 4030	Climb out 859 Takeoff 1009		22.90 28.10	1.06 1.06	0.57 0.44	0.01		0.07	0.06	3255.41 3255.41
	Tuncon 100	10007	20.10	1.00	0	0.07		0.00	0.07	0200.11
otes: 3b, 5, 6, 8, 10, 12a										
	Idle (Taxi) 7%	1690	4.90	1.06	20.32	1.91		0.07	0.06	3255.41
	Approach 30%		12.00	1.06	1.78	0.16		0.06	0.05	3255.41
PW4060	Climbout 859		24.70	1.06	0.51	0.03		0.07	0.07	3255.41
	Takeoff 100		32.80	1.06	0.37	0.12		0.08	0.08	3255.41
otes: 3b, 5, 6, 8, 10, 12a										
otes. 50, 5, 0, 8, 10, 12a										
	Idle (Taxi) 7%	1667	3.78	1.06	42.61	12.49		0.11	0.10	3255.41
	Approach 30%	6 5698	12.17	1.06	1.93	0.10		0.05	0.04	3255.41
PW4062	Climb out 859	6 16865	25.98	1.06	0.50	0.08		0.07	0.06	3255.41
	Takeoff 100	% 21627	34.36	1.06	0.61	0.09		0.08	0.07	3255.41
otes: 3b , 6, 8, 10, 12a						<u> </u>	1		<u> </u>	<u> </u>
1 21 21 21										
	Idle (Taxi) 7%	1810	4.20	1.06	21.00	3.68		0.06	0.05	3255.41
	Approach 30%	6310	11.00	1.06	0.40	0.23		0.05	0.05	3255.41
PW4074	Climb out 85%		31.50	1.06	0.10	0.12		0.05	0.05	3255.41
	Takeoff 100	% 23008	38.10	1.06	0.10	0.12		0.07	0.07	3255.41
21. 5 ( 0 10 12										
otes: 3b, 5, 6, 8, 10, 12a										

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	CO	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	GHG <sup>2</sup>
	Idle (Taxi)	7%	2421	3.80	1.06	26.34	3.59		0.06	0.05	3255.4
	Approach	30%	6897	11.35	1.06	0.96	0.05		0.04	0.04	3255
PW4074D	Climb out	85%	19611	32.71	1.06	0.35	0.02		0.05	0.04	32/5.4
	Takeoff	100%	24143	42.46	1.06	0.30	0.02		0.06	0.05	3255.4
otes: 3b, 5, 6, 8, 10, 12a											1
nes. 50, 5, 0, 8, 10, 12a											
	Idle (Taxi)	7%	1841	4.20	1.06	20.20	3.45		0.06	0.05	3255.4
	Approach	30%	6476	11.30	1.06	0.40	0.23		0.05	0.05	3255.4
PW4077	Climb out	85%	19460	32.50	1.06	0.10	0.12		.06	0.05	3255.4
	Takeoff	100%	23960	39.80	1.06	0.10	0.12		0.08	0.07	3255.4
21 7 6 0 40 40											
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	2460	3.81	1.06	24.80	3.24		0.06	0.05	3255.4
	Approach	30%	7079	11.63	1.06	0.86	0.0		0.04	0.03	3255.4
PW4077D	Climb out	85%	20333	34.05	1.06	0.34	3.02		0.05	0.04	3255.4
	Takeoff	100%	25175	44.68	1.06	0.29	0.02		0.06	0.05	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	T. 11 (T. 15)	T ===	1021	4.40	1 100	10.72		1	0.05	1 005	2255 4
	Idle (Taxi)	7%	1921	4.40	1.06	18.73	3.11		0.05	0.05	3255.4
PW4084	Approach Climb out	30% 85%	6944 21341	12.00 35.50	1.06	0.40	0.23		0.05	0.05	3255.4 3255.4
r w4004	Takeoff	100%	27072	45.00	1.06	0.10	0.12		0.07	0.06	3255.4
	Takcon	10070	21012	45.00	1.00	0.10	0.12		0.09	0.09	3233.4
otes: 3b, 5, 6, 8, 10, 12a	I.										
	Idle (Taxi)	7%	2556	3.99	1.06	21.12	2.48		0.05	0.05	3255.4
PWI 400 4P	Approach	30%	757.	12.27	1.06	0.66	0.05		0.04	0.04	3255.4
PW4084D	Climb out	85%	2294	37.78	1.06	0.32	0.02		0.05	0.05	3255.4
	Takeoff	100%	28230	51.39	1.06	0.28	0.02		0.07	0.06	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	2683	4.48	1.06	11.94	0.79		0.04	0.04	3255.4
	Approach	30%	7770	12.74	1.06	0.55	0.05		0.04	0.04	3255.4
PW4090	Climb out	85%	23778	41.17	1.06	0.31	0.02		0.06	0.05	3255.4
	Takeof	100%	31159	57.52	1.06	0.27	0.02		0.09	0.08	3255.4
atas, 2h F 6 9 10 12a											
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	2548	7.78	1.06	6.48	0.00		0.04	0.03	3255.4
	Approach	30%	8532	14.89	1.06	0.70	0.00		0.05	0.05	3255.4
PW4098	Climb out	85%	25754	36.45	1.06	0.21	0.00		0.07	0.07	3255.4
	Takeoff	100%	32841	51.29	1.06	0.16	0.00		0.06	0.06	3255.4
otes: 3b, 5, 6, 8, 10, 12a											
	Lille (Tour)	70/	1405	4.00	1.06	12.76	0.95		0.07	0.07	2255 4
	Idle (Taxi)	7%	1405	4.90	1.06	12.76	0.85 0.17		0.07	0.07	3255.4 3255.4
PW4152	Approach Climb out	30% 85%	4706 14167	11.10 22.70	1.06 1.06	1.09 0.17	0.17		0.07	0.06	3255.4
1 11 1132	Takeoff	100%	17278	26.90	1.06	0.17	0.18		0.11	0.10	3255.4
	Tukcon	100/0	1/2/0	20.70	1.00	0.12	0.13		0.11	0.10	5233.4

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/10001	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Idle (Taxi)	7%	1492	5.00	1.06	11.60	0.76		0.08	0.07	3255.4
	Approach	30%	5135	11.60	1.06	0.90	0.29		0.08	0.07	3255.
PW4156	Climb out	70%	15722	24.60	1.06	0.14	0.20		0.12	0.11	3255
	Takeoff	100%	19437	32.50	1.06	0.08	0.13		0.12	0.11	32.55.
Jotes: 3b, 5, 6, 8, 10, 12a							J.				
								1			
	Idle (Taxi)	7%	1675	4.80	1.06	20.99	2.05		0.07	0.06	3255.
DW4150	Approach	30%	5413	11.80	1.06	1.88	0.16		0.06	0.05	3255.
PW4158	Climb out	85%	15905	23.70	1.06	0.54	0.02		0.0	0.07	3255.
	Takeoff	100%	19691	30.20	1.06	0.40	0.10		5.08	0.07	3255.
Totes: 3b, 5, 6, 8, 10, 12a	•	1	<u>'</u>		ı	l.	U.				
	Idle (Taxi)	7%	1667	4.03	1.06	26.67	5.13		0.07	0.06	3255.
	Approach	30%	5984	14.10	1.06	1.86	0.18		0.07	0.06	3255.4
PW4164	Climb out	85%	17294	31.66	1.06	0.79	0.03		0.05	0.04	3255.
	Takeoff	100%	20841	38.57	1.06	0.69	0.03		0.05	0.05	3255.
I 21. 5 C 0 10 12.											
Notes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1929	3.79	1.06	17.13	1.66		0.05	0.04	3255.
	Approach	30%	6151	12.10	1.06	1.55	0.07		0.04	0.04	3255.
PW4164-1D	Climb out	85%	17770	20.97	1/6	0.17	0.00		0.06	0.05	3255.
	Takeoff	100%	21595	26.31	1.06	0.16	0.00		0.06	0.05	3255.
Notes: 3b, 5, 6, 8, 10, 12a			Į Į								
	Idle (Taxi)	7%	1984	5.20	1.06	15.90	0.23		0.04	0.04	3255.4
	Approach	30%	6421	12.10	1.06	2.40	0.00		0.04	0.04	3255.
PW4168	Climb out	85%	187:4	20.20	1.06	0.20	0.00		0.09	0.08	3255.
	Takeoff	100%	22889	26.90	1.06	0.10	0.00		0.10	0.09	3255.
Notes: 3b, 5, 6, 8, 10, 12a											
					I			ı			
	Idle (Taxi)	/%	1984	5.20	1.06	15.90	0.23		0.04	0.04	3255.
DW/4160 A	Approach	30%	6421	12.10	1.06	2.40	0.00		0.04	0.04	3255.
PW4168A	Climb out Takeoff	85% 100%	18754 22889	20.20	1.06 1.06	0.20	0.00		0.09	0.08	3255. 3255.
	Tukcon	10070	22007	20.70	1.00	0.10	0.00		0.10	0.07	3233.
Notes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	2000	4.08	1.06	14.78	1.09		0.04	0.04	3255.
	Approach	30%	6492	12.39	1.06	1.26	0.06		0.04	0.04	3255.
PW4168-1D, -4168A-1D	Climb out	85%	19032	22.31	1.06	0.18	0.00		0.06	0.06	3255.
	Takeoff	100%	23310	30.15	1.06	0.17	0.00		0.06	0.05	3255.
Notes: 3b, 5, 6, 8, 19, 12a											L
	•										
	Idle (Taxi)	7%	2024	4.18	1.06	14.04	0.95		0.04	0.04	3255.
	Approach	30%	6611	12.49	1.06	1.17	0.06		0.04	0.04	3255.
PW4170	Climb out	85%	19445	22.84	1.06	0.18	0.00		0.06	0.06	3255.
	Takeoff	100%	23960	31.40	1.06	0.18	0.00		0.06	0.05	3255.
	Tukcom	10070	23700	31.40	1.00	0.10	0.00		0.00		

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Ancran Engine	Setting	Thrust/hp	Rate (lb/hr)	$NO_X$	SO <sub>X</sub> <sup>1</sup>	CO	VOC	HAP's	$PM_{10}$	$PM_{2.5}$	GH
	Idle (Taxi)	7%	1690	4.90	1.06	20.32	1.91		0.07	0.06	3255
	Approach	30%	5579	12.00	1.06	1.78	0.16		0.06	0.05	3255
PW4460	Climb out	85%	16548	24.70	1.06	0.51	0.03		0.07	0.07	325
	Takeoff	100%	21008	32.80	1.06	0.37	0.12		0.08	0.08	3255
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	865	3.08	1.06	24.68	0.01		0.10	0.09	3255
	Approach	30%	2413	5.95	1.06	3.99	0.00		0.07	0.07	3255
PW6122A	Climb out	85%	6825	13.40	1.06	0.72	0.00		0.14	0.12	3255
	Takeoff	100%	8310	17.04	1.06	0.74	0.00		0.13	0.12	3255
otes: 3b, 5, 6, 8, 10, 12a										l.	
	Idle (Taxi)	7%	905	3.58	1.06	25.19	0.00		0.09	0.08	3255
DW/C1244	Approach	30%	2579	6.88	1.06	3.69	0.00		0.07	0.07	3255
PW6124A	Climb out Takeoff	85% 100%	7452 9278	15.85 21.03	1.06	0.81	0.00		0.15 0.15	0.13	3255 3255
	Takeon	10070	7270	21.03	1.00	0.00	0.00		0.13	0.13	3233
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)		89	0.00	1.06	474.16	173.15		60.00( <b>S</b> )	54.00( <b>S</b> )	3255
	Approach		323	6.50	1.00	384.83	6.41		47.95( <b>S</b> )	43.16( <b>S</b> )	3255
R-1820-82	Climb out		862	2.09	1.06	435.03	55.77		40.00( <b>S</b> )	36.00( <b>S</b> )	3255
	Takeoff		1166	1.72	1.06	531.73	108.89		20.00(S)	18.00( <b>S</b> )	3255
too. 20 4h (for DM and DA	A at all manual satting	5 12h		_/							
otes: 3a, 4b (for PM <sub>10</sub> and PM	A <sub>2.5</sub> at all power setting	28), 3, 1211		/							
	Idle (Taxi)	7%	2198	2.70	1.06	93.17	75.18		0.47	0.42	3255
	Approach	30%	4389	8.05	1.06	26.38	8.89		0.53	0.48	3255
RB211-22B	Climb out	85%	12238	25.63	1.06	4.14	0.45		0.13	0.12	3255
	Takeoff	100%	14810	34.32	1.06	2.48	0.41		0.15	0.13	3255
otes: 3b, 5, 6, 8, 10, 12h							1			<u>I</u>	
	Idle (Taxi)	7%	1905	4.20	1.06	12.39	2.24		0.05	0.05	3255
	Approach	30%	5000	9.80	1.06	1.56	0.81		0.09	0.08	3255
RB211-524B Series	Climb out	85%	14206	38.20	1.06	0.33	0.30		0.10	0.09	3255
	Takeoff	100%	17540	52.30	1.06	0.70	0.45		0.14	0.12	3255
			<u>.                                    </u>				•		'		
otes: 3b, 5, 6, 8, 10, 12h										0.34	2055
otes: 3b, 5, 6, 8, 10, 12h	Lille (Tour)	70/	2281	2 27	1.06	91.00	62.22			1 11 3/4	3255
otes: 3b, 5, 6, 8, 10, 12h	Idle (Taxi)	7%	2381	3.37	1.06	81.00	62.33		0.38		3755
	Approach	30%	5873	10.40	1.06	18.90	5.08		0.30	0.27	
RB211-524C2	Approach Climb out	30% 85%	5873 16032	10.40 32.30	1.06 1.06	18.90 1.63	5.08 0.25		0.30 0.11	0.27 0.10	3255 3255 3255
RB211-524C2	Approach	30%	5873	10.40	1.06	18.90	5.08		0.30	0.27	
	Approach Climb out	30% 85%	5873 16032	10.40 32.30	1.06 1.06	18.90 1.63	5.08 0.25		0.30 0.11	0.27 0.10	3255
RB211-524C2	Approach Climb out Takeoff	30% 85% 100%	5873 16032 19683	10.40 32.30 41.90	1.06 1.06 1.06	18.90 1.63 0.66	5.08 0.25 0.00		0.30 0.11 0.11	0.27 0.10 0.10	3255 3255
RB211-524C2	Approach Climb out Takeoff  Idle (Taxi)	30% 85% 100%	5873 16032 19683	10.40 32.30 41.90	1.06 1.06 1.06	18.90 1.63 0.66	5.08 0.25 0.00		0.30 0.11 0.11	0.27 0.10 0.10	3255 3255 3255
RB211-524C2 otes: 3b, 5, 6, 8, 10, 12h	Approach Climb out Takeoff  Idle (Taxi) Approach	30% 85% 100% 7% 30%	5873 16032 19683 2381 5873	10.40 32.30 41.90 4.11 9.65	1.06 1.06 1.06 1.06	18.90 1.63 0.66 73.80 16.90	5.08 0.25 0.00 53.43 5.52		0.30 0.11 0.11 0.33 0.32	0.27 0.10 0.10 0.30 0.29	3255 3255 3255 3255
RB211-524C2	Approach Climb out Takeoff  Idle (Taxi)	30% 85% 100%	5873 16032 19683	10.40 32.30 41.90	1.06 1.06 1.06	18.90 1.63 0.66	5.08 0.25 0.00		0.30 0.11 0.11	0.27 0.10 0.10	3255 3255

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	sion Factor	s (lb/1000l	b fuel)		
Ancian Engine	Setting	Thrust/hp	Rate (lb/hr)	$NO_X$	SO <sub>X</sub> <sup>1</sup>	co	voc	HAP's	$PM_{10}$	$PM_{2.5}$	GHG <sup>2</sup>
	Idle (Taxi)	7%	2064	4.63	1.06	13.74	1.02		0.05	0.04	3255.4
	Approach	30%	5556	9.56	1.06	1.01	0.43		0.11	0.10	3255
RB211-524G	Climb out	85%	16508	40.54	1.06	0.43	0.31		0.13	0.12	32,5.4
	Takeoff	100%	20794	58.71	1.06	0.59	0.45		0.13	0.12	3255.4
otes: 3b, 5, 6, 8, 10, 12h											
0103. 30, 3, 0, 0, 10, 1211											
	Idle (Taxi)	7%	2064	4.00	1.06	28.82	4.54		0.08	0.07	3255.4
	Approach	30%	5873	9.68	1.06	1.17	0.00		0.00	0.08	3255.4
RB211-524G-T	Climb out	85%	16667	21.80	1.06	0.14	0.03		.15	0.14	3255.4
	Takeoff	100%	20794	28.43	1.06	0.16	0.00		0.14	0.12	3255.4
2h. 5 ( 0 10 12h											
otes: 3b, 5, 6, 8, 10, 12h											
	Idle (Taxi)	7%	2064	4.78	1.06	11.75	0.85		0.05	0.04	3255.4
ŀ	Approach	30%	5635	10.26	1.06	0.99	0.44		0.11	0.10	3255.4
RB211-524H	Climb out	85%	17222	46.31	1.06	0.38	J.38		0.13	0.12	3255.4
	Takeoff	100%	21667	65.84	1.06	0.87	0.39		0.13	0.11	3255.4
						/					
otes: 3b, 5, 6, 8, 10, 12h											
	Idle (Taxi)	70/	2064	4.16	1.06	26.17	2.01		0.07	0.06	3255.4
	Approach	7% 30%	2064 6111	4.16 9.91	1.06	26.17 1.05	3.81 0.00		0.07	0.06	3255.4
RB211-524H-T	Climb out	85%	17619	23.19	1.06	0.14	0.00		0.09	0.08	3255.4
RD211 32-11 1	Takeoff	100%	22302	31.19	1.06	0.14	0.00		0.13	0.14	3255.4
	Tuncon	10070	22302	51.15	1.00	0.10	0.00		0.11	0.12	3233
otes: 3b, 5, 6, 8, 10, 12h		•						•	•	•	•
		•			1		1	ı	1		
	Idle (Taxi)	7%	1587	3.44	1.06	18.79	1.66		0.06	0.05	3255.4
DD011 525G	Approach	30%	428	6.37	1.06	0.48	0.51		0.09	0.08	3255.4
RB211-535C	Climb out Takeoff	85% 100%	14286	24.89 33.71	1.06 1.06	0.27	0.16 0.29		0.08	0.07	3255.4 3255.4
	Takeon	100%	14280	33.71	1.00	0.70	0.29		0.10	0.09	3233.4
otes: 3b, 5, 6, 8, 10, 12h		<del>'</del>									
	Idle (Taxi)	7%	1429	3.46	1.06	13.31	0.43		0.05	0.05	3255.4
	Approach	30%	4127	6.78	1.06	1.14	0.05		0.06	0.06	3255.4
RB211-535E4	Climb out	85%	11984	32.06	1.06	0.50	0.01		0.07	0.06	3255.4
	Takeof	100%	14762	44.88	1.06	0.77	0.00		0.06	0.06	3255.4
otes: 3b, 5, 6, 8, 10, 12h											
0.000.000, 0, 0, 0, 10, 12.11											
	Idle (Taxi)	7%	1008	3.60	1.06	31.77	4.24		0.16	0.15	3255.4
	Approach	30%	2206	7.20	1.06	2.65	0.21		0.22	0.20	3255.4
Spey Mk511	Climb out	85%	5762	17.30	1.06	0.63	0.14		0.24	0.22	3255.4
	Takeoff	100%	7071	22.70	1.06	0.12	0.10		0.23	0.21	3255.4
21.1.1.1								]			
otes: 3b, 5, 6, 8, 10, 12h											
	Idle (Taxi)	7%	762	3.70	1.06	29.30	2.14		0.18	0.16	3255.4
	Approach	30%	1754	6.80	1.06	3.70	0.33		0.18	0.16	3255.4
Spey Mk555	Climb out	85%	4698	16.50	1.06	0.70	0.33		0.35	0.32	3255.4
BDC V IVINJUJU	CIIIIO GUI	00,0		10.00						0.01	
Spey WK333	Takeoff	100%	5833	21.90	1.06	0.30	0.33		0.32	0.28	3255.4

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Ancian Engine	Setting	Thrust/hp	Rate (lb/hr)	$NO_X$	SO <sub>X</sub> <sup>1</sup>	co	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GH
	Ground Idle		145	1.58	1.06	31.51	66.80		1.44(S)	1.30(S)	3255
	Flight Idle		222	2.53	1.06	37.79	15.61		2.95(S)	2.66(S)	3255
T53-L-11D	Normal Rated		645	6.43	1.06	6.83	0.66		0.31(S)	0.28(S)	325
	Military		685	6.34	1.06	3.34	0.30		0.36(S)	0.32(S)	3255
	Takeoff		690	7.75	1.06	3.85	0.31		0.36(S)	0.32(S)	3255
s: 3i, 4q (for PM <sub>10</sub> and Pl	M <sub>2.5</sub> for all power setting	s), 5, 12h								_/_	
	Idle (Taxi)	7%	160	1.58	1.06	31.45	64.28		1.44	1.30	3255
	Approach	30%	227	2.52	1.06	37.71	15.02		2.95	2.66	3255
T53-L-13	Climb out	70%	694	6.33	1.06	3.59	0.30		2.31	0.28	3255
133 L 13	Takeoff	90%	696	7.73	1.06	3.59	0.30		0.36	0.32	3255
	Takeon	9070	090	1.13	1.00	3.39	0.30		0.30	0.52	3233
s: 3m, 11, 12h	•	•			•		•		•	•	
	T										
	Idle (Taxi)	7%	829	7.33	1.06	5.73	0.86		0.12	0.11	3255
T56 Cories I	Approach	30%	1036	7.12	1.06	4.70	0.61		0.22	0.20	3255
T56 Series I	Intermediate Military	70% 90%	1824 2059	9.61 9.87	1.06	2.84	0.31		0.28	0.25	3255 3255
	ivilitai y	9070	2039	9.07	1.00	2.62	0.51		0.28	0.23	3233
s: 3m, 11, 12h			l		L		ı	ı	ı	ı	
	1						1	1		1	
	Idle (Taxi)	7%	986	6.05	1.06	6.50	0.90		0.12	0.11	3255
	Approach	30%	1262	9.10	1.03	2.79	0.44		0.19	0.17	3255
T56 Series III	Intermediate	70%	2210	12.19	1.06	1.47	0.26		0.24	0.22	3255
	Military	90%	2476	12.76	1.06	1.47	0.26		0.26	0.23	3255
s: 3m, 11, 12h		1	l I		<u>I</u>				<u> </u>		ļ.
	Idle (Taxi)	5%	724	7.58	1.06	5.06	0.08	0.070	3.64	1.88	3255
	Approach	15%	880	7.54	1.06	3.89	0.06	0.052	3.85	2.18	3255
T56-A-7	Intermediate	61%	1.42	9.15	1.06	1.94	0.02	0.018	1.46	0.56	3255
	Military	90%	2262	12.46	1.06	2.30	0.01	0.005	1.22	0.33	3255
s: 3c, 10, 12e											
,,											
	Idle	7%	794	3.90	1.06	32.00	24.15		0.83	0.75	3255
	Approach	30%	830( <b>C</b> )	4.40	1.06	22.20	14.26		0.97	0.87	3255
T56-A-9	Intermediate	70%	1825	9.20	1.06	2.40	0.58		0.51	0.46	3255
	Military	100%	1905	9.30	1.06	2.10	0.46		0.50	0.45	3255
s: 3g, 5, 12d											
	Idle (Taxi)	5%	324	3.72	1.06	30.39	15.85		0.43	0.39	3255
	Approach	15%	839	6.79	1.06	3.49	0.92		0.28	0.25	3255
T56-A-14	Intermediate	61%	1409	10.30	1.06	1.07	0.04		0.17	0.15	3255
	Military	90%	1563	12.05	1.06	0.95	0.04		0.16	0.14	3255
o. 2m 12h		1							<u> </u>		<u> </u>
s: 3m, 12h											
	Idle (Taxi)	7%	794	3.90	1.06	32.00	24.15		0.83	0.75	3255
	Approach	30%	1185( <b>C</b> )	4.40	1.06	22.20	14.26		0.97	0.87	3255
T56-A-15	Intermediate	70%	1825	9.20	1.06	2.40	0.58		0.51	0.46	3255
	Military	90%	2302	9.30	1.06	2.10	0.46		0.50	0.45	3255
	Transcer y	2070	2302	7.50	1.00					0.1.0	

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>x</sub> <sup>1</sup>	co	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Ground Idle		756	6.35	1.06	5.65	1.40		0.83(S)	0.75(S)	3255.
	Flight Idle		836	6.52	1.06	4.54	1.09		0.97(S)	0.87(S)	3255
T56-A-16	75%		1996	9.93	1.06	0.42	0.20		0.51(S)	0.46(S)	32.5
	100%		2136	10.29	1.06	0.68	0.14		0.50(S)	0.45(S)	3255.
	Military		2219	10.45	1.06	0.65	0.16		0.50(S)	0.45(S)	3255.
tac: 3i Ar (for DM , and D	M <sub>2.5</sub> for all power settings)		2219	10.43	1.00	0.03	0.10		0.30(3)	0.43(5	3233
ies. 51, 41 (101 FW1 <sub>10</sub> and F	W <sub>2.5</sub> for all power settings)	, 3, 1211									
	Idle		133	1.50	1.06	169.17	111.54		0.75	0.68	3255.
	Normal Cruise		757	6.34	1.06	7.66	1.82		0.79	0.71	3255
T58-GE-5	Intermediate (Military)		821	6.70	1.06	6.82	3.78		.97	0.88	3255
	Power Takeoff		886	7.22	1.06	5.64	0.91		0.90	0.81	3255
	Tower rancon		000	7.22	1.00	5.0.	0.71		0.70	0.01	5255
tes: 3a, 5, 12d	•		L.							U	
	Idle		132	1.43	1.06	178.44	149.98		0.75(S)	0.68(S)	3255.
	Approach		581	4.47	1.06	17.28	1.2		0.79(S)	0.71(S)	3255.
T58-GE-8F	Cruise		627	4.68	1.06	14.13	5.92		0.79(S)	0.71(S)	3255.
	Max Continuous		685	4.90	1.06	12.96	0.84		0.79(S)	0.71(S)	3255.
	Takeoff		786	5.47	1.06	9.03	0.46		0.97(S)	0.88(S)	3255.
tes: 3i, 4o (PM <sub>10</sub> and PM <sub>2</sub>	5 at all power settings), 5, 1	12h									
	3 F <del>G</del> /, - , -										
	Ground Idle		150	3.03	1.06	139.73	47.05		0.75(S)	0.68(S)	3255.
	60% Normal		656	7.88	1.60	14.56	0.44		0.79( <b>S</b> )	0.71(S)	3255.
T58-GE-16	75% Normal		779	9.47	1.06	10.89	0.72		0.79( <b>S</b> )	0.71(S)	3255
	90% Normal		890	10.07	1.06	9.10	0.96		0.90(S)	0.81(S)	3255
	Military		1020	11.6	1.06	7.73	1.52		0.90(S)	0.81(S)	3255
tes: 3i, 4o (PM <sub>10</sub> and PM <sub>2</sub>	<sub>5</sub> at all power settings), 5, 1		1020	11.	1.00	1.13	1.32		0.70(5)	0.01(b)	3233.
	J p - · · · - · · · · · · · · · ·										
	Ground Idle		61	1.42	1.06	79.15	23.35		0.83(S)	0.75(S)	3255.
	Flight Idle		70	1.89	1.06	61.83	12.02		0.83(S)	0.75(S)	3255.
T63-A-5A	30%		105	2.90	1.06	38.59	3.76		0.97( <b>S</b> )	0.87( <b>S</b> )	3255.
	60%		157	4.11	1.06	20.79	0.78		0.51( <b>S</b> )	0.46(S)	3255.
	Military		215	5.07	1.06	7.54	0.09		0.50(S)	0.45(S)	3255.
tes: 3i, 4r (PM <sub>10</sub> and PM <sub>2</sub>	at all power settings), 5, 1					,,,,			3123(3)	37.10(3)	
	_										
	Idle		337	3.86	1.06	48.66	15.01		0.30	0.27	3255.
	75% hp		1039	8.95	1.06	4.72	0.89		0.58	0.52	3255.
T64-GE-6B	Normal Rated		1257	10.42	1.06	2.86	0.82		0.72	0.64	3255.
	Intermediate (Military)		1390	11.15	1.06	2.30	0.74		0.79	0.71	3255
2 4 (0) 5 1 10) 5											
tes: 3a, 4t (PM <sub>10</sub> and PM <sub>2</sub>	<sub>5</sub> at all power settings), 5, 1	12h									3255.
tes: 3a, 4t (PM <sub>10</sub> and PM <sub>2</sub>			298	1 11	1.06	76.46	1 26	0.853	2.36	2.14	
tes: 3a, 4t (PM <sub>10</sub> and PM <sub>2</sub>	Ground Idle	2%	298 941	1.11	1.06	76.46 7.85	1.26	0.853	2.36	2.14	
	Ground Idle 75% Normal	2% 34%	941	6.85	1.06	7.85	0.05	0.037	1.97	0.45	3255.
tes: 3a, 4t (PM <sub>10</sub> and PM <sub>2</sub> ) T64-GE-100	Ground Idle 75% Normal Normal	2% 34% 81%	941 1698	6.85 9.46	1.06 1.06	7.85 2.21	0.05 0.01	0.037 0.008	1.97 1.61	0.45 0.88	3255. 3255.
	Ground Idle 75% Normal	2% 34%	941	6.85	1.06	7.85	0.05	0.037	1.97	0.45	3255
T64-GE-100	Ground Idle 75% Normal Normal	2% 34% 81%	941 1698	6.85 9.46	1.06 1.06	7.85 2.21	0.05 0.01	0.037 0.008	1.97 1.61	0.45 0.88	3255 3255
	Ground Idle 75% Normal Normal	2% 34% 81%	941 1698	6.85 9.46	1.06 1.06	7.85 2.21	0.05 0.01	0.037 0.008	1.97 1.61	0.45 0.88	3255 3255
T64-GE-100	Ground Idle 75% Normal Normal	2% 34% 81%	941 1698	6.85 9.46	1.06 1.06	7.85 2.21	0.05 0.01	0.037 0.008	1.97 1.61	0.45 0.88	3255 3255 3255
T64-GE-100	Ground Idle 75% Normal Normal Military	2% 34% 81% 90%	941 1698 1848	6.85 9.46 11.30	1.06 1.06 1.06	7.85 2.21 2.17 51.83	0.05 0.01 0.01	0.037 0.008 0.010	1.97 1.61 0.92 2.36( <b>S</b> )	0.45 0.88 0.09	3255 3255 3255 3255
T64-GE-100	Ground Idle 75% Normal Normal Military  Idle 75% hp	2% 34% 81% 90%	941 1698 1848 260 1287	6.85 9.46 11.30 2.62 8.54	1.06 1.06 1.06 1.06	7.85 2.21 2.17 51.83 1.94	0.05 0.01 0.01 19.87 0.40	0.037 0.008 0.010	1.97 1.61 0.92 2.36(S) 1.97(S)	0.45 0.88 0.09 2.14(S) 0.45(S)	3255 3255 3255 3255 3255
T64-GE-100	Ground Idle 75% Normal Normal Military  Idle 75% hp Normal Rated	2% 34% 81% 90%	941 1698 1848 260 1287 1511	6.85 9.46 11.30 2.62 8.54 9.65	1.06 1.06 1.06 1.06 1.06 1.06	7.85 2.21 2.17 51.83 1.94 1.20	0.05 0.01 0.01 19.87 0.40 0.38	0.037 0.008 0.010	1.97 1.61 0.92 2.36(S) 1.97(S) 1.61(S)	0.45 0.88 0.09 2.14(S) 0.45(S) 0.88(S)	3255 3255 3255 3255 3255 3255
T64-GE-100	Ground Idle 75% Normal Normal Military  Idle 75% hp	2% 34% 81% 90%	941 1698 1848 260 1287	6.85 9.46 11.30 2.62 8.54	1.06 1.06 1.06 1.06	7.85 2.21 2.17 51.83 1.94	0.05 0.01 0.01 19.87 0.40	0.037 0.008 0.010	1.97 1.61 0.92 2.36(S) 1.97(S)	0.45 0.88 0.09 2.14(S) 0.45(S)	3255 3255 3255 3255 3255

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Ancian Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	co	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHO
	Idle		269	2.12	1.06	74.33	28.00		2.36(S)	2.14(S)	3255
	75%		1493	8.09	1.06	2.10	0.15		1.61(S)	0.88(S)	3255
T64-GE-415	Normal Rated		1730	9.29	1.06	1.50	0.09		1.61(S)	0.88(S)	32/5
	Military		1916	9.99	1.06	1.29	0.32		0.92(S)	0.09(S)	3255
	Max. Rated		2005	10.83	1.06	1.47	0.22		0.92(S)	0.09(S)	3255
es: 3i, 4t (PM <sub>10</sub> and PM <sub>2</sub> .	s at all power settings), 5, 1	2h									
	Idle (Taxi)		238	7.40	1.06	23.80	8.51		0.38	0.34	3255
	Approach		476	8.50	1.06	17.20	0.92		0.50	0.45	3255
T76-G-10	Intermediate		794	9.90	1.06	5.90	0.12		7.63	0.57	3255
	Military		873	10.30	1.06	2.30	0.12		0.71	0.64	3255
	Í										
es: 3g, 5, 7, 8, 12h								_/_			
	Idle (Taxi)		397	7.40	1.06	23.80	8.51		0.38	0.34	3255
	Approach		476	8.50	1.06	17.20	0.9		0.50	0.45	3255
T76-G-12	Intermediate		794	9.90	1.06	5.90	5.12		0.63	0.43	3255
<del>-</del>	Military		857(C)	10.30	1.06	2.30	0.12		0.71	0.64	3255
	·										
es: 3g, 5, 7, 8, 12h											
	T.11 (77 )	ı	220	7.40	1.00	22.00	0.51	ı	0.20	0.24	2255
	Idle (Taxi)		238	7.40	1.06	23.80	8.51		0.38	0.34	3255
T76-G-418	Approach Intermediate		476 794	8.50 9.90		17.20 5.90	0.92		0.50	0.45	3255 3255
170-G-416	Military		873	10.30	1.06	2.30	0.12		0.63	0.57	3255
	Williaiy		0/3	10.30	1.00	2.30	0.12		0.71	0.04	3233
es: 3g, 5, 7, 8, 12h	Į.	I	l.			I	l			I	ı
	T	ı						1			
	Idle (Taxi)		397	7.40	1.06	23.80	8.51		0.38	0.34	3255
T76 C 410	Approach		476	8.50	1.06	17.20	0.92		0.50	0.45	3255
T76-G-419	Intermediate Military		94 857(C)	9.90	1.06	5.90 2.30	0.12 0.12		0.63	0.57 0.64	3255 3255
	Williaiy		637(C)	10.50	1.00	2.30	0.12		0.71	0.04	3233
es: 3g, 5, 7, 8, 12h	Į.		l.			I	ı			I	
	1							I	I	ı	
	Ground Idle		136	2.21	1.06	27.94	10.99		0.44	0.40	3255
T400 CD 400	Flight Idle		141	2.84	1.06	29.08	8.97		0.44(C)	0.40(C)	3255
T400-CP-400	Cruise		279	4.66	1.06	1.79	0.00		0.36	0.32	3255
	Intermediate (Valitary)  Maxinum		406 1069	5.91 11.51	1.06	0.00	0.00		0.25	0.22	3255 3255
es: 3a, 4a (for PM <sub>10</sub> and l	PM <sub>2.5</sub> at Flight Idle power:			11.51	1.00	0.00	0.22		0.28	0.23	3230
	Idle		362	4.15	1.06	8.35	0.12		1.58	1.42	3255
mus . = :::	Flight Idle		663	6.05	1.06	3.47	0.02		1.58	1.42	3255
T406-AD-400	Intermediate		948	7.87	1.06	1.82	0.02		1.58	1.42	3255
	Max Continuous		2507	18.03	1.06	0.29	0.01		1.58	1.42	3255
es: 3f (this is me military	designation of the AE11070	C engine), 8,	12d			l	<u> </u>	l	l .	l	<u> </u>
	Idle		432	5.36	1.06	10.46	0.54		0.12	0.11	3255
	Approach		348	5.36	1.06	10.46	0.54		0.21	0.19	3255
T700-GE-401, -401C	Climb out		443	5.60	1.06	10.11	0.53		0.46	0.41	3255
	Takeoff		442	5.59	1.06	10.15	0.53		0.53	0.48	3255

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/10001	b fuel)		
	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	co	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	GHG <sup>2</sup>
	Ground Idle	4%	134	3.36	1.06	46.24	0.50	0.471	1.48	0.98	3255.41
	Flight Idle	56%	469	10.95	1.06	5.12	0.02	0.014	1.26	0.07	3255 1
T700-GE-700	Flight Max	82%	626	11.87	1.06	3.51	0.01	0.009	2.22	0.93	32,5.41
	Overspeed	100%	725	11.43	1.06	2.81	0.01	0.015	2.61	1.21	3255.41
Notes: 3c, 10, 12e											
	Idle (Taxi)	7%	873	2.50	1.06	24.10	3.91		0.16	0.15	3255.41
	Approach	30%	1825	5.70	1.06	3.90	1.04		0.52	0.47	3255.41
TAY Mk611-8, -Mk620-15	Climb out	85%	5000	16.80	1.06	0.80	0.35		.48	0.43	3255.41
	Takeoff	100%	6032	21.10	1.06	0.70	0.92		0.56	0.50	3255.41
Notes: 3b, 5, 6, 8, 10, 12h											
110103. 30, 3, 0, 0, 10, 1211											
	Idle (Taxi)	7%	944	1.70	1.06	33.77	3.78		0.06	0.06	3255.41
ļ	Approach	30%	2016	4.55	1.06	6.54	1.0		0.14	0.12	3255.41
TAY Mk650-15	Climb out	85%	5675	16.47	1.06	2.01	5.47		0.41	0.37	3255.41
	Takeoff	100%	6937	19.81	1.06	1.74	0.43		0.42	0.38	3255.41
Notes: 2h 5 6 9 10 12h											
Notes: 3b, 5, 6, 8, 10, 12h											
	Idle (Taxi)		873	2.30	1.06	72.00	71.30		0.01	0.01	3255.41
	Approach		2064	4.80	1.60	9.20	2.42		0.05	0.05	3255.41
TF30-P-3	Intermediate		4921	9.40	1.06	1.30	0.12		0.45	0.41	3255.41
	Military		6191	12.00	1.06	0.80	0.03		0.40	0.36	3255.41
	Afterburner		38413	3.10	1.06	4.06	0.01		0.15	0.14	3255.41
Notes: 3g, 5, 7, 8, 12h											
T	Lille (Tree')	750/	<b>COO</b>	1.21	1.00	CO 21	21.52		0.02(6)	0.02(6)	2255 41
-	Idle (Taxi) 75% Thrust	<75% 75%	689 355	1.31 6.68	1.06	68.21	21.53 3.40		0.02(S) 0.12(S)	0.02(S) 0.11(S)	3255.41 3255.41
TF30-P-6B	Normal Rated	75-99%	/00	8.06	1.06	5.55	1.61		0.12(S) 0.44(S)	0.40(S)	3255.41
1130 1 OD	Intermediate (Military)	100%	6835	12.04	1.06	3.09	1.16		0.35( <b>S</b> )	0.40(S) 0.32(S)	3255.41
									, and the same of	(17)	
Notes: 3a, 4u (for PM <sub>10</sub> and PM	I <sub>2.5</sub> at all power settings	, 5, 11 ( .ssur	nes 100% thrus	st at Interme	ediate settin	g), 12h					
Notes: 3a, 4u (for PM <sub>10</sub> and PM							24.50		0.02	0.02	2255 41
Notes: 3a, 4u (for PM <sub>10</sub> and PM	Idle (Taxi)		952	3.00	1.06	53.00	34.50		0.02	0.02	3255.41
	Idle (Taxi) Approach		952 2064	3.00 6.10	1.06 1.06	53.00 11.50	3.68		0.12	0.11	3255.41
Notes: 3a, 4u (for PM <sub>10</sub> and PM TF30-P-7	Idle (Taxi) Approach Intermediate	 	952 2064 5714	3.00 6.10 14.00	1.06 1.06 1.06	53.00 11.50 1.20	3.68 0.23		0.12 0.44	0.11 0.40	3255.41 3255.41
	Idle (Taxi) Approach Intermediate Militar		952 2064 5714 7222	3.00 6.10 14.00 20.00	1.06 1.06 1.06 1.06	53.00 11.50 1.20 0.80	3.68 0.23 0.12		0.12 0.44 0.35	0.11 0.40 0.32	3255.41 3255.41 3255.41
	Idle (Taxi) Approach Intermediate	 	952 2064 5714	3.00 6.10 14.00	1.06 1.06 1.06	53.00 11.50 1.20	3.68 0.23		0.12 0.44	0.11 0.40	3255.41 3255.41
TF30-P-7	Idle (Taxi) Approach Intermediate Militar	 	952 2064 5714 7222 38413	3.00 6.10 14.00 20.00 3.10	1.06 1.06 1.06 1.06 1.06	53.00 11.50 1.20 0.80 4.00	3.68 0.23 0.12 0.01		0.12 0.44 0.35 0.15	0.11 0.40 0.32 0.14	3255.41 3255.41 3255.41 3255.41
TF30-P-7	Idle (Taxi) Approach Intermediate Militar After urner		952 2064 5714 7222 38413	3.00 6.10 14.00 20.00 3.10	1.06 1.06 1.06 1.06 1.06	53.00 11.50 1.20 0.80 4.00	3.68 0.23 0.12 0.01		0.12 0.44 0.35 0.15	0.11 0.40 0.32 0.14	3255.41 3255.41 3255.41 3255.41 3255.41
TF30-P-7 Notes: 3g, 5, 7, 8, 12h	Idle (Taxi) Approach Intermediate Militar Afterlurner  Idle (Taxi) Approach		952 2064 5714 7222 38413 952 2064	3.00 6.10 14.00 20.00 3.10 3.00 6.10	1.06 1.06 1.06 1.06 1.06 1.06	53.00 11.50 1.20 0.80 4.00 53.00 11.50	3.68 0.23 0.12 0.01 34.50 3.68		0.12 0.44 0.35 0.15 0.02 0.12	0.11 0.40 0.32 0.14 0.02 0.11	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TF30-P-7	Idle (Taxi) Approach Intermediate Militar Afterlurner  Idle (Taxi) Approach Intermediate		952 2064 5714 7222 38413 952 2064 5714	3.00 6.10 14.00 20.00 3.10 3.00 6.10 14.00	1.06 1.06 1.06 1.06 1.06 1.06 1.06	53.00 11.50 1.20 0.80 4.00 53.00 11.50	3.68 0.23 0.12 0.01 34.50 3.68 0.23		0.12 0.44 0.35 0.15 0.02 0.12 0.44	0.11 0.40 0.32 0.14 0.02 0.11 0.40	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TF30-P-7 Notes: 3g, 5, 7, 8, 12h	Idle (Taxi) Approach Intermediate Military Afterlarner  Idle (Taxi) Approach Intermediate Military		952 2064 5714 7222 38413 952 2064 5714 8730	3.00 6.10 14.00 20.00 3.10 3.00 6.10 14.00 20.00	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	53.00 11.50 1.20 0.80 4.00 53.00 11.50 1.20 0.80	3.68 0.23 0.12 0.01 34.50 3.68 0.23 0.12		0.12 0.44 0.35 0.15 0.02 0.12 0.44 0.35	0.11 0.40 0.32 0.14 0.02 0.11 0.40 0.32	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TF30-P-7 Notes: 3g, 5, 7, 8, 12h TF30-P-9	Idle (Taxi) Approach Intermediate Militar Afterlurner  Idle (Taxi) Approach Intermediate		952 2064 5714 7222 38413 952 2064 5714	3.00 6.10 14.00 20.00 3.10 3.00 6.10 14.00	1.06 1.06 1.06 1.06 1.06 1.06 1.06	53.00 11.50 1.20 0.80 4.00 53.00 11.50	3.68 0.23 0.12 0.01 34.50 3.68 0.23		0.12 0.44 0.35 0.15 0.02 0.12 0.44	0.11 0.40 0.32 0.14 0.02 0.11 0.40	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TF30-P-7 Notes: 3g, 5, 7, 8, 12h	Idle (Taxi) Approach Intermediate Military Afterlarner  Idle (Taxi) Approach Intermediate Military		952 2064 5714 7222 38413 952 2064 5714 8730	3.00 6.10 14.00 20.00 3.10 3.00 6.10 14.00 20.00	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	53.00 11.50 1.20 0.80 4.00 53.00 11.50 1.20 0.80	3.68 0.23 0.12 0.01 34.50 3.68 0.23 0.12		0.12 0.44 0.35 0.15 0.02 0.12 0.44 0.35	0.11 0.40 0.32 0.14 0.02 0.11 0.40 0.32	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TF30-P-7 Notes: 3g, 5, 7, 8, 12h TF30-P-9	Idle (Taxi) Approach Intermediate Military Afterlarner  Idle (Taxi) Approach Intermediate Military		952 2064 5714 7222 38413 952 2064 5714 8730	3.00 6.10 14.00 20.00 3.10 3.00 6.10 14.00 20.00	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	53.00 11.50 1.20 0.80 4.00 53.00 11.50 1.20 0.80	3.68 0.23 0.12 0.01 34.50 3.68 0.23 0.12		0.12 0.44 0.35 0.15 0.02 0.12 0.44 0.35	0.11 0.40 0.32 0.14 0.02 0.11 0.40 0.32	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TF30-P-7 Notes: 3g, 5, 7, 8, 12h TF30-P-9 Notes: 3g, 5, 12h	Idle (Taxi) Approach Intermediate Militar After urner  Idle (Taxi) Approach Intermediate Military Afterburner		952 2064 5714 7222 38413 952 2064 5714 8730 545525	3.00 6.10 14.00 20.00 3.10 3.00 6.10 14.00 20.00 3.10	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	53.00 11.50 1.20 0.80 4.00 53.00 11.50 1.20 0.80 4.00	3.68 0.23 0.12 0.01 34.50 3.68 0.23 0.12 0.01		0.12 0.44 0.35 0.15 0.02 0.12 0.44 0.35 0.15	0.11 0.40 0.32 0.14 0.02 0.11 0.40 0.32 0.14	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TF30-P-7 Notes: 3g, 5, 7, 8, 12h TF30-P-9	Idle (Taxi) Approach Intermediate Military Afterlumer  Idle (Taxi) Approach Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburner		952 2064 5714 7222 38413 952 2064 5714 8730 545525	3.00 6.10 14.00 20.00 3.10 3.00 6.10 14.00 20.00 3.10 2.86 7.91(C) 20.00	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	53.00 11.50 1.20 0.80 4.00 53.00 11.50 1.20 0.80 4.00 47.62 33.79(C)	3.68 0.23 0.12 0.01 34.50 3.68 0.23 0.12 0.01 21.72 15.35(C) 0.12		0.12 0.44 0.35 0.15 0.02 0.12 0.44 0.35 0.15 26.27 25.60(C) 24.00	0.11 0.40 0.32 0.14 0.02 0.11 0.40 0.32 0.11 0.40 0.32 0.14	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TF30-P-7 Notes: 3g, 5, 7, 8, 12h TF30-P-9 Notes: 3g, 5, 12h	Idle (Taxi) Approach Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate Military Afterburner  Idle (Taxi) Approach Intermediate		952 2064 5714 7222 38413 952 2064 5714 8730 545525	3.00 6.10 14.00 20.00 3.10 3.00 6.10 14.00 20.00 3.10	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	53.00 11.50 1.20 0.80 4.00 53.00 11.50 1.20 0.80 4.00	3.68 0.23 0.12 0.01 34.50 3.68 0.23 0.12 0.01 21.72 15.35(C)		0.12 0.44 0.35 0.15 0.02 0.12 0.44 0.35 0.15 26.27 25.60(C)	0.11 0.40 0.32 0.14 0.02 0.11 0.40 0.32 0.14 23.64 23.04(C)	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Ainanaft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG <sup>2</sup>
	Idle (Taxi)	<30%	827	4.00	1.06	100.00	88.44		0.51	0.46	3255.41
	30%	30%	2003	7.00	1.06	36.20	12.54		0.82	0.74	3255
TF30-P-103	75%	75%	4119	15.10	1.06	5.50	0.36		0.20	0.18	32,5.41
	100%	100%	5541	20.10	1.06	2.10	0.10		16.34	14.70	3255.41
	Afterburner-1	>100%	14292	11.20	1.06	77.20	32.20		14.63(C)	13.17(C	3255.41
otes: 3o, 4a (PM <sub>10</sub> and PM <sub>2</sub>	2.5 at afterburner setting on	ly), 5, 6, 8, 10	), 12c								
	T. 11 (77 )	T ==:		2.02	1 400	10.10		1 202			2255 45
	Idle (Taxi)	5%	761	2.93	1.06	48.49	9.77	4.292	1.24	1.11	3255.41
TTT00 P 400	Approach	23%	1727	6.19	1.06	20.73	1.36	0.756	1.52	1.37	3255.41
TF30-P-109	Intermediate	47%	2921	9.58	1.06	5.17	0.27	0.027	.64	1.47	3255.41
	Military	99%	6263	23.63	1.06	0.71	0.14	0.005	0.92	0.82	3255.4
	Afterburner-5	>99%	38460	4.89	1.06	6.19	0.07	0.001	0.51	0.46	3255.4
otes: 3l, 8, 12e											
	Idle (Taxi)		999	2.40	1.06	68.17	44.20		26.53	23.87	3255.4
	75% rpm		1448	3.66	1.06	38.60	11.2		24.03	21.63	3255.4
TF30-P-412A	90% rpm		3597	9.62	1.06	6.34	3.19		15.01	13.51	3255.4
	Intermediate (Military)		7394	16.66	1.06	2.12	0.11		8.34	7.51	3255.4
	Afterburner		40000	6.75	1.06	15.00	1.15		17.33	15.60	3255.4
otes: 3a, 5, 12h	Titterounier		10000	0.75	1.00	13.5	1.10	l.	17.00	15.00	0200
	Idle (Taxi)	<30%	846	1.77	1.06	88.53	105.76		5.20	4.68	3255.4
	Approach	30%	3797	7.30	1.68	9.01	4.36		13.98	12.59	3255.4
TF33-P-3, -P-5	Climb out	85%	7323	9.00	1.06	1.80	0.46		14.00	12.60	3255.4
	Takeoff	100%	9979	11.00	1.06	1.30	0.35		8.00	7.20	3255.4
otes: 3a, 5, 8, 11, 12h											
	T. 11 (77 5	1 407	1000	0.70	1 404	12101	T = 22	1010	- 10	2.00	2255 4
	Idle (Taxi)	4%	1093	0.78	1.06	134.96	5.32	4.913	6.13	3.80	3255.4
######################################	Approach	45%	488	7.12	1.06	9.67	0.24	0.220	3.68	1.46	3255.4
TF33-P-7	Intermediate	58%	356	8.10	1.06	4.16	0.06	0.080	5.28	1.72	3255.4
	Military	73%	8264	10.29	1.06	1.49	0.02	0.044	3.58	1.23	3255.4
otes: 3c, 5, 12e									1		
0103. 30, 3, 120											
	Idle (Taxi)		1120	1.39	1.06	95.06	90.91		4.98	4.48	3255.4
	Approach		4140	6.37	1.06	5.24	1.37		3.55	3.20	3255.4
TF33-P-9	Intermediate		8960	7.88	1.06	2.11	1.50		3.15	2.84	3255.4
	Militar		9630	12.08	1.06	0.00	0.55		3.67	3.30	3255.4
otes: 3f, 5, 8, 12d					•		•				
	Idle (Taxi)		1108	1.50	1.06	136.96	131.16		6.13	5.52	3255.4
	Approach		2794	6.22	1.06	14.60	3.62		5.46	4.91	3255.4
TF33-P-100	Intermediate		8069	8.47	1.06	2.96	0.39		5.29	4.76	3255.4
	Military		10856	11.49	1.06	1.19	0.25		2.93	2.64	3255.41
atao, 2f. 9, 12h									L		
otes: 3f, 8, 12b											
	Idle (Taxi)	5%	1114	1.39	1.06	95.02	3.42	3.006	4.96	4.06	3255.4
	Approach	49%	4737	6.37	1.06	5.24	0.11	0.166	3.55	1.66	3255.4
TF33-P-102	Intermediate	59%	5782	7.88	1.06	2.11	0.06	0.100	3.15	1.42	3255.4
11001102	Military	75%	7561	12.08	1.06	0.00	0.02	0.098	2.52	1.02	3255.41
						0.00					J233.T

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Afferan Engine	Setting	Thrust/hp	Rate (lb/hr)	$NO_X$	SO <sub>x</sub> <sup>1</sup>	CO	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Idle (Taxi)	7%	1065	1.80	1.06	117.03	106.96		4.98	4.48	3255.
	Approach	30%	3912	5.84	1.06	12.37	1.74		3.55	3.20	3255.
TF33-P-102A	Intermediate	70%	6985	8.74	1.06	2.01	0.95		3.15	2.84	325
	Military	100%	8756	12.39	1.06	0.45	0.53		3.67	3.30	255.
otes: 3f, 8, 11, 12h										_/	
	Idle (Taxi)		900	1.39	1.06	95.06	90.91		4.98	4.48	3255.
	Approach		3800	6.37	1.06	5.24	1.37		3.55	3.20	3255.
TF33-P-103	Intermediate		6240	7.88	1.06	2.11	1.50		3/15	2.84	3255.
	Military		7440	12.08	1.06	0.00	0.55		3.67	3.30	3255.
	•										
otes: 3f, 5, 8, 12d								_/_			
	Idle (Taxi)	T	390	2.10	1.06	106.70	39.45		8.13( <b>S</b> )	3.60(S)	3255.
	Approach		920	5.70	1.06	16.30	2.19		6.21( <b>S</b> )	2.12(S)	3255.
TF34-GE-100	Intermediate		460	2.60	1.06	78.00	27.35		8.93( <b>S</b> )	6.95(S)	3255.
	Military		2710	10.70	1.06	2.20	0.12		2.66( <b>S</b> )	1.68(S)	3255.
otes: $3g$ , $4v$ ( $PM_{10}$ and $PM_2$	5 at all power settings), 5	, 12h									
	Idle (Taxi)	7%	498	0.32	1.06	65.62	2.24	2.052	8.13	3.60	3255.
	Approach	28%	933	3.09	1.00	27.92	1.44	1.371	6.21	2.12	3255.
TF34-GE-100A	Intermediate	46%	1512	5.61	.06	8.88	0.13	0.095	8.93	6.95	3255.
1134 GE 10011	Military	78%	2628	9.11	1.06	3.94	0.13	0.098	2.66	1.68	3255.
	111111111	7070	2020	7111	1.00	5.7.	0.07	0.070	2.00	1.00	5255.
otes: 3c, 10, 12e		•									
	T					l					T
	Idle (Taxi)	10%(C)	458	1.69	1.06	90.98	17.24		8.13(S)	3.60(S)	3255.
TE24 CE 400	Approach	30%(C)	1201(6)	2.98(C)	1.06	72.08( <b>C</b> )	13.51(C)		6.21( <b>S</b> )	2.12(S)	3255.
TF34-GE-400	Intermediate	70%( <b>C</b> )	26%(C) 3800	5.57(C)	1.06	34.29(C)	6.05(C)		2.66(S)	1.68(S)	3255. 3255.
	Military	100%(C)	3800	7.51	1.06	5.95	0.45		2.66(S)	1.68( <b>S</b> )	3233
otes: 3i, 4v (PM <sub>10</sub> and PM <sub>2</sub>	at all power settings), 5,	12h				I			I	I	
	1					·-					
	Idle (Taxi)	7%	1448	3.37	1.06	58.43	3.44	2.615	2.80	2.49	3255.
TF39-GE-1C	Approach	76%	10477	24.91	1.06	0.77	0.03	0.022	1.20	0.44	3255.
1F39-GE-1C	Intermediate Military	87% 94%	12541 13862	28.16 32.66	1.06	1.53 1.29	0.03	0.015	0.89 1.18	0.37 0.77	3255. 3255.
	William	9470	13002	32.00	1.00	1.29	0.03	0.022	1.10	0.77	3233
otes: 3c, 10, 12e		U.	I.			I			I	ı	
		,									
	Idle (Taxi)		1032	1.50	1.06	119.00	105.80		0.15	0.14	3255.
TF41-A-1	Approach		3492	6.80	1.06	10.20	2.53		0.36	0.32	3255.
1F41-A-1	Intermediate		5873 8413	12.00	1.06	3.70 1.80	0.46		0.52	0.47	3255. 3255.
	Military		8413	21.00	1.06	1.80	0.23		0.67	0.60	3233.
otes: 3g, 5, 12h		1	l			L			L	·	
						1			1	1	
	Idle (Taxi)	<30%	1047	4.00	1.06	176.00	114.54		0.65	0.59	3255.
				8.90	1.06	45.00	11.62		0.73	0.66	3255
	30%	30%	2704								
TF41-A-2	30% 75%	75%	5810	23.80	1.06	4.70	0.10		16.94	15.25	3255.
	30%						0.10				3255 3255

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>x</sub> <sup>1</sup>	СО	VOC	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	$GHG^2$
	Idle (Taxi)		206	3.50	1.06	47.80	8.54		0.13(S)	0.12(S)	3255.41
	Approach		571	6.90	1.06	15.56	1.41		0.13(S)	0.12(S)	3255.4
TFE731-2, -2A	Intermediate		1476	16.08	1.06	1.62	0.07		0.09(S)	0.08( <b>S</b> )	325 5.41
	Military		1786	19.15	1.06	1.13	0.06		0.09(S)	0.08(S)	3255.41
otes: 3f, 4w (PM <sub>10</sub> and PM <sub>2</sub>	5 at all power settings), 1	2h									
	III (TD. 5)	70/	100	2.02	1.06	50.60	22.05		0.12(0)	0.12(0)	2255 41
	Idle (Taxi)	7%	190	2.82	1.06	58.60	23.05		0.13(S)	0.12(S)	3255.41
TFE731-2-2B	Approach	30%	532	5.90	1.06	22.38	4.90		0.09(S) 0.09(S)	0.08(S)	3255.41
1FE/31-2-2D	Climb out	85%	1373	13.08	1.06	2.03	0.15		0.08(S)	0.08(S)	3255.41
	Takeoff	100%	1627	15.25	1.06	1.39	0.13		0.08(8)	0.08( <b>S</b> )	3255.41
otes: 3b, 4w (PM <sub>10</sub> and PM <sub>2</sub>	5 for all power settings),	5, 6, 8, 10, 12	h				l		I	I	
	Idle (Taxi)	7%	206	3.72	1.06	47.70	10.40		0.13(S)	0.12(S)	3255.41
	Approach	30%	571	6.92	1.06	15.56	1.67		0.09(S)	0.08(S)	3255.41
TFE731-3	Climb out	85%	1476	16.02	1.06	1.62	.08		0.09(S)	0.08(S)	3255.41
	Takeoff	100%	1786	19.15	1.06	1.13	0.07		0.08(S)	0.08( <b>S</b> )	3255.41
Istani 2h Ani (DM and DM	for all names autinos)	5 6 9 10 12	L								
otes: 3b, 4w (PM <sub>10</sub> and PM <sub>2</sub>	.5 for all power settings),	3, 6, 8, 10, 12	П			-					
	Idle (Taxi)	<40%	25	0.39	1.06	1293.70	78.29		60.00( <b>S</b> )	54.00(S)	3255.41
	Approach	40%	99	1.39	1.0	1261.57	15.39		47.95(S)	43.16( <b>S</b> )	3255.41
TIO-540-J2B2	Climb out	75-100%	205	0.24	1.06	1470.90	19.12		40.00(S)	36.00( <b>S</b> )	3255.41
	Takeoff	100%	260	0.36	1.06	1442.05	14.21		20.00(S)	18.00(S)	3255.41
									` ′	` ′	
lotes: 3a, 4b (PM <sub>10</sub> and PM <sub>2</sub>	5 at all power settings), 5,	11, 12h									
	1	_			1	1	1	1	1	1	1
	Idle (Taxi)	<30%	105	2.57	1.06	64.10	104.92		0.50(S)	0.45(S)	3255.41
	Approach	30%	220	8.27	1.06	16.59	3.08		0.10(S)	0.09(S)	3255.41
TPE331-2	Climb out	90%	1/2	9.92	1.06	1.37	0.46		0.25(S)	0.23( <b>S</b> )	3255.41
	Takeoff	100%	405	10.22	1.06	0.94	0.45		0.24(S)	0.22(S)	3255.41
	Takeon										
		11 12							•	•	
Totes: 3a, 4p (PM <sub>10</sub> and PM <sub>2</sub>		11, 12h			<u>I</u>						
Totes: 3a, 4p (PM <sub>10</sub> and PM <sub>2</sub>	5 at all power settings), 5,		112	2.86	1.06	61.52	90.97		2.68	2.41	3255 /1
fotes: 3a, 4p (PM <sub>10</sub> and PM <sub>2</sub>	s at all power settings), 5,  Idle (Taxi)	<30%	112	2.86	1.06	61.52	90.97		2.68	2.41	
	at all power settings), 5,  Idle (Taxi)  Approach	<30% 30%	250	9.92	1.06	6.96	0.74		2.40	2.16	3255.41
otes: 3a, 4p (PM <sub>10</sub> and PM <sub>2</sub> ) TPE331-3	s at all power settings), 5,  Idle (Taxi)  Approach  Climb out	<30% 30% 90%	250 409	9.92 11.86	1.06 1.06	6.96 0.98	0.74 0.17		2.40 1.47	2.16 1.32	3255.41 3255.41
	at all power settings), 5,  Idle (Taxi)  Approach	<30% 30%	250	9.92	1.06	6.96	0.74		2.40	2.16	3255.41 3255.41 3255.41 3255.41
	s at all power settings), 5,  Idle (Taxi)  Approach  Climb out	<30% 30% 90%	250 409	9.92 11.86	1.06 1.06	6.96 0.98	0.74 0.17		2.40 1.47	2.16 1.32	3255.41 3255.41
TPE331-3	s at all power settings), 5,  Idle (Taxi)  Approach  Climb out	<30% 30% 90% 100%	250 409 458	9.92 11.86 12.36	1.06 1.06 1.06	6.96 0.98 0.76	0.74 0.17		2.40 1.47 1.75	2.16 1.32 1.57	3255.41 3255.41 3255.41
TPE331-3	Idle (Taxi) Approach Climb out Takeoff	<30% 30% 90% 100%	250 409 458 1825	9.92 11.86 12.36	1.06 1.06 1.06	6.96 0.98 0.76	0.74 0.17 0.13		2.40 1.47 1.75	2.16 1.32 1.57	3255.41 3255.41 3255.41 3255.41
TPE331-3 fotes: 3a, 5, 11, 12h	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach	30% 30% 90% 100% 7% 30%	250 409 458 1825 4762	9.92 11.86 12.36 5.96 11.37	1.06 1.06 1.06 1.06	6.96 0.98 0.76 10.50 0.66	0.74 0.17 0.13 0.16 0.05		2.40 1.47 1.75 0.04 0.05	2.16 1.32 1.57 0.04 0.05	3255.41 3255.41 3255.41 3255.41 3255.41
TPE331-3	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Climb out Climb out Climb out Climb out	30% 30% 90% 100% 7% 30% 85%	250 409 458 1825 4762 13730	9.92 11.86 12.36 5.96 11.37 30.98	1.06 1.06 1.06 1.06 1.06 1.06	6.96 0.98 0.76 10.50 0.66 0.44	0.74 0.17 0.13 0.16 0.05 0.01		2.40 1.47 1.75 0.04 0.05 0.06	2.16 1.32 1.57 0.04 0.05 0.05	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TPE331-3 fotes: 3a, 5, 11, 12h	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach	30% 30% 90% 100% 7% 30%	250 409 458 1825 4762	9.92 11.86 12.36 5.96 11.37	1.06 1.06 1.06 1.06	6.96 0.98 0.76 10.50 0.66	0.74 0.17 0.13 0.16 0.05		2.40 1.47 1.75 0.04 0.05	2.16 1.32 1.57 0.04 0.05	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TPE331-3  Jotes: 3a, 5, 11, 12h  Trent 553-61	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Climb out Climb out Climb out Climb out	30% 30% 90% 100% 7% 30% 85%	250 409 458 1825 4762 13730	9.92 11.86 12.36 5.96 11.37 30.98	1.06 1.06 1.06 1.06 1.06 1.06	6.96 0.98 0.76 10.50 0.66 0.44	0.74 0.17 0.13 0.16 0.05 0.01		2.40 1.47 1.75 0.04 0.05 0.06	2.16 1.32 1.57 0.04 0.05 0.05	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TPE331-3 fotes: 3a, 5, 11, 12h	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Climb out Climb out Climb out Climb out	30% 30% 90% 100% 7% 30% 85%	250 409 458 1825 4762 13730	9.92 11.86 12.36 5.96 11.37 30.98	1.06 1.06 1.06 1.06 1.06 1.06	6.96 0.98 0.76 10.50 0.66 0.44	0.74 0.17 0.13 0.16 0.05 0.01		2.40 1.47 1.75 0.04 0.05 0.06	2.16 1.32 1.57 0.04 0.05 0.05	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TPE331-3  Jotes: 3a, 5, 11, 12h  Trent 553-61	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Climb out Climb out Climb out Climb out	30% 30% 90% 100% 7% 30% 85%	250 409 458 1825 4762 13730	9.92 11.86 12.36 5.96 11.37 30.98	1.06 1.06 1.06 1.06 1.06 1.06	6.96 0.98 0.76 10.50 0.66 0.44	0.74 0.17 0.13 0.16 0.05 0.01		2.40 1.47 1.75 0.04 0.05 0.06	2.16 1.32 1.57 0.04 0.05 0.05	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TPE331-3  Jotes: 3a, 5, 11, 12h  Trent 553-61	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff	30% 30% 90% 100% 7% 30% 85% 100%	250 409 458 1825 4762 13730 16746	9.92 11.86 12.36 5.96 11.37 30.98 40.55	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	0.96 0.98 0.76 10.50 0.66 0.44 0.18	0.74 0.17 0.13 0.16 0.05 0.01 0.02		2.40 1.47 1.75 0.04 0.05 0.06 0.06	2.16 1.32 1.57 0.04 0.05 0.05 0.05	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TPE331-3  Jotes: 3a, 5, 11, 12h  Trent 553-61	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff	30% 30% 90% 100% 7% 30% 85% 100%	250 409 458 1825 4762 13730 16746	9.92 11.86 12.36 5.96 11.37 30.98 40.55	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	0.96 0.98 0.76 10.50 0.66 0.44 0.18	0.74 0.17 0.13 0.16 0.05 0.01 0.02		2.40 1.47 1.75 0.04 0.05 0.06 0.06	2.16 1.32 1.57 0.04 0.05 0.05 0.05	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TPE331-3  fotes: 3a, 5, 11, 12h  Trent 553-61  fotes: 3b, 5, 6, 8, 10, 12h	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff	30% 30% 90% 100% 7% 30% 85% 100%	250 409 458 1825 4762 13730 16746	9.92 11.86 12.36 5.96 11.37 30.98 40.55	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	0.96 0.98 0.76 10.50 0.66 0.44 0.18	0.74 0.17 0.13 0.16 0.05 0.01 0.02		2.40 1.47 1.75 0.04 0.05 0.06 0.06	2.16 1.32 1.57 0.04 0.05 0.05 0.05	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41
TPE331-3  fotes: 3a, 5, 11, 12h  Trent 553-61  fotes: 3b, 5, 6, 8, 10, 12h	Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Takeoff  Idle (Taxi) Approach Climb out Climb out Climb out Takeoff	7% 30% 90% 100% 7% 30% 85% 100%	250 409 458 1825 4762 13730 16746 1825 4921 14524	9.92 11.86 12.36 5.96 11.37 30.98 40.55 6.09 11.68 33.25	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	0.96 0.98 0.76 10.50 0.66 0.44 0.18	0.74 0.17 0.13 0.16 0.05 0.01 0.02		2.40 1.47 1.75 0.04 0.05 0.06 0.06	2.16 1.32 1.57 0.04 0.05 0.05 0.05 0.05	3255.41 3255.41 3255.41 3255.41 3255.41 3255.41 3255.41

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Ainonaft Emaina	Power	Percent	Fuel Flow			Emiss	sion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Idle (Taxi)	7%	2143	4.52	1.06	20.22	2.17		0.05	0.05	3255.4
	Approach	30%	6429	10.01	1.06	1.02	0.01		0.06	0.05	3255
Trent 768	Climb out	85%	19286	24.66	1.06	0.15	0.01		0.08	0.07	32/5.
	Takeoff	100%	26572	31.25	1.06	0.18	0.00		0.07	0.06	3255.4
otes: 3b, 5, 6, 8, 10, 12h		<u> </u>									
	Idle (Taxi)	7%	2222	4.71	1.06	17.94	1.68		0.05	0.05	3255.4
	Approach	30%	6746	10.30	1.06	0.89	0.01		0.0	0.05	3255.
Trent 772	Climb out	85%	20476	26.44	1.06	0.16	0.00		.08	0.07	3255.
	Takeoff	100%	25397	34.38	1.06	0.20	0.00		0.07	0.06	3255.
otes: 3b, 5, 6, 8, 10, 12h		<u> </u>									
	Idle (Taxi)	7%	2222	4.64	1.06	19.66	2.05		0.05	0.05	3255.4
	Approach	30%	6984	10.43	1.06	0.86	0.0		0.05	0.05	3255.
Trent 875	Climb out	85%	20397	26.55	1.06	0.16	5.00		0.06	0.05	3255.
	Takeoff	100%	24603	33.32	1.06	0.19	0.00		0.06	0.05	3255.
otes: 3b, 5, 6, 8, 10, 12h					ļ			<u>l</u>			
	Idle (Taxi)	7%	2222	4.75	1.06	18.42	1.78		0.05	0.05	3255.
	Approach	30%	7143	10.59	1.68	0.80	0.00		0.05	0.05	3255.
Trent 877	Climb out	85%	21111	27.59	1.06	0.16	0.00		0.06	0.05	3255.
	Takeoff	100%	25476	34.76	1.06	0.20	0.00		0.05	0.05	3255.
otes: 3b, 5, 6, 8, 10, 12h	I	1			l I			1	l		
	T	1 50	2450	<b>7</b> 01	1 105	15.10		1	0.05		22.55
	Idle (Taxi)	7%	2460 769	5.04	1.06	15.19	1.15		0.05	0.04	3255.
Trent 884	Approach Climb out	30% 85%	22937	11.07 30.63	1.06 1.06	0.65	0.00		0.05	0.05	3255. 3255.
Ticht 604	Takeoff	100%	28254	40.05	1.06	0.18	0.00		0.05	0.05	3255.
							0.00			0.00	
otes: 3b, 5, 6, 8, 10, 12h		_/									
	Idle (Taxi)	7%	2381	5.33	1.06	13.07	0.81		0.05	0.04	3255.
	Approach	30%	7937	11.58	1.06	0.57	0.00		0.05	0.05	3255.
Trent 892	Climb out	85%	24603	33.30	1.06	0.20	0.00		0.06	0.05	3255.
	Takeof	100%	31032	45.70	1.06	0.28	0.01		0.05	0.05	3255.
otes: 3b, 5, 6, 8, 10, 12h											
	Idle (Taxi)	7%	2619	5.11	1.06	14.71	1.02		0.05	0.04	3255.
	Approach	30%	8333	11.39	1.06	0.54	0.00		0.05	0.05	3255.
	Approach			34.29	1.06	0.19	0.00		0.06	0.05	3255.
Trent 895	Climb out	85%	25318	34.29			0.02		0.05	0.05	3255.
Trent 895		85% 100%	25318 31984	47.79	1.06	0.27	0.02		0.03	0.00	
	Climb out				1.06	0.27	0.02		0.03		
Trent 895 otes: 3b, 5, 6, 8, 10, 12h	Climb out				1.06	0.27	0.02		0.03		
	Climb out				1.06	0.27	0.02		0.04	0.04	3255.
	Climb out Takeoff	100%	31984	47.79							
	Climb out Takeoff  Idle (Taxi)	7%	31984	5.10	1.06	15.10	0.23		0.04	0.04	3255. 3255. 3255.
otes: 3b, 5, 6, 8 10, 12h	Climb out Takeoff  Idle (Taxi) Approach	7% 30%	2381 5556	5.10 11.40	1.06	15.10 1.40	0.23		0.04 0.05	0.04	3255.

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	C - 443										
	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	GHG
	Idle (Taxi)	7%	2143	5.00	1.06	15.94	0.28		0.04	0.04	3255.
	Approach	30%	5952	11.80	1.06	1.40	0.00		0.05	0.05	3255
Trent 972-84	Climb out	85%	17699	29.60	1.06	0.30	0.00		0.06	0.05	<i>32.5</i> 5.
	Takeoff	100%	21349	38.80	1.06	0.40	0.00		0.05	0.05	3255.
otes: 3b, 5, 6, 8, 10, 12h											
	1	1			1	1	Т	1			
	Idle (Taxi)	7%	1881	5.40	1.06	8.73	0.07		0.04	0.04	3255.
	Approach	30%	4960	13.29	1.06	0.77	0.00		0.03	0.05	3255
Trent 1000-A	Climb out	85%	14897	35.87	1.06	0.45	0.00		5.05	0.05	3255
	Takeoff	100%	18111	46.67	1.06	0.53	0.00		0.05	0.04	3255
tes: 3b, 5, 6, 8, 10, 12h		Į.									
	T	1	T		1	1					1
	Idle (Taxi)	7%	1952	5.66	1.06	7.66	0.05		0.04	0.04	3255
T 1000 C	Approach	30%	5302	13.86	1.06	0.68	0.00		0.06	0.05	3255
Trent 1000-C	Climb out Takeoff	85% 100%	16254 19905	40.33 53.54	1.06	0.48	0.00		0.05	0.05	3255 3255
	Takeon	100%	19903	33.34	1.00	0.31	0.00		0.03	0.04	3233
tes: 3b, 5, 6, 8, 10, 12h					l			l		l	
	Idle (Taxi)	7%	1762	5.06	1.06	10.63	0.10		0.04	0.04	3255
	Approach	30%	4524	12.54	1.6	0.92	0.00		0.05	0.05	3255
Trent 1000-E	Climb out	85%	13167	30.55	1.06	0.43	0.00		0.06	0.05	3255
	Takeoff	100%	15929	39.17	1.06	0.47	0.00		0.05	0.05	3255
otes: 3b, 5, 6, 8, 10, 12h											
tes. 30, 3, 0, 6, 10, 12ff											
	Idle (Taxi)	7%	12	1.91	1.06	592.17	159.00		60.00(S)	54.00(S)	3255
	Approach	30%	63	3.77	1.06	995.08	13.01		47.95( <b>S</b> )	43.16( <b>S</b> )	3255
TSIO-360-C	Climb out	85%	100	4.32	1.06	960.80	10.98		40.00(S)	36.00( <b>S</b> )	3255
	Takeoff	100%	133	2.71	1.06	1081.95	10.55		20.00(S)	18.00( <b>S</b> )	3255
otes: 3a, 4b (PM <sub>10</sub> and PM <sub>2.5</sub>	at all power settings), 5,	10, 12b			l .	l .		l .		l .	
	Idla (Tavi)	7%	984	5.91	1.06	7.76	0.25		0.12(€)	0.12(8)	3255
	Idle (Taxi) Approach	30%	2651	13.45	1.06	7.76 0.77	0.25		0.13(S) 0.20(S)	0.12( <b>S</b> ) 0.18( <b>S</b> )	3255
V2500-A1	Climb out	85%	7333	30.82	1.06	0.77	0.17		0.20(S)	0.18(S)	3255
12000111	Takeon	100%	8833	37.13	1.06	0.55	0.12		0.14(S)	0.13(S)	3255
									, ,	Ì	
tes: 3b, 4x (PM <sub>10</sub> and PM <sub>2.5</sub>	at all power settings), 5.	6, 8, 10, 12a									
	Taxi (Idle)	7%	937	4.50	1.06	13.42	0.12		0.15	0.13	3255
	Approach	30%	2468	8.70	1.06	2.60	0.07		0.19	0.17	3255
V2522-A5	Climb out	85%	6484	20.80	1.06	0.67	0.05		0.24	0.21	3255
	Takeoff	100%	7706	24.50	1.06	0.57	0.05		0.16	0.14	3255
tes: 3b, 5, 6, 5, 10, 12a											
		I	I .				I				
	Idle (Taxi)	7%	976	4.70	1.06	12.64	0.12		0.15	0.13	3255
1/2524 + 5	Approach	30%	2603	9.00	1.06	2.37	0.07		0.19	0.18	3255
V2524-A5	Climb out	85% 100%	6889 8270	22.00 26.20	1.06	0.63	0.05		0.22	0.20	3255 3255
	Takeoff										

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

A. 0.E.	Power	Percent	Fuel Flow			Emiss	ion Factor	s (lb/1000l	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	VOC	HAP's	$PM_{10}$	M <sub>2.5</sub>	$GHG^2$
	Taxi (Idle)	7%	1016	4.70	1.06	12.43	0.12		0.15	0.13	3255.41
	Approach	30%	2532	8.90	1.06	2.44	0.07		6.20	0.18	3255.41
V2525-D5	Climb out	85%	6984	22.30	1.06	0.62	0.05		0.23	0.20	3255.41
	Takeoff	100%	8357	26.50	1.06	0.53	0.05	-	0.15	0.14	3255.41
Notes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1018	4.70	1.06	12.43	0.12		0.15	0.13	3255.41
	Approach	30%	2538	8.90	1.06	2.44	0.07		0.20	0.18	3255.41
V2527-A5	Climb out	85%	7001	22.30	1.06	0.62	0.05		0.23	0.20	3255.41
	Takeoff	100%	8378	26.50	1.06	0.53	0.05		0.15	0.14	3255.41
Notes: 3b, 5, 6, 8, 10, 12a											
	Taxi (Idle)	7%	1063	90	1.06	11.53	0.12		0.13	0.12	3255.41
	Approach	30%	2802	9.60	1.06	2.03	0.07		0.20	0.18	3255.41
V2528-D5	Climb out	85%	7905	25.10	1.06	0.56	0.05		0.20	0.18	3255.41
	Takeoff	100%	595	30.50	1.06	0.47	0.05		0.14	0.13	3255.41
Notes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1095	5.00	1.06	10.95	0.12		0.13	0.12	3255.41
	Approach	30%	2992	10.10	1.06	1.81	0.06		0.20	0.18	3255.41
V2530-A5	Climb on	85%	8548	27.10	1.06	0.52	0.05		0.19	0.17	3255.41
	Takeoff	100%	10564	33.80	1.06	0.45	0.05		0.14	0.13	3255.41
Notes: 3b, 5, 6, 8, 10, 12a											
	Taxi (Idle)	7%	1082	5.24	1.06	9.32	0.12		0.13	0.12	3255.41
	Approach	30%	3096	10.83	1.06	1.65	0.06		0.21	0.19	3255.41
V2525-A5	Climb out	85%	9085	28.67	1.06	0.52	0.05		0.18	0.17	3255.41
	Takeoff	100%	11318	36.48	1.06	0.46	0.05		0.13	0.12	3255.41
Vices: 3b, 5, 6, 8, 10, 12a	]						l	1			
200. 20, 2, 0, 0, 10, 124											

Note for Table 2-8 on the following page.

- 1. The Emission Factors for Sulfur assume JP-8 used as the fuel. The value is a national average for sulfur in JP-8.
- 2. The Greenhouse gas (GHG) emission factors are the total of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O with individual emission factors of 9.75kg/gal, 0.27g/gal, and 0.31 g/gal respectively. CH<sub>4</sub> and N<sub>2</sub>O were converted to equivalent CO<sub>2</sub> (CO<sub>2</sub>e) using a global warming potential (GWP) value of 25 for CH<sub>4</sub> and 298 for N<sub>2</sub>O. These were added to the CO<sub>2</sub> and are presented as the GHG emission factors in units of lb/1000lb fuel. JP-8 with a density of 6.67lb/gal was used for unit conversion.
- 3. The Emission factors were found in the following sources:
  - a. SOURCE: Air Pollutant Emission Factors for Military and Civil Aircraft, EPA-450/3-78-117, October 1978.
  - b. SOURCE: Airport Air Quality Manual, International Civil Aviation Organization, 2011.
  - c. SOURCE: Aircraft Engine and Auxiliary Power Unit Emissions Volumes I-III, March 1999, IERA-RS-BR-TR-1999-0006
  - d. SOURCE: Aircraft Engine and Auxiliary Power Unit Emissions Testing Final Report Addendum F119-PW-100 June 2002, IERA-RS-BR-SR-2002-0006.
  - e. SOURCE: Engine and Hush House Emissions from a F100-PW-200 Jet Engine Tested at Kelly AFB, TX Final Volume I February 1997.
  - f. SOURCE: Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations January 2002, IERA-RS-BR-SR-2001-0010.
  - g. SOURCE: Aircraft Engine Emissions Estimator, AFESC, September 1985.
  - h. SOURCE: Collection and Assessment of Aircraft Emissions, US EPA, October 1971.
  - i. SOURCE: Summary Tables of Gaseous and Particulate Emissions from Aircraft Engines, Aircraft Environmental Support Office.
  - j. SOURCE: Clean Air Act Emission Testing of the T-38C Aircraft Engines September 2002, IERA-RS-BR-SR-2003-001.
  - k. SOURCE PT6A-68 Emissions Measurement Program Summary, September 2002, IERA-RS-BR-SR-2003-0003.
  - 1. SOURCE: Engine and Hush House Emissions from a TF30-P-109 Jet Engine Tested at Canon AFB, NM Final Volume Line 1996
  - m. SOURCE: Air Emissions Factor Guide to Air Force Mobile Sources, December 2009.
  - n. SOURCE: Engine and Hush House Emissions from a F100-PW-100 Jet Tested at Langley Air Force Base, VA, November 1996.
  - o. SOURCE: Aircraft Emissions Characterization: TF41-A2, TF30-P-103, and TF30-P109 Engines, December 1987.
- 4. Surrogate data was used for this engine. The surrogate data was found in the following sources:
  - a. Data was calculated using values provided in the source document.
  - b. IO-360-D
  - c. J85-GE-13
  - d. F100-PW-220
  - e. F101-GE-102
  - f. F103-GE-100
  - g. F110-GE-100
  - h. PW2040
  - i. J52-P-408
  - j. J57-P-19W
  - k. J85-GE-5A
  - 1. PT6A-38
  - m. T53-L-13
  - n. T56-A-15
  - o. T58-GE-5
  - q. TF30-P-7
  - r. TF34-GE-100A

T64-GE-100

- s. LF507-1F
- 5. Source Document provided emission factors for total hydrocarbons (THC) or non-methane total organic gas (NMTOG). These values converted to volatile organic compounds (VOC's) using the following equations: VOC=1.15\*THC or VOC=NMOG\*0.99 based on the document Recommended Best Practice for Quantifying Speciated Organic Gas Emissions from Aircraft Equipped with Turbofan, Turbojet, and Turboprop Engines.
- 6. PM data calculated using smoke numbers and the ICAO method. The PM calculated was assumed to be PM<sub>10</sub>.
- 7. PM reported in the source document was assumed to be  $PM_{10}$ .

- 8. PM<sub>2.5</sub> calculated at 90% of PM<sub>10</sub>.
- 9. For at least one setting, the emission factors reported are an average of values provided in the source document.
- 10. Emission factors calculated and validated 6/1/2012.
- 11. Percent thrust is an estimate based on tables provided in the source document.
- 12. Fuel used for emissions testing:
  - a. Jet A
  - b. Jet A-1
  - c. JP-4
  - d. JP-5
  - e. JP-8
  - f. JP-8+100
  - g. Unknown, but probably Jet A
  - h. No data on fuel used in tests
- 13. F404-GE-F1D2 is a non-afterburning version of the F404-GE-400 and has the same emissions (without the afterburning setting) as the F400-GE-400 engine.
- "(S)" Indicates that this emission factor is from a recommended surrogate engine. See note 4 for details.
- "(C)" Indicates this value was calculated using data provided by the source document.
- "---" Indicates No Data Available

## Table 2-9. VOC and HAP Emission Factors for Select Engines SEE CORRECTIONS ADDENDUM TO 2014 MOBILE GUIDE

## F100-PW-100

	Pov	er Setting	Idle	Approach	Intermediate	Military	Afterburner-5		
	Fuel Flowr	ate (lb/hr)1	1127	2765	7685	10996	54007		Fuel
		Thrust/hp <sup>1</sup>	3%	13%	45%	100%	134%		Pe
Compound Name	CAS Number	HAP		Emigaion Foo	tors (lb/1000lb	fuel burned	2	Compound Name	CAS Nu
Acenaphthene	83-32-9	X				luer burneu		2,4-Dimethylphenol	105-6
Acenaphthylene	208-96-8	X	2.85E-03	ND	ND	ND	ND	Dimethyl phthalate	131-1
Acetaldehyde	75-07-0	X	2.35E-01	1.50E-01	1.00E-02	1.00E-02	1.00E-02	4,6-Dinitro-o-cresol	534-5
Acrolein	107-02-8	X	1.11E-01	6.00E-02	ND	ND	ND	2,4-Dinitro-benol	51-28
Anthracene	120-12-7	X	1.1115-01	0.0012-02				2,4-Dinitrophenoi	121-1
Benzaldehyde	100-52-7	А						2,6-Dinitrotoluene	606-2
Benz(a)anthracene	56-55-3	X						Di(2-Ethylhexyl) Phthalate (DEHP)	117-8
Benzene	71-43-2	X	4.50E-02	2.45E-03	5.25E-04	5.01E-04	2.85E-04	Di-n-Octyl phthalate	117-8
Benzenemethanol	100-51-6	А	1.42E-02	ND	ND	ND ND	ND	Ethylbenzene	100-4
Benzo(b)fluoranthene	205-99-2	X	1.4213-02					Fluoranthene	206-4
Benzo(k)fluoranthene	207-08-9	X						Fluorene	86-73
Benzo(g,h,i)perylene	191-24-2	X						Formaldehyde	50-0
Benzo(a)pyrene	50-32-8	X						Hexachlorobenzene	118-7
Benzoic Acid	65-85-0	А	8.41E-01	2.07E-03	6.80E-03	2.75E-03	9.60E-03	Hexachlorobutadiene	87-6
Bromodichloromethane	75-27-4		0.4115-01	2.0712-03	0.002-03	2.732-03	7.00E-03	Hexachlorocyclopentadiene	77-4
Bromoform	75-25-2	X	ND	ND	ND	ND	6.94E-05	Hexachloroethane	67-73
Bromomethane	74-83-9	X	ND 		ND 		0.9415-03	Hexanal	67-1
4-Bromophenyl-phenyl Ether	101-55-3	Λ						2-Hexanone	591-7
1.3-Butadiene	106-99-0	X	2.93E-02	ND	ND	ND	ND	Indeno(1,2,3-cd)pyrene	193-3
2-Butanone (MEK)	78-93-3	Λ	9.00E-03	2.00E-02	0.00E+00	0.00E+00	0.00E+00	Isophorone	78-59
Butyl benzyl phthalate	85-68-7		9.00E-03	2.00E-02	0.00E+00	0.00E+00	0.00E+00	Isovaleraldehyde	590-8
Carbon Disulfide	75-15-0	X						Methylene Chloride	75-0
Carbon Tetrachloride	56-23-5	X	ND	4.03E-04	ND	ND	ND	2-Methylnaphthalep	91-5
		Λ							
4-Chloroaniline Chlorobenzene	106-47-8 108-90-7	v						4-Methyl-2-per mone (MIBK)	108-1
Chlorodibromomethane	108-90-7	X						Naphthal	91-20
Chloroethane	75-00-3	X						m-Ni saniline	99-09 88-74
bis(2-Chloroethoxy) Methane	/5-00-3 111-91-1	А						Nitroaniline 4-Nitrobenzenamine	100-0
bis(2-Chloroethyl) Ether	111-91-1	X						4-Nitrobenzenamine Nitrobenzene	98-95
Chloroform	67-66-3	X						2-Nitrophenol	98-93 88-75
	39638-32-9	Λ						4-Nitrophenol	100-0
bis(2-Choroisopropyl) Ether									
Chloromethane	74-87-3	X	ND 	9.58E-04	ND 	ND	ND 	N-Nitrosodiphenylamine	86-30
4-Chloro-3-methylphenol	59-50-7 91-58-7							N-Nitrosodi-n-propylamine	621-6
2-Chloronaphthalene								Pentachlorophenol	87-86 110-6
2-Chlorophenol	95-57-8							Pentanal	85-01
1-chloro-4-phenoxybenzene	7005-72-3 218-01-9	X						Phenanthrene Phenol	108-9
Chrysene	95-48-7	X	1.15E-03	ND A	ND	ND	4.19E-04		108-9
o-Cresol								Propanal	
p-Cresol	106-44-5	X	8.64E-03	ND	ND	ND	ND	Pyrene	129-0
Crotonaldehyde	4170-30-3		3.40E-02	2002	ND	ND	ND	Styrene	100-4
Dibenzofuran	132-64-9	X	2.89E-03	ND	ND	5.00E-05	ND	1,1,2,2-Tetrachloroethane	79-34
Dibutyl Phthalate	84-74-2	X	6.96E-04	1.59E-04	2.05E-04	1.12E-04	8.81E-05	Tetrachloroethene	127-1
1,2-Dichlorobenzene	95-50-1							m-Tolualdehyde	620-2
1,3-Dichlorobenzene	541-73-1		ND	ND	2.99E-04	ND	ND	o-Tolualdehyde	529-2
1,4-Dichlorobenzene	106-46-7	X						Toluene	108-8
3,3'-Dichlorobenzidine	91-94-1	X						1,2,4-Trichlorobenzene	120-8
1,1-Dichloroethane	75-34-3	X						1,1,1-Trichloroethane	71-55
1,2-Dichloroethane	107-0 2	X						1,1,2-Trichloroethane	79-00
1,1-Dichloroethene	.5-35-4	X						Trichloroethene	79-0
cis-1,2-Dicholorethene	156-59-2							2,4,5-Trichlorophenol	95-93
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND	ND	1.66E-04	2,4,6-Trichlorophenol	88-06
2,4-Dichlorophenol	120-83-2							Vinyl Acetate	108-0
1,2-Dichloropropane	78-87-5	X						Vinyl Chloride	75-01
cis-1,3-Dichloropropen	10061-01-5							m,p-Xylene	1330-2
trans-1,3-Dichloro opene	10061-02-6							o-Xylene	95-47

V-100							
		wer Setting	Idle	Approach	Intermediate	Military	Afterburner-5
	Fuel Flowr	rate (lb/hr) <sup>1</sup>	1127	2765	7685	10996	54007
	Percent	Thrust/hp1	3%	13%	45%	100%	1346
Compound Name	CAS Number	HAP		Emission Fac	tors (lb/1000ll	fuel burned)	2
2.4-Dimethylphenol	105-67-9						
Dimethyl phthalate	131-11-3	X					
4,6-Dinitro-o-cresol	534-52-1	X					
2,4-Dinitrophenol	51-28-5	X					
2.4-Dinitrotoluene	121-14-2	X					
2,6-Dinitrotoluene	606-20-2						
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	5.09E-02	3.38E-03	1.97E-03	6.21E-03	2.89E-03
Di-n-Octyl phthalate	117-84-0						
Ethylbenzene	100-41-4	X	5.93E-03	.44E-04	ND	3.99E-04	8.38E-05
Fluoranthene	206-44-0	X	4.69E-04	ND	ND	ND	ND
Fluorene	86-73-7	X	1.45F 3	ND	ND	ND	ND
Formaldehyde	50-00-0	X	6.0E-01	6.10E-01	2.00E-02	1.00E-02	1.00E-02
Hexachlorobenzene	118-74-1	X		0.102.01	2.002.02	1.002.02	1.002.02
Hexachlorobutadiene	87-68-3	Y Y					
Hexachlorocyclopentadiene	77-47-4	X					
Hexachloroethane	67-72	X					
Hexanal	6 45-1	Α	2.50E-02	3.00E-02	3.00E-02	1.00E-02	0.00E+00
2-Hexanone	591-78-6		2,3012-02	3.0015-02	3.0015-02	1.0012-02	0.0012700
Indeno(1,2,3-cd)pyrene	193-39-5	X					
Isophorone	78-59-1	X					
Isovaleraldehyde	590-86-3	Λ	1.90E-02	6.00E-02	1.00E-02	ND	1.00E-02
Methylene Chloride	75-09-2	Х	1.90E-02 ND	4.47E-04	2.60E-02	2.84E-04	1.00E-02 ND
	91-57-6	Α	6.03E-02	5.10E-04	3.12E-04	2.84E-04 2.20E-04	5.08E-05
2-Methylnaphthalen		**					3.08E-03
4-Methyl-2-per mone (MIBK)	108-10-1 91-20-3	X	9.50E-02	7.49E-04	4.91E-04	3.43E-04	5.40E-04
Naphthale		X					
m-Nitroaniline	99-09-2						
4-Nitroaniine	88-74-4						
	100-01-6	7/					
Nitrobenzene	98-95-3	X		ND	ND	ND	ND
2-Nitrophenol	88-75-5		5.87E-03				
4-Nitrophenol	100-02-7	X	6.96E-03	ND	ND	ND	ND
N-Nitrosodiphenylamine	86-30-6						
N-Nitrosodi-n-propylamine	621-64-7						
Pentachlorophenol	87-86-5	X					
Pentanal	110-62-3		9.00E-03	0.00E+00	1.00E-02	2.00E-02	ND
Phenanthrene	85-01-8	X	1.71E-03	ND	ND	ND	ND
Phenol	108-95-2	X	3.99E-02	ND	ND	ND	3.38E-03
Propanal	123-38-6	X	3.90E-02	2.00E-02	1.00E-02	4.00E-02	0.00E+00
Pyrene	129-00-0	X	6.35E-04	ND	ND	ND	ND
Styrene	100-42-5	X	4.09E-03	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5	X					
Tetrachloroethene	127-18-4	X					
m-Tolualdehyde	620-23-5		5.00E-03	0.00E+00	1.00E-02	ND	ND
o-Tolualdehyde	529-20-4		1.00E-03	ND	ND	ND	ND
Toluene	108-88-3	X	2.20E-02	1.73E-03	9.55E-04	9.24E-04	2.98E-04
1,2,4-Trichlorobenzene	120-82-1	X			0.000.01		
1,1,1-Trichloroethane	71-55-6	X	ND	ND	8.66E-04	ND	ND
1,1,2-Trichloroethane	79-00-5	X					
Trichloroethene	79-01-6	X					
2,4,5-Trichlorophenol	95-95-4	X					
2,4,6-Trichlorophenol	88-06-2	X					
Vinyl Acetate	108-05-4	X					
Vinyl Chloride	75-01-4	X					
m,p-Xylene	1330-20-7	X	4.09E-02	6.15E-03	1.61E-03	3.59E-03	7.58E-04
o-Xylene	95-47-6	X	1.01E-02	1.20E-03	3.09E-04	9.60E-04	1.84E-04

<sup>1.</sup> Dea obtained from Engine and Hush House Emissions from F100-PW-100 Jet Engine Tested at Langley Air Force Base, VA Volumes 1-III, November 1996

<sup>&</sup>quot;X" indicates that compound is a HAP
"---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) F100-PW-200

	Po	wer Setting	Idle	Approach	Intermediate	Military	Afterburner-5
	Fuel Flowr	ate (lb/hr)1	1006	3251	5651	8888	40123
		Thrust/hp1	3%	13%	45%	100%	134%
Compound Name	CAS Number	HAP		Emission Foo	tors (lb/1000lb	fuel burned	2
Acenaphthene	83-32-9	X		Emission rac	tors (ib/1000ii	nuer burneu,	<u>'</u>
Acenaphthylene	208-96-8	X	5.38E-04	ND	ND	ND	ND
Acetaldehyde	75-07-0	X	2.41E-01	ND	7.00E-03	1.30E-02	1.60E-02
Acrolein	107-02-8	X	8.40E-02	ND	ND	ND	ND
Anthracene	120-12-7	X	0.4012-02				
Benzaldehyde	100-52-7		ND	ND	ND	ND	ND
Benz(a)anthracene	56-55-3	X					
Benzene	71-43-2	X	4.70E-02	3.87E-04	1.89E-04	4.90E-04	1.82E-04
Benzenemethanol	100-51-6		4.18E-03	ND	ND	ND	ND
Benzo(b)fluoranthene	205-99-2	X					
Benzo(k)fluoranthene	207-08-9	X					
Benzo(g,h,i)perylene	191-24-2	X					
Benzo(a)pyrene	50-32-8	X					
Benzoic Acid	65-85-0		4.97E-02	5.66E-03	3.80E-03	3.52E-03	7.62E-03
Bromodichloromethane	75-27-4						
Bromoform	75-25-2	X					
Bromomethane	74-83-9	X					
4-Bromophenyl-phenyl Ether	101-55-3						
1,3-Butadiene	106-99-0	X	1.04E-02	ND	ND	ND	ND
2-Butanone (MEK)	78-93-3		4.00E-02	ND	7.00E-03	6.00E-03	8.00E-03
Butyl benzyl phthalate	85-68-7		ND	ND	1.43E-04	1.08E-04	2.48E-04
Carbon Disulfide	75-15-0	X					
Carbon Tetrachloride	56-23-5	X	2.31E-04	3.02E-04	3.09E-04	1.85E-04	2.23E-05
4-Chloroaniline	106-47-8						
Chlorobenzene	108-90-7	X	ND	ND	2.14E-04	1.03E-04	ND
Chlorodibromomethane	124-48-1						
Chloroethane	75-00-3	X					
bis(2-Chloroethoxy) Methane	111-91-1	v					
bis(2-Chloroethyl) Ether Chloroform	111-44-4	X	ND	ND	ND	ND	ND
bis(2-Choroisopropyl) Ether	67-66-3 39638-32-9	Λ	ND 	ND	ND	ND	ND
Chloromethane	74-87-3	X	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	59-50-7	Λ	ND	ND	ND	ND	ND
2-Chloronaphthalene	91-58-7						
2-Chlorophenol	95-57-8						
1-chloro-4-phenoxybenzene	7005-72-3						
Chrysene	218-01-9	X					
o-Cresol	95-48-7	X					
p-Cresol	106-44-5	X					
Crotonaldehyde	4170-30-3		3.20E-0°	ND	ND	ND	ND
Dibenzofuran	132-64-9	X	6 E-04	ND	ND	ND	ND
Dibutyl Phthalate	84-74-2	X	2.23E-04	2.14E-04	1.77E-04	1.47E-04	8.33E-04
1,2-Dichlorobenzene	95-50-1		ND	1.94E-04	9.29E-04	3.40E-04	ND
1,3-Dichlorobenzene	541-73-1		ND	ND	7.25E-04	2.52E-04	ND
1,4-Dichlorobenzene	106-46-7	X	ND	4.90E-05	3.90E-04	1.77E-04	3.16E-06
3,3'-Dichlorobenzidine	91 +1	X					
1,1-Dichloroethane	15-34-3	X					
1,2-Dichloroethane	107-06-2	X					
1,1-Dichloroethene	75-35-4	X					
cis-1,2-Dicholorethene	156-59-2						
trans-1,2-Dichloroethene	156-60-5						
2,4-Dichlorophenol	120-83-2						
1,2-Dichloroprop	78-87-5	X					
cis-1,3-Dich ropropene	10061-01-5						
trans Dichloropropene	10061-02-6						
Petnyl Phthalate	84-66-2		9.09E-03	1.10E-02	3.07E-03	3.92E-03	1.79E-02

	Po	wer Setting	Idle	Approach	Intermediate	Military	Afterburn		
	Fuel Flowr	ate (lb/hr)1	1006	3251	5651	8888	<sub>1</sub> 0123		
	Percent	Thrust/hp1	3%	13%	45%	100%	134%		
Compound Name	CAS Number	HAP		Emission Factors (lb/1000lb fuel drned) <sup>2</sup>					
2,4-Dimethylphenol	105-67-9						, 		
Dimethyl phthalate	131-11-3	X							
4,6-Dinitro-o-cresol	534-52-1	X							
2,4-Dinitrophenol	51-28-5	X							
2,4-Dinitrotoluene	121-14-2	X							
2,6-Dinitrotoluene	606-20-2								
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	1.35E-03	4.83E-03	2.04E-03	2.35E-03	3.93E-03		
Di-n-Octyl phthalate	117-84-0								
Ethylbenzene	100-41-4	X	2.90	1.93E-04	2.70E-04	3.44E-04	4.01E-05		
Fluoranthene	206-44-0	X							
Fluorene	86-73-7	X	3.35E-04	ND	ND	ND	8.76E-05		
Formaldehyde	50-00-0		7.77E-01	ND	ND	2.00E-03	2.00E-02		
Hexachlorobenzene	118-74-1	Х							
Hexachlorobutadiene	87-68	X	ND	4.06E-04	1.40E-03	5.74E-04	ND		
Hexachlorocyclopentadiene	47-4	X							
Hexachloroethane	67-72-1	X							
Hexanal	66-25-1		ND	ND	ND	ND	ND		
2-Hexanone	591-78-6								
ndeno(1,2,3-cd)pyrene	193-39-5	X							
sophorone	78-59-1	X							
sovaleraldehyde	590-86-3		1.70E-02	ND	ND	3.00E-03	1.00E-03		
Methylene Chande	75-09-2	X	6.94E-04	1.35E-03	3.06E-03	3.16E-03	1.07E-03		
2-Methy aphthalene	91-57-6		2.59E-02	3.30E-04	2.60E-04	3.53E-04	4.51E-04		
l-Mayl-2-pentanone (MIBK)	108-10-1	X							
aphthalene	91-20-3	X	3.42E-02	2.13E-04	3.96E-04	4.01E-04	4.12E-04		
n-Nitroaniline	99-09-2								
-Nitroaniline	88-74-4								
4-Nitrobenzenamine	100-01-6								
Nitrobenzene	98-95-3	X							
2-Nitrophenol	88-75-5		5.91E-03	ND	ND	ND	ND		
4-Nitrophenol	100-02-7	X	5.57E-03	ND	ND	ND	ND		
N-Nitrosodiphenylamine	86-30-6								
N-Nitrosodi-n-propylamine	621-64-7		-						
Pentachlorophenol	87-86-5	X	-						
Pentanal	110-62-3		ND	ND	ND	ND	ND		
Phenanthrene	85-01-8	X	4.48E-04	ND	ND	ND	1.33E-04		
Phenol	108-95-2	X	1.35E-02	ND	ND	2.68E-04	1.04E-03		
Propanal	123-38-6	X	4.90E-02	ND	8.00E-03	6.00E-03	7.00E-03		
Pyrene	129-00-0	X	1.79E-04	ND	ND	ND	ND		
Styrene	100-42-5	X	5.02E-04	ND	2.78E-04	ND	ND		
,1,2,2-Tetrachloroethane	79-34-5	X	ND	ND	6.96E-04	2.52E-04	ND		
Tetrachloroethene	127-18-4	X	ND	ND	2.40E-03	8.96E-04	ND		
n-Tolualdehyde	620-23-5		ND	ND	ND	ND	ND		
o-Tolualdehyde	529-20-4		ND	ND	ND	ND	ND		
Toluene	108-88-3	X	1.65E-02	7.62E-04	4.34E-04	1.08E-03	8.75E-04		
,2,4-Trichlorobenzene	120-82-1	X	ND 1 200 02	3.43E-04	2.04E-03	7.29E-04	3.22E-05		
1,1,1-Trichloroethane	71-55-6	X	1.38E-03	5.02E-04	3.36E-04	5.61E-04	7.21E-05		
,1,2-Trichloroethane	79-00-5	X	AUD.	NID.	0.170.05	NID.	AUD.		
Trichloroethene	79-01-6	X	ND	ND	9.17E-05	ND	ND		
,4,5-Trichlorophenol	95-95-4	X							
,4,6-Trichlorophenol	88-06-2	X							
/inyl Acetate	108-05-4	X							
/inyl Chloride	75-01-4	X			4 400 00		2 505 04		
n,p-Xylene o-Xylene	1330-20-7 95-47-6	X	1.47E-02 3.61E-03	1.40E-03 2.81E-04	1.43E-03 3.51E-04	2.11E-03 4.73E-04	2.59E-04 5.80E-05		

<sup>1.</sup> Data obtained from Engine and Hush House Emissions from F100-PW-200 Jet Engine Tested at Kelly Air Force Base, TX Volumes I-III, February 1997

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

## F101-GE-102

	Por	wer Setting	Idle	Approach	Intermediate	Military	Afterburner-
	Fuel Flowr	ate (lb/hr)1	1117	4533	6557	7828	15314
		Thrust/hp <sup>1</sup>	5%	47%	66%	77%	106%
Compound Name	CAS Number	HAP		Emission Foo	tors (lb/1000lb	fuel burned	2
Acenaphthene	83-32-9	X	ND	ND ND	ND	ND	ND
Acenaphthylene	208-96-8	X	ND	ND	ND	ND	ND
Acetaldehyde	75-07-0	X	ND	ND	ND	ND	1.77E-02
Acrolein	107-02-8	X	ND	ND	ND	ND	8.23E-02
Anthracene	120-12-7	X	ND	ND	ND	ND	ND
Benzaldehyde	100-52-7		ND	ND	ND	1.93E-03	4.98E-02
Benz(a)anthracene	56-55-3	X	ND	ND	ND	ND	ND
Benzene	71-43-2	X	1.18E-02	7.89E-04	1.32E-03	5.48E-03	2.28E-01
Benzenemethanol	100-51-6		ND	ND	ND	ND	ND
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND	ND	ND
Benzo(a)pyrene	50-32-8	X	ND	ND	ND	ND	ND
Benzoic Acid	65-85-0		1.65E-02	6.33E-03	6.76E-03	7.84E-03	ND
Bromodichloromethane	75-27-4		ND	ND	ND	ND	ND
Bromoform	75-25-2	X	ND	ND	ND	ND	ND
Bromomethane	74-83-9	X	7.07E-04	4.66E-04	1.52E-02	6.47E-02	8.84E-02
4-Bromophenyl-phenyl Ether	101-55-3		ND	ND	ND	ND	ND
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		2.18E-03	ND	ND	ND	3.30E-02
Butyl benzyl phthalate	85-68-7		4.72E-04	3.07E-04	3.19E-04	ND	ND
Carbon Disulfide	75-15-0	X	ND	4.38E-04	8.99E-04	1.60E-03	ND
Carbon Tetrachloride	56-23-5	X	ND	ND	3.36E-04	ND	ND
4-Chloroaniline	106-47-8		ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	X	ND	ND	ND	ND	ND
Chlorodibromomethane	124-48-1		ND	ND	ND	ND	ND
Chloroethane	75-00-3	X	ND	ND	ND	ND	ND
bis(2-Chloroethoxy) Methane	111-91-1		ND	ND	ND	ND	ND
bis (2-Chloroethyl) Ether	111-44-4	X	ND	ND	ND 1 127 02	ND	ND ND
Chloroform	67-66-3	X	1.99E-03	1.04E-03	1.42E-03	1.21E-03	ND
bis(2-Choroisopropyl) Ether	39638-32-9	**	ND	ND	ND	ND	ND 1 200 02
Chloromethane	74-87-3	X	5.05E-04	6.90E-04	4.72E-03	1 Æ-02	1.28E-02
4-Chloro-3-methylphenol	59-50-7		ND	ND	ND	ND	ND
2-Chloronaphthalene 2-Chlorophenol	91-58-7 95-57-8		ND ND	ND ND	ND	ND ND	ND ND
1-chloro-4-phenoxybenzene	7005-72-3	-	ND	ND ND	ND	ND ND	ND
Chrysene	218-01-9	X	ND	ND ND	ND ND	ND	ND
o-Cresol	95-48-7	X	ND	ND	ND ND	ND ND	ND
p-Cresol	106-44-5	X	ND	ND	ND	ND	ND
Crotonaldehyde	4170-30-3	Λ	ND	ND ND	ND	ND	3.59E-02
Dibenzofuran	132-64-9	X	NP	ND	ND	ND	3.49E-03
Dibutyl Phthalate	84-74-2	X	68E-03	AA	4.16E-04	AA	ND
1,2-Dichlorobenzene	95-50-1	^_	ND	ND	ND	ND	ND
1.3-Dichlorobenzene	541-73-1		ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	X	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	91-94	X	ND	ND	ND	ND	ND
1,1-Dichloroethane	54-3	X	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	X	ND	ND	ND	ND	ND
1.1-Dichloroethene	75-35-4	X	ND	ND	ND	ND	ND
cis-1,2-Dicholorethene	156-59-2	- 11	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND	ND	ND
2,4-Dichlorophenol	120-83-2		ND	ND	ND	ND	ND
1,2-Dichloropropar	78-87-5	X	ND	ND	ND	ND	ND
cis-1,3-Dichlo propene	10061-01-5		ND	ND	ND	ND	ND
trans-1.3 chloropropene	10061-02-6		ND	ND	ND	ND	ND
Die 1 Phthalate	84-66-2		7.81E-04	ND	2.38E-04	ND	ND

	Por	wer Setting	Idle	Approach	Intermediate	Military	Afterburne		
	Fuel Flowr	ate (lb/hr)1	1117	4533	6557	7828	10 14		
		Thrust/hp <sup>1</sup>	5%	47%	66%	77%	106%		
C IN		_		Emission Factors (lb/1000lb fuel burned) <sup>2</sup>					
Compound Name	CAS Number 105-67-9	HAP	ND	ND ND	ND	fuel by ned	ND		
,4-Dimethylphenol	100 01 7	V.	ND ND	ND ND	ND ND	ND	ND ND		
Dimethyl phthalate	131-11-3	X		ND ND	ND ND	ND			
l,6-Dinitro-o-cresol	534-52-1		ND			ND ND	ND		
2,4-Dinitrophenol	51-28-5	X	ND	ND	ND		ND		
,4-Dinitrotoluene	121-14-2	X	ND	ND	ND	ND	ND ND		
2,6-Dinitrotoluene	606-20-2	**	ND	ND	ND 1 10F 02	ND			
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	5.76E-03	2E-03	1.43E-03	1.09E-03	ND		
Di-n-Octyl phthalate	117-84-0	**	ND	ND	ND	ND	ND 0.50F.02		
hylbenzene	100-41-4	X	ND	ND	ND	ND	8.60E-02		
Fluoranthene	206-44-0	X	.0	ND	ND	ND	ND		
luorene	86-73-7	X	ND	ND	ND	ND	ND		
Formaldehyde	50-00-0	Х	1.04E-01	5.12E-03	4.64E-03	4.43E-03	3.89E-02		
Hexachlorobenzene	118-74-1	X	ND	ND	ND	ND	ND		
Hexachlorobutadiene	87-68-3	X	ND	ND	ND	ND	ND		
Hexachlorocyclopentadiene	77 ,4	X	ND	ND	ND	ND	ND		
Hexachloroethane	67-72-1	X	ND	ND	ND	ND	ND		
Hexanal	66-25-1		ND	ND	ND	ND	1.80E-02		
2-Hexanone	591-78-6		ND	ND	ND	ND	ND		
indeno(1,2,3-cd)pyrene	193-39-5	X	ND	ND	ND	ND	ND		
sophorone	78-59-1	X	ND	ND	ND	ND	ND		
sovaleraldehyde	590-86-3		ND	ND	ND	ND	ND		
Methylene Chlorice	75-09-2	X	1.13E-01	7.58E-02	4.44E-02	1.58E-01	2.19E-02		
2-Methylne athalene	91-57-6		2.63E-04	ND	ND	ND	1.69E-01		
1-Met 1-2-pentanone (MIBK)	108-10-1	X	ND	ND	ND	ND	ND		
phthalene	91-20-3	X	1.79E-03	AA	ND	ND	1.27E-01		
n-Nitroaniline	99-09-2		ND	ND	ND	ND	ND		
o-Nitroaniline	88-74-4		ND	ND	ND	ND	ND		
4-Nitrobenzenamine	100-01-6		ND	ND	ND	ND	ND		
Vitrobenzene	98-95-3	X	ND	ND	ND	ND	ND		
2-Nitrophenol	88-75-5		ND	ND	ND	ND	ND		
4-Nitrophenol	100-02-7	X	ND	ND	ND	ND	ND		
N-Nitrosodiphenylamine	86-30-6		ND	ND	ND	ND	ND		
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND	ND		
Pentachlorophenol	87-86-5	X	ND	ND	ND	ND	ND		
Pentanal	110-62-3		ND	ND	ND	ND	1.16E-02		
Phenanthrene	85-01-8	X	ND	ND	ND	ND	ND		
Phenol	108-95-2	X	2.29E-03	1.22E-03	ND	ND	2.71E-02		
Propanal	123-38-6	X							
Pyrene	129-00-0	X	ND	ND	ND	ND	ND		
Styrene	100-42-5	X	1.08E-03	ND	3.36E-04	ND	1.21E-02		
,1,2,2-Tetrachloroethane	79-34-5	X	ND	ND	ND	ND	ND		
Tetrachloroethene	127-18-4	X	ND	4.83E-04	1.02E-03	1.24E-03	ND		
n-Tolualdehyde	620-23-5		ND	ND	ND	ND	1.48E-02		
-Tolualdehyde	529-20-4		ND	ND	ND	ND	8.42E-03		
Toluene	108-88-3	X	5.55E-03	1.50E-03	1.69E-03	1.29E-03	1.26E-01		
,2,4-Trichlorobenzene	120-82-1	X	ND	ND	ND	ND	ND		
,1,1-Trichloroethane	71-55-6	X	ND	ND	4.05E-04	ND	ND		
.1.2-Trichloroethane	79-00-5	X	ND	ND	ND	ND	ND		
richloroethene	79-01-6	X	7.07E-04	4.66E-04	3.39E-04	ND	ND		
4,5-Trichlorophenol	95-95-4	X	ND	ND	ND ND	ND	ND		
4.6-Trichlorophenol	88-06-2	X	ND	ND	ND	ND	ND		
√inyl Acetate	108-05-4	X	3.53E-03	2.32E-03	2.47E-03	8.66E-03	1.53E-02		
/invl Chloride	75-01-4	X	3.53E-03 ND	ND	ND	ND	ND		
n.p-Xvlene	1330-20-7	X	9.22E-04	4.34E-04	6.65E-04	2.45E-03	1.55E-01		
ILD-ALY IOIC	95-47-6	X	9.22E-04 ND	4.34E-04 ND	ND	2.43E-05 ND	6.90E-02		

- 1. Data obtained from Aircraft Engine and APU Emissions Testing Volumes 1-III March 1999, IERA-RS-BR-TR-1999-0006
- 2. Emission Factors derived using the test results provided in reference above.
- "X" Indicates that compound is a HAP
- "---" Indicates No Data Available
- ND Compound not detected at the detection limit. Compound may be present at a value less than the detection limit
- AA Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) F108-CF-100

	Po	wer Setting	Idle	Approach	Intermediate	Military	
		ate (lb/hr)1	1136	2547	5650	6458	
		hrust/hp1	9%	30%	70%	78%	
Compound Name	CAS Number	HAP				o fuel burned)	
Acenaphthene	83-32-9	X	ND	ND ND	ND	ND ND	
Acenaphthylene	208-96-8	X	ND	ND	ND	ND	
Acetaldehyde	75-07-0	X	AA	ND	ND	ND	
Acrolein	107-02-8	X	ND	ND	ND	ND	
Anthracene	120-12-7	X	ND	ND	ND	ND	
Benzaldehyde	100-52-7	Λ	ND	ND	ND	4.09E-03	
Benz(a)anthracene	56-55-3	X	ND ND	ND ND	ND ND	4.09E-03 ND	
Benzene	71-43-2	X	1.39E-02	3.39E-03	8.30E-04	5.10E-04	
Benzenemethanol	100-51-6	Λ	ND	3.39E-03	8.30E-04 ND	ND	
Benzo(b)fluoranthene	205-99-2	X	ND	ND ND	ND ND	ND ND	
Benzo(k)fluoranthene	207-08-9	X	ND ND	ND ND	ND ND	ND ND	
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND	ND	
Benzo(a)pyrene	50-32-8	X	ND	ND	ND	ND	
Benzoic Acid	50-32-8 65-85-0	Λ	3.38E-02	8.64E-03	1.14E-02	8.89E-03	
Bromodichloromethane	75-27-4		3.38E-02 ND	8.64E-03 ND	1.14E-02 ND	8.89E-03 ND	
Bromoform	75-25-2	X	ND ND	ND ND	ND ND	ND ND	
Bromomethane	74-83-9	X	ND	ND ND	ND ND	ND ND	
4-Bromophenyl-phenyl Ether	101-55-3	Λ	ND	ND ND	ND ND	ND ND	
1.3-Butadiene	101-55-3	X	ND	ND	ND	ND	
2-Butanone (MEK)	78-93-3	Λ	5.35E-03	ND	ND	ND	
Butyl benzyl phthalate	78-93-3 85-68-7		7.26E-04	ND ND	2.71E-04	ND ND	
Carbon Disulfide		37		ND ND			
Carbon Distillide Carbon Tetrachloride	75-15-0 56-23-5	X	ND ND	5.28E-04	ND 4.23E-04	ND ND	
4-Chloroaniline	106-47-8	A	ND ND	5.28E-04 ND	4.23E-04 ND	ND ND	
4-Chlorobenzene	106-47-8	X	ND ND	ND ND	ND ND	ND ND	
Chlorodibromomethane	124-48-1	Λ	ND	ND	ND ND	ND ND	
Chloroethane	75-00-3	X	ND ND	ND ND	ND ND	ND ND	
bis (2-Chloroethoxy) Methane	111-91-1	Λ	ND	ND ND	ND ND	ND ND	
bis(2-Chloroethyl) Ether	111-44-4	X	ND	ND ND	ND ND	ND ND	
Chloroform	67-66-3	X	2.31E-03	1.85E-03	1.76E-03	1.18E-03	
bis (2-Chorois opropyl) Ether	39638-32-9	Λ	2.51E-05 ND	1.83E-03 ND	1.76E-03 ND	ND ND	
Chloromethane	74-87-3	X	9.13E-04	8.63E-04	7.94E-04	2 /E-04	
4-Chloro-3-methylphenol	59-50-7	Λ	9.13E-04 ND	ND	7.94E-04 ND	ND	
2-Chloronaphthalene	91-58-7		ND	ND ND	ND ND	ND ND	
2-Chlorophenol	95-57-8		ND ND	ND ND	ND	ND ND	
1-chloro-4-phenoxybenzene	7005-72-3		ND	ND	ND	ND	
Chrysene	218-01-9	X	ND	ND ND	ND ND	ND ND	
o-Cresol	95-48-7	X	ND	ND	ND ND	ND ND	
p-Cresol	106-44-5	X	ND ND	ND	ND ND	ND ND	
Crotonaldehyde	4170-30-3	Λ	ND	ND	ND	ND	
Dibenzofuran	132-64-9	X	ND	ND	ND	ND	
Dibutyl Phthalate	84-74-2	X	AA	AA	AA	AA	
1,2-Dichlorobenzene	95-50-1	Λ	ND	ND	ND	ND	
1.3-Dichlorobenzene	541-73-1		ND ND	ND ND	ND ND	ND ND	
1.4-Dichlorobenzene	106-46-7	X	ND	ND ND	ND ND	ND ND	
3,3'-Dichlorobenzidine	91-94	X	ND	ND ND	ND ND	ND ND	
1,1-Dichloroethane	7° 54-3	X	ND ND	ND ND	ND ND	ND ND	
1,1-Dichloroethane 1.2-Dichloroethane	107-06-2	X	ND ND	ND ND	ND ND	ND ND	
	75-35-4	X	ND ND	ND ND	ND ND	ND ND	
1,1-Dichloroethene		A		ND ND			
cis-1,2-Dicholorethene	156-59-2		ND		ND	ND ND	
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND	ND	
2,4-Dichlorophenol	120-83-2	37	ND	ND	ND	ND	
1,2-Dichloropropane	78-87-5	X	ND	ND	ND	ND	
cis-1,3-Dichlore opene	10061-01-5		ND 0.00E.04	ND 7.63E.04	ND 5 00E 04	ND 4.04E.04	
trans-1,3-Dinloropropene	10061-02-6		9.68E-04	7.63E-04	5.09E-04	4.84E-04	
Dieth Phthalate	84-66-2		8.78E-04	5.14E-04	ND	ND	

	Po	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flow	ate (lb/hr)1	1136	2547	5650	6458	
	Percent 1	hrust/hp1	9%	30%	70%	78%	
Compound Name	CAS Number	HAP		Emission Fac	tors (lb/1000ll		-
2,4-Dimethylphenol	105-67-9		ND	ND	ND	ND	
Dimethyl phthalate	131-11-3	X	ND	ND	ND	ND	
4,6-Dinitro-o-cresol	534-52-1	X	ND	ND	10	ND	
2,4-Dinitrophenol	51-28-5	X	ND	ND	ND	ND	
2,4-Dinitrotoluene	121-14-2	X	ND	ND	ND	ND	
2,6-Dinitrotoluene	606-20-2 117-81-7	X	ND 5.53E-03	1.54E-03	ND 4.51E-03	ND 1.95E-03	
Di(2-Ethylhexyl) Phthalate (DEHP) Di-n-Octyl phthalate	117-81-7	А	5.53E-03 ND	1.54E-05 ND	4.51E-03 ND	1.95E-03 ND	
Ethylbenzene	100-41-4	X	6.84° 04	5.53E-04	ND ND	ND	
Fluoranthene	206-44-0	X	ND	3.33E-04 ND	ND ND	ND ND	
-luorantnene Fluorene	86-73-7	X	ND ND	ND ND	ND ND	ND ND	
Formaldehyde	50-00-0	^	9.51E-02	1.50E-02	5.58E-03	7.01E-03	
Hexachlorobenzene	118-74-1	X	9.51E-02 ND	1.30E-02 ND	3.38E-03 ND	7.01E-03 ND	
Hexachlorobutadiene	87-68	X	ND ND	ND ND	ND ND	ND ND	
Hexachlorocyclopentadiene	7 47-4	X	ND	ND ND	ND ND	ND ND	
Hexachloroethane	67-72-1	X	ND	ND	ND	ND	
Hexanal	66-25-1	А	ND	9.66E-03	ND	ND	
2-Hexanone	591-78-6		ND	ND	ND	ND	
ndeno(1,2,3-cd)pyrene	193-39-5	X	ND	ND	ND	ND	
sophorone	78-59-1	X	ND	ND	ND	ND	
sovaleraldehyde	590-86-3		ND	ND	ND	ND	
Methylene Chl., de	75-09-2	X	6.75E-02	4.46E-02	5.06E-02	1.96E-03	
2-Methyla onthalene	91-57-6		7.68E-04	ND	ND	ND	
-M-yl-2-pentanone (MIBK)	108-10-1	X	ND	ND	ND	ND	
aphthalene	91-20-3	X	2.90E-03	AA	ND	ND	
n-Nitroaniline	99-09-2		ND	ND	ND	ND	
-Nitroaniline	88-74-4		ND	ND	ND	ND	
l-Nitrobenzenamine	100-01-6		ND	ND	ND	ND	
Nitrobenzene	98-95-3	X	ND	ND	ND	ND	
2-Nitrophenol	88-75-5		ND	ND	ND	ND	
l-Nitrophenol	100-02-7	X	ND	ND	ND	ND	-
N-Nitrosodiphenylamine	86-30-6		ND	ND	ND	ND	
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND	
Pentachlorophenol	87-86-5	X	ND	ND	ND	ND	
Pentanal	110-62-3		ND	ND	ND	ND	
Phenanthrene	85-01-8	X	ND	ND	ND	ND	
Phenol	108-95-2	X	ND	ND	ND	ND	
Propanal	123-38-6	X					
Pyrene	129-00-0	X	ND	ND ND	ND	ND	
Styrene	100-42-5		1.48E-03		ND ND	ND	
1,1,2,2-Tetrachloroethane Tetrachloroethene	79-34-5 127-18-4	X	ND 1.90E-03	ND 3.22E-03	4.25E-04	ND 1.11E-03	
n-Tolualdehyde	620-23-5	А	1.90E-03 ND	3.22E-03 ND	4.25E-04 ND	ND	
o-Tolualdehyde	529-20-4		ND ND	4.67E-03	ND ND	ND ND	
Foluene	108-88-3	X	8.97E-03	6.23E-03	1.42E-03	1.11E-03	
2.4-Trichlorobenzene	120-82-1	X	8.9/E-03 ND	6.23E-03 ND	1.42E-03 ND	ND	
1.1.1-Trichloroethane	71-55-6	X	7.69E-04	8.15E-04	ND ND	3.21E-04	
1,1,2-Trichloroethane	79-00-5	X	ND	ND	ND	ND	
		X	ND	ND	ND	ND	
	79-01-6			1410	TAD	1417	
Trichloroethene	79-01-6		ND	ND	ND	ND	
Frichloroethene 2,4,5-Trichlorophenol	95-95-4	X	ND ND	ND ND	ND ND	ND ND	
Frichloroethene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	95-95-4 88-06-2	X X	ND	ND	ND	ND	
Frichloroethene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol vinyl Acetate	95-95-4 88-06-2 108-05-4	X X X	ND 4.85E-03	ND 3.81E-03	ND 2.54E-03	ND 2.42E-03	
Frichloroethene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	95-95-4 88-06-2	X X	ND	ND	ND	ND	

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) F110-GE-100

							1.110		
	Po	wer Setting	Idle	Approach	Intermediate	Military	Afterburner-1		
	Fuel Flow	ate (lb/hr)1	1111	5080	7332	11358	18088		
		hrust/hp1	3%	44%	66%	100%	113%		
Compound Name	CAS Number	HAP	Emission Factors (lb/1000lb fuel burned) <sup>2</sup>						
•	83-32-9		ND	ND ND		rs (lb/1000lb fuel burned)			
Acenaphthene		X					ND		
Acenaphthylene	208-96-8 75-07-0	X	ND C COE 02	ND ND	ND 1.65E-04	ND 1.44E-04	ND 1.24E-02		
Acetaldehyde	107-02-8	X	6.62E-03 ND	ND ND	1.65E-04 ND	1.44E-04 ND	3.90E-02		
Acrolein Anthracene	120-12-7	X	ND ND	ND ND	ND ND	ND ND	3.90E-02 ND		
Benzaldehyde	120-12-7	X	3.48E-02	ND ND	4.26E-03	3.06E-03	7.13E-02		
Benz(a)anthracene	56-55-3	X	3.48E-02 ND	ND	4.26E-03 ND	3.00E-03 ND	7.13E-02 ND		
Benzene Benzene	71-43-2	X	2.93E-02	1.77E-03	1.59E-03	1.61E-03	1.88E-01		
Benzenemethanol	100-51-6	Λ	2.93E-02 ND	1.7/E-03 ND	1.39E-03 ND	ND	1.66E-01 ND		
Benzenemetnanoi Benzo(b)fluoranthene	205-99-2	X	ND ND	ND ND	ND ND	ND ND	ND ND		
Benzo(k)fluoranthene Benzo(k)fluoranthene	205-99-2	X	ND ND	ND ND	ND ND	ND ND	ND ND		
	191-24-2	X	ND	ND	ND	ND ND	ND		
Benzo(g,h,i)perylene									
Benzo(a)pyrene	50-32-8 65-85-0	X	ND 1.66E-02	ND 9.23E-03	ND 9.93E-03	ND 5.70E-03	ND 1.37E-01		
Benzoic Acid			1.66E-02 ND	9.23E-03 ND	9.93E-03 ND	5.70E-03 1.69E-04	1.3/E-01 8.15E-04		
Bromodichloromethane Bromoform	75-27-4 75-25-2	v	ND ND	ND ND	ND ND	1.69E-04 1.69E-04	8.15E-04 8.15E-04		
		X							
Bromomethane	74-83-9	X	ND	ND	ND	1.69E-04	1.03E-03		
4-Bromophenyl-phenyl Ether	101-55-3	**	ND	ND	ND	ND	ND		
1,3-Butadiene	106-99-0	X							
2-Butanone (MEK)	78-93-3		2.44E-03	ND	ND	4.55E-04	2.02E-02		
Butyl benzyl phthalate	85-68-7	**	AA	ND	ND 2 10F 01	ND 1 100 01	ND		
Carbon Disulfide	75-15-0	X	ND	ND	2.48E-04	1.69E-04	8.15E-04		
Carbon Tetrachloride	56-23-5	X	ND	ND	ND	1.69E-04	8.15E-04		
4-Chloroaniline	106-47-8		ND	ND	ND	ND	ND		
Chlorobenzene	108-90-7	X	ND	ND	ND	1.69E-04	8.15E-04		
Chlorodibromomethane	124-48-1	**	ND	ND	ND	1.69E-04	8.15E-04		
Chloroethane	75-00-3	X	ND	ND	ND	1.69E-04	8.15E-04		
bis(2-Chloroethoxy) Methane	111-91-1	**	ND	ND	ND	ND	ND		
bis (2-Chloroethyl) Ether	111-44-4	X	ND	ND	ND	ND	AD.		
Chloroform	67-66-3	X	1.88E-03	1.95E-03	1.19E-03	1.09E-03	8.15E-04		
bis(2-Choroisopropyl) Ether	39638-32-9	**	ND	ND	ND	ND	ND		
Chloromethane	74-87-3	X	3.89E-04	2.84E-04	ND	22 204	1.84E-03		
4-Chloro-3-methylphenol	59-50-7		ND	ND	ND	ND	ND		
2-Chloronaphthalene	91-58-7		ND	ND	ND N	ND	ND		
2-Chlorophenol	95-57-8		ND	ND		ND	ND		
1-chloro-4-phenoxybenzene	7005-72-3	**	ND	ND	ND	ND	ND		
Chrysene	218-01-9	X	ND	ND	ND	ND	ND		
o-Cresol	95-48-7	X	ND	ND	ND	ND	ND		
p-Cresol	106-44-5	X	ND	ND	ND	ND	1.17E-02		
Crotonaldehyde	4170-30-3	**	ND	ND	ND	ND	6.08E-02		
Dibenzofuran	132-64-9	X	ND	ND	ND 0.50E.04	ND	1.27E-03		
Dibutyl Phthalate	84-74-2	X	.A	AA	8.62E-04	AA	ND		
1,2-Dichlorobenzene	95-50-1		ND	ND	ND	ND	ND		
1,3-Dichlorobenzene	541-73-1		ND	ND	ND	ND	ND		
1,4-Dichlorobenzene	106-46-7	X	ND	ND	ND	ND	ND		
3,3'-Dichlorobenzidine	91-94-1	X	ND	ND	ND	ND	ND		
1,1-Dichloroethane	75 3	X	ND	ND	ND	1.69E-04	8.15E-04		
1,2-Dichloroethane	.07-06-2	X	ND	ND	ND	1.69E-04	8.15E-04		
1,1-Dichloroethene	75-35-4	X	ND	ND	ND	1.69E-04	8.15E-04		
cis-1,2-Dicholorethene	156-59-2		ND	ND	ND	1.69E-04	8.15E-04		
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND	1.69E-04	8.15E-04		
2,4-Dichlorophenol	120-83-2		ND	ND	ND	ND	ND		
1,2-Dichloropropane	78-87-5	X	ND	ND	ND	1.69E-04	8.15E-04		
cis-1,3-Dichloropr ene	10061-01-5		ND	ND	ND	1.69E-04	8.15E-04		
trans-1,3-Diol oropropene	10061-02-6		ND	ND	ND	1.69E-04	1.52E-03		
Diethylanalate	84-66-2		1.36E-03	4.41E-04	4.04E-04	1.07E-04	ND		

E-100							_
	Po	wer Setting	Idle	Approach	Intermediate	Military	Afterburn 1
	Fuel Flow	ate (lb/hr)1	1111	5080	7332	11358	2088
	Percent 1	hrust/hp1	3%	44%	66%	100%	113%
Compound Name	CAS Number	HAP		Emiceion Fac	tors (lb/1000ll	o fuel Jurned)	2
2,4-Dimethylphenol	105-67-9		ND	ND	ND ND	ND ND	ND
Dimethyl phthalate	131-11-3	X	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	534-52-1	X	ND	ND	.0	ND	ND
2,4-Dinitrophenol	51-28-5	X	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	121-14-2	X	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	606-20-2		ND		ND	ND	ND
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	AA	AA	2.52E-03	AA	ND
Di-n-Octyl phthalate	117-84-0		4.21E-04	ND	ND	ND	ND
Ethylbenzene	100-41-4	X	2.00° 05	3.93E-04	3.68E-04	1.69E-04	4.47E-02
Fluoranthene	206-44-0	X	ND	ND	ND	ND	ND
Fluorene	86-73-7	X	ND	ND	ND	ND	ND
Formaldehyde	50-00-0		1.01E-01	1.00E-02	1.94E-02	1.53E-02	1.53E-02
Hexachlorobenzene	118-74-1	X	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-2	X	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	7/-4	X	ND ND	ND ND	ND	ND	ND
Hexachloroethane Hexanal	67-72-1 66-25-1	Х	ND ND	ND ND	ND ND	ND ND	ND 1.14E-02
2-Hexanone	591-78-6		ND ND	ND ND	ND ND	ND 8.45E-04	3.95E-03
Indeno(1,2,3-cd)pyrene	193-39-5	X	ND ND	ND ND	ND ND	8.45E-04 ND	3.95E-03 ND
Isophorone	78-59-1	X	ND ND	ND ND	ND ND	ND ND	ND ND
Isovaleraldehyde	590-86-3	Λ	ND	ND	2.32E-03	1.12E-03	ND
Methylene Chlorie	75-09-2	X	1.79E-02	1.16E-02	2.39E-02	2.52E-02	3.79E-02
2-Methylp athalene	91-57-6	А	1.58E-04	AA	3.59E-05	1.19E-04	5.15E-02
4-Met 1-2-pentanone (MIBK)	108-10-1	X	ND	ND	ND	8.45E-04	3.95E-03
phthalene	91-20-3	X	3.31E-03	AA	AA	3.31E-04	9.73E-02
m-Nitroaniline	99-09-2		ND	ND	ND	ND	ND
o-Nitroaniline	88-74-4		ND	ND	ND	ND	ND
4-Nitrobenzenamine	100-01-6		ND	ND	ND	ND	ND
Nitrobenzene	98-95-3	X	ND	ND	ND	ND	ND
2-Nitrophenol	88-75-5		ND	ND	ND	ND	2.83E-02
4-Nitrophenol	100-02-7	X	ND	ND	ND	ND	3.23E-02
N-Nitrosodiphenylamine	86-30-6		ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND	ND
Pentachlorophenol	87-86-5	X	ND	ND	ND	ND	ND
Pentanal	110-62-3		ND	ND	ND	ND	ND
Phenanthrene	85-01-8	X	ND	ND	ND	ND	ND
Phenol	108-95-2	X	2.95E-03	ND	ND	ND	6.63E-02
Propanal	123-38-6	X				170	
Pyrene	129-00-0	X	ND 2 cop o2	ND 200E 04	ND 401F.04	ND 2.65E-04	ND 5.71E-03
Styrene	100-42-5 79-34-5	X	3.69E-03	2.98E-04	4.91E-04		
1,1,2,2-Tetrachloroethane Tetrachloroethene	127-18-4	X	ND ND	ND ND	ND ND	1.69E-04 1.69E-04	8.15E-04 8.15E-04
m-Tolualdehyde	620-23-5	Х	ND ND	ND ND	ND ND	1.69E-04 ND	8.15E-04 1.62E-02
o-Tolualdehyde	529-20-4		ND ND	ND ND	ND ND	ND ND	1.43E-02
Toluene	108-88-3	X	1.10E-02	1.34E-03	1.90E-03	7.41E-04	1.40E-01
1.2.4-Trichlorobenzene	120-82-1	X	ND	ND	ND	ND	ND
1.1.1-Trichloroethane	71-55-6	X	ND	2.71E-04	3.46E-04	1.69E-04	8.15E-04
1,1,2-Trichloroethane	79-00-5	X	ND	ND	ND	1.69E-04	8.15E-04
Trichloroethene	79-01-6	X	ND	ND	ND	1.69E-04	8.15E-04
2,4,5-Trichlorophenol	95-95-4	X	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	88-06-2	X	ND	ND	ND	ND	ND
Vinyl Acetate	108-05-4	X	ND	ND	ND	8.45E-04	7.34E-03
Vinyl Chloride	75-01-4	X	ND	ND	ND	1.69E-04	8.15E-04
m,p-Xylene	1330-20-7	X	2.84E-03	8.26E-04	9.70E-04	3.38E-04	6.05E-02
o-Xylene	95-47-6	X	1.38E-03	2.98E-04	ND	1.69E-04	2.84E-02

Data obtained from Aircraft Engine and APU Emissions Testing Volumes 1-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in reference above

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) F117-PW-100

							1,117			
	Po	wer Setting	Idle	Approach	Intermediate					
	Fuel Flowr	rate (lb/hr) <sup>1</sup>	978	4645	10408					
	Percent T		4%	31%	68%					
Compound Name	CAS Number	HAP	- 7.5	Emission Factors (lb/1000lb fuel burned) <sup>2</sup>						
Acenaphthene	83-32-9	X	ND	ND ND	ND ND	ruei burnea)				
Acenaphthylene	208-96-8	X	ND	ND	ND					
Acetaldehyde	75-07-0	X	1.20E-02	ND ND	ND ND					
Acrolein	107-02-8	X	1.20E-02 ND	ND ND	ND ND					
Anthracene	120-12-7	X	ND	ND	ND					
Benzaldehyde	100-52-7	Λ	ND	3.16E-03	3.68E-03					
Benz(a)anthracene	56-55-3	X	ND ND	3.10E-03 ND	3.08E-03 ND					
Benzene	71-43-2	X	2.25E-02	8.90E-04	6.25E-04					
Benzenemethanol	100-51-6	Λ	ND	ND	0.25E-04 ND					
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND					
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND					
Benzo(g,h,i)perylene	191-24-2	X	ND	ND ND	ND ND					
	50-32-8	X	ND ND	ND ND	ND ND					
Benzo(a)pyrene Benzoic Acid	50-32-8 65-85-0	Λ	1.28E-02	ND ND	7.36E-03					
Bromodichloromethane	65-85-0 75-27-4		1.28E-02 ND	ND ND	7.36E-03 ND					
Bromodichloromethane Bromoform	75-27-4	X	ND ND	ND ND	ND ND					
Bromotorm Bromomethane	75-25-2	X	ND ND	ND ND	ND ND					
		А	ND ND	ND ND	ND ND					
4-Bromophenyl-phenyl Ether	101-55-3 106-99-0	X								
1,3-Butadiene		A								
2-Butanone (MEK)	78-93-3		ND	ND	ND					
Butyl benzyl phthalate	85-68-7		ND	ND	2.92E-04					
Carbon Disulfide	75-15-0	X	ND	ND	3.76E-04					
Carbon Tetrachloride	56-23-5	X	ND	ND	ND					
4-Chloroaniline	106-47-8	**	ND	ND	ND					
Chlorobenzene	108-90-7	X	ND	ND	ND					
Chlorodibromomethane	124-48-1		ND	ND	ND					
Chloroethane	75-00-3	X	ND	ND	ND					
bis(2-Chloroethoxy) Methane	111-91-1	**	ND	ND	ND					
bis(2-Chloroethyl) Ether	111-44-4	X	ND	ND	ND					
Chloroform	67-66-3	X	1.23E-03	1.16E-03	6.14E-04					
bis(2-Choroisopropyl) Ether	39638-32-9	**	ND	ND 1220 01	ND					
Chloromethane	74-87-3	X	ND	4.23E-04	ND					
4-Chloro-3-methylphenol	59-50-7		ND	ND	ND					
2-Chloronaphthalene	91-58-7		ND	ND	ND					
2-Chlorophenol	95-57-8		ND	ND						
1-chloro-4-phenoxybenzene	7005-72-3		ND	ND	ND					
Chrysene	218-01-9	X	ND	ND	ND					
o-Cresol	95-48-7	X	ND	NIP	ND					
p-Cresol	106-44-5	X	ND	ND	ND					
Crotonaldehyde	4170-30-3		1.20E-02	ND	ND					
Dibenzofuran	132-64-9	X	ND	ND	ND					
Dibutyl Phthalate	84-74-2	X	arE-04	8.16E-04	2.30E-04					
1,2-Dichlorobenzene	95-50-1		ND	ND	ND					
1,3-Dichlorobenzene	541-73-1		ND	ND	ND					
1,4-Dichlorobenzene	106-46-7	X	ND	ND	ND					
3,3'-Dichlorobenzidine	91-94-1	X	ND	ND	ND					
1,1-Dichloroethane	75 +3	X	ND	ND	ND					
1,2-Dichloroethane	107-06-2	X	ND	ND	ND					
1,1-Dichloroethene	75-35-4	X	ND	ND	ND					
cis-1,2-Dicholorethene	156-59-2		ND	ND	ND					
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND					
2,4-Dichlorophenol	120-83-2		ND	ND	ND					
1,2-Dichloropropane	78-87-5	X	2.23E-03	1.59E-03	6.30E-04					
cis-1,3-Dichlorop pene	10061-01-5		ND	ND	ND					
trans-1,3-Di toropropene	10061-02-6		ND	ND	ND					
Diethydathalate	84-66-2		8.47E-03	5.36E-03	2.44E-03					

	Po	wer Setting	Idle	Approach	Intermediate				
	Fuel Flow	rate (lb/hr)1	978	4645	10408				
		Thrust/hp1	4%	31%	68%				
Compound Name	CAS Number	HAP	Emission Factors (lb/1000lb fue) ourned) <sup>2</sup>						
2,4-Dimethylphenol	105-67-9		ND	ND ND	ND	iue surieu)			
Dimethyl phthalate	131-11-3	X	ND	ND	ND				
4,6-Dinitro-o-cresol	534-52-1	X	ND	ND	.0				
2,4-Dinitrophenol	51-28-5	X	7.36E-03	5.64E-03	3.56E-03				
2.4-Dinitrotoluene	121-14-2	X	ND	ND ND	ND ND				
2.6-Dinitrotoluene	606-20-2		ND	7.12	ND				
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	3.03E-03	1.87E-03	1.69E-03				
Di-n-Octyl phthalate	117-84-0		ND _	ND	ND				
Ethylbenzene	100-41-4	X	2.827 05	ND	ND				
Fluoranthene	206-44-0	X	ND	ND	ND				
Fluorene	86-73-7	X	ND	ND	ND				
Formaldehyde	50-00-0		2.36E-01	1.65E-02	9.50E-03				
Hexachlorobenzene	118-74-1	X	ND	ND	ND				
Hexachlorobutadiene	87-68	X	ND	ND	ND				
Hexachlorocyclopentadiene	<sup>2</sup> 41-4	X	ND	ND	ND				
Hexachloroethane	67-72-1	X	ND	ND	ND				
Hexanal	66-25-1		ND	ND	ND				
2-Hexanone	591-78-6		ND	ND	ND				
Indeno(1,2,3-cd)pyrene	193-39-5	X	ND	ND	ND				
sophorone	78-59-1	X	ND	ND	ND				
sovaleraldehyde	590-86-3		ND	1.84E-03	ND				
Methylene Chlorae	75-09-2	X	7.74E-04	AA	6.25E-03				
2-Methylp athalene	91-57-6		1.56E-03	ND	ND				
4-Mer y1-2-pentanone (MIBK)	108-10-1	X	ND	ND	ND				
phthalene	91-20-3	X	2.39E-03	ND	ND				
m-Nitroaniline	99-09-2		ND	ND	ND				
o-Nitroaniline	88-74-4		ND	ND	ND				
l-Nitrobenzenamine	100-01-6		ND	ND	ND				
Nitrobenzene	98-95-3	X	ND	ND	ND				
2-Nitrophenol	88-75-5	V/	ND	ND	ND				
4-Nitrophenol	100-02-7	X	ND	ND	ND				
N-Nitrosodiphenylamine	86-30-6		ND ND	ND ND	ND ND				
N-Nitrosodi-n-propylamine Pentachlorophenol	621-64-7 87-86-5	X	ND ND	ND ND	ND ND				
Pentanal	110-62-3	Λ	ND ND	ND ND	ND ND				
Phenanthrene	85-01-8	X	ND ND	ND ND	ND ND				
Phenol	108-95-2	X	3.79E-03	ND	ND ND				
Propanal	123-38-6	X	3.1712-03						
Pyrene	129-00-0	X	ND	ND	ND				
Styrene	100-42-5	X	1.55E-03	ND	ND				
1,1,2,2-Tetrachloroethane	79-34-5	X	3.32E-03	1.87E-03	9.99E-04				
Tetrachloroethene	127-18-4	X	ND	ND	ND				
n-Tolualdehyde	620-23-5		1.75E-02	4.22E-03	2.14E-03				
o-Tolualdehyde	529-20-4		ND	ND	ND				
Γoluene	108-88-3	X	6.68E-03	1.41E-03	1.12E-03				
,2,4-Trichlorobenzene	120-82-1	X	ND	ND	ND				
1,1,1-Trichloroethane	71-55-6	X	ND	3.72E-04	ND				
1,1,2-Trichloroethane	79-00-5	X	ND	ND	ND				
Trichloroethene	79-01-6	X	8.62E-04	AA	AA				
,4,5-Trichlorophenol	95-95-4	X	ND	ND	ND				
2,4,6-Trichlorophenol	88-06-2	X	ND	ND	ND				
Vinyl Acetate	108-05-4	X	ND	ND	ND				
Vinyl Chloride	75-01-4	X	ND	ND	ND				
m,p-Xylene	1330-20-7	X	2.29E-03	6.21E-04	5.47E-04				
o-Xylene	95-47-6	X	9.80E-04	ND	ND				

Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) F118-GE-100

	Pov	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flowr	ate (lb/br)1	1097	3773	6350	10887	
		Thrust/hp					
Compound Name	CAS Number	HAP			tors (lb/1000lb		
Acenaphthene	83-32-9	X	ND	ND	ND	ND	
Acenaphthylene	208-96-8	X	ND	ND	ND	ND	
Acetaldehyde	75-07-0	X	7.86E-03	ND	ND	ND	
Acrolein	107-02-8	X	ND	ND	ND	ND	
Anthracene	120-12-7	X	ND	ND	ND	ND	
Benzaldehyde	100-52-7		6.59E-03	1.59E-03	1.65E-03	1.94E-03	
Benz(a)anthracene	56-55-3	X	ND	ND	ND	ND	
Benzene	71-43-2	X	2.70E-02	8.58E-04	3.71E-04	3.38E-04	
Benzenemethanol	100-51-6		ND	ND	ND	ND	
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND	ND	
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND	ND	
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND	ND	
Benzo(a)pyrene	50-32-8	X	ND 2 40E 02	ND 1 cor on	ND	ND	
Benzoic Acid	65-85-0		2.49E-02	1.68E-02	7.76E-03	1.22E-02	
Bromodichloromethane	75-27-4	37	ND	ND	ND	ND	
Bromoform	75-25-2	X	ND	ND	ND	ND	
Bromomethane	74-83-9	X	ND ND	ND ND	ND ND	ND ND	
4-Bromophenyl-phenyl Ether	101-55-3	X/					
1,3-Butadiene	106-99-0	X	2.015.02		NTO	NTD.	
2-Butanone (MEK)	78-93-3 85-68-7		3.01E-03 ND	ND ND	ND ND	ND ND	
Butyl benzyl phthalate Carbon Disulfide	75-15-0	X	5.53E-04	ND ND	ND ND	ND ND	
Carbon Disumde  Carbon Tetrachloride	75-15-0 56-23-5		5.53E-04 ND	ND ND	ND ND	ND ND	
4-Chloroaniline	56-23-5 106-47-8	X	ND ND	ND ND	ND ND	ND ND	
4-Chlorobenzene	106-47-8	X	ND ND	ND ND	ND ND	ND ND	
Chlorodibromomethane	124-48-1	Λ	ND	ND ND	ND ND	ND ND	
Chloroethane	75-00-3	X	ND ND	ND ND	ND ND	ND ND	
bis(2-Chloroethoxy) Methane	111-91-1	Λ	ND	ND	ND	ND ND	
bis(2-Chloroethyl) Ether	111-44-4	X	ND	ND	ND	ND	
Chloroform	67-66-3	X	1.22E-03	5.29E-04	4.29E-04	1.86E-04	
bis(2-Choroisopropyl) Ether	39638-32-9	Λ	ND	ND	ND	ND	
Chloromethane	74-87-3	X	4.67E-04	ND	ND	10	
4-Chloro-3-methylphenol	59-50-7	А	ND	ND	ND .	ND	
2-Chloronaphthalene	91-58-7		ND	ND	ND ND	ND	
2-Chlorophenol	95-57-8		ND	ND	N	ND	
1-chloro-4-phenoxybenzene	7005-72-3		ND	ND	ND	ND	
Chrysene	218-01-9	X	ND	ND 4	ND	ND	
o-Cresol	95-48-7	X	ND	NP	ND	ND	
p-Cresol	106-44-5	X	ND	ND	ND	ND	
Crotonaldehyde	4170-30-3		ND	ND	ND	ND	
Dibenzofuran	132-64-9	X	ND	ND	ND	ND	
Dibutyl Phthalate	84-74-2	X	ιA	1.04E-04	4.22E-05	AA	
1,2-Dichlorobenzene	95-50-1		ND	ND	ND	ND	
1,3-Dichlorobenzene	541-73-1		ND	ND	ND	ND	
1,4-Dichlorobenzene	106-46-7	X	ND	ND	ND	ND	
3,3'-Dichlorobenzidine	91-94-1	X	ND	ND	ND	ND	
1,1-Dichloroethane	753	X	ND	ND	ND	ND	
1,2-Dichloroethane	107-06-2	X	ND	ND	ND	ND	
1,1-Dichloroethene	75-35-4	X	ND	ND	ND	ND	
cis-1,2-Dicholorethene	156-59-2		ND	ND	ND	ND	
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND	ND	
2,4-Dichlorophenol	120-83-2		2.01E-03	1.73E-03	1.31E-03	1.07E-03	
1,2-Dichloropropane	78-87-5	X	ND	ND	ND	ND	
cis-1,3-Dichloropy pene	10061-01-5		ND	ND	ND	ND	
trans-1,3-Die oropropene	10061-02-6		ND	ND	ND	ND	
Diethy thalate	84-66-2		AA	AA	AA	AA	

2-100	D	wer Setting	7.11		Y . P .	3.67%			
			Idle	Approach	Intermediate	Military			
		ate (lb/hr)1	1097	3773	6350	10887			
	Percent	Thrust/hp							
Compound Name	CAS Number	HAP	1	Emission Fact	tors (lb/1000 ls	s fuel Larned)	2		
2,4-Dimethylphenol	105-67-9		ND	ND	ND	ND			
Dimethyl phthalate	131-11-3	X	ND	ND	ND	ND			
4,6-Dinitro-o-cresol	534-52-1	X	ND	ND		ND			
2,4-Dinitrophenol	51-28-5	X	ND	ND	ND	ND			
2,4-Dinitrotoluene	121-14-2	X	ND	ND	ND	ND			
2,6-Dinitrotoluene	606-20-2		ND	Nº.	ND	ND			
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	AA	2.47E-03	3.17E-04	AA			
Di-n-Octyl phthalate	117-84-0		ND	ND	ND	ND			
Ethylbenzene	100-41-4	X	1.23F	3.72E-04	ND	ND			
Fluoranthene	206-44-0	X	ND	ND	ND	ND			
Fluorene	86-73-7	X	ND	ND	ND	ND			
Formaldehyde	50-00-0		1.80E-01	1.22E-02	1.17E-02	6.55E-03			
Hexachlorobenzene	118-74-1	X	ND	ND	ND	ND			
Hexachlorobutadiene	87-68-2	X	ND	ND	ND	ND			
Hexachlorocyclopentadiene	77.1-4	X	ND	ND	ND	ND			
Hexachloroethane	67-72-1	X	ND	ND	ND	ND			
Hexanal	66-25-1		ND	ND	ND	ND			
2-Hexanone	591-78-6		2.79E-03	1.96E-03	1.35E-03	9.98E-04			
Indeno(1,2,3-cd)pyrene	193-39-5	X	ND	ND	ND	ND			
Isophorone	78-59-1	X	ND	ND	ND	ND			
Isovaleraldehyde	590-86-3		ND	1.41E-03	1.34E-03	8.08E-04			
Methylene Chlorice	75-09-2	X	1.22E-02	1.09E-02	8.04E-03	AA			
2-Methylne athalene	91-57-6		AA	ND	ND	ND			
4-Met 1-2-pentanone (MIBK)	108-10-1	X	ND	ND	ND	ND			
onthalene	91-20-3	X	AA	ND	ND	ND			
m-Nitroaniline	99-09-2		ND	ND	ND	ND			
o-Nitroaniline	88-74-4		ND	ND	ND	ND			
4-Nitrobenzenamine	100-01-6		ND	ND	ND	ND			
Nitrobenzene	98-95-3	X	ND	ND	ND	ND			
2-Nitrophenol	88-75-5		ND	ND	ND	ND			
4-Nitrophenol	100-02-7	X	ND	ND	ND	ND			
N-Nitrosodiphenylamine	86-30-6		ND	ND	ND	ND			
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND			
Pentachlorophenol	87-86-5	X	ND	ND	ND	ND			
Pentanal	110-62-3		ND	ND	ND	ND			
Phenanthrene	85-01-8	X	ND	ND	ND	ND			
Phenol	108-95-2	X	1.20E-03	ND	ND	ND			
Propanal	123-38-6	X							
Pyrene	129-00-0	X	ND 2.25F.02	ND	ND	ND			
Styrene	100-42-5	X	2.25E-03	ND	ND A fform of	ND			
1,1,2,2-Tetrachloroethane	79-34-5	X	5.58E-04	3.93E-04	2.70E-04	1.99E-04			
Tetrachloroethene	127-18-4	X	ND 114E 02	ND 4.77E-02	ND 2.05E.02	ND 2 OUE 02			
m-Tolualdehyde	620-23-5		1.14E-02	4.77E-03	3.95E-03	3.01E-03			
	529-20-4	**	ND	ND 1 25E 22	ND	ND			
o-Tolualdehyde	400.00.0		9.88E-03	1.35E-03	2.98E-04	3.85E-04			
o-Tolualdehyde Toluene	108-88-3	X		NID.					
o-Tolualdehyde Toluene 1,2,4-Trichlorobenzene	120-82-1	X	ND	ND ND	ND ND	ND ND			
o-Tolualdehyde Toluene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane	120-82-1 71-55-6	X X	ND ND	ND	ND	ND			
o-Tolualdehyde Toluene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane	120-82-1 71-55-6 79-00-5	X X X	ND ND ND	ND ND	ND ND	ND ND	-		
o-Tohnaldehyde Tohene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene	120-82-1 71-55-6 79-00-5 79-01-6	X X X X	ND ND ND ND	ND ND ND	ND ND ND	ND ND ND			
o-Tolualdehyde Toluene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethene 2,4,5-Trichlorophenol	120-82-1 71-55-6 79-00-5 79-01-6 95-95-4	X X X X	ND ND ND ND ND	ND ND ND ND	ND ND ND ND	ND ND ND ND			
o-Tolualdehyde Toluene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethane Trichloroethane 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	120-82-1 71-55-6 79-00-5 79-01-6 95-95-4 88-06-2	X X X X X	ND ND ND ND ND ND	ND ND ND ND ND	ND ND ND ND	ND ND ND ND ND			
o-Tolualdehyde Toluene [1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethane 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol Vinyl Acetate	120-82-1 71-55-6 79-00-5 79-01-6 95-95-4 88-06-2 108-05-4	X X X X X X	ND	ND ND ND ND ND ND	ND ND ND ND ND	ND ND ND ND ND			
o-Tolualdehyde Toluene 1,2,4-Trichlorobenzene 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethane Trichloroethane 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	120-82-1 71-55-6 79-00-5 79-01-6 95-95-4 88-06-2	X X X X X	ND ND ND ND ND ND	ND ND ND ND ND	ND ND ND ND	ND ND ND ND ND			

<sup>.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) F119-PW-100

							F 1 1 9
	Po	wer Setting	Idle	Approach	Intermediate	Military	Afterburner
	Fuel Flow	ate (lb/hr)1	1377	2740	10110	18612	50170
		Thrust/hp	10%	20%	70%	100%	150%
Compound Name	CAS Number	HAP		Emission Fac	tors (lb/1000lb	fuel burned)	2
Acenaphthene	83-32-9	X					
Acenaphthylene	208-96-8	X					
Acetaldehyde	75-07-0	X	1.11E-01	6.75E-03	2.61E-03	8.33E-04	
Acrolein	107-02-8	X	3.60E-02	ND	ND	ND	
Anthracene	120-12-7	X					
Benzaldehyde	100-52-7		4.15E-02	ND	ND	ND	
Benz(a)anthracene	56-55-3	X					
Benzene	71-43-2	X	1.06E-01	3.33E-03	6.86E-04	4.88E-04	
Benzenemethanol	100-51-6						
Benzo(b)fluoranthene	205-99-2	X					
Benzo(k)fluoranthene	207-08-9	X					
Benzo(g,h,i)perylene	191-24-2	X					
Benzo(a)pyrene	50-32-8	X					
Benzoic Acid	65-85-0						
Bromodichloromethane	75-27-4		ND	ND	ND	ND	
Bromoform	75-25-2	X	ND	ND	ND	ND	
Bromomethane	74-83-9	X	ND	ND	ND	ND	
4-Bromophenyl-phenyl Ether	101-55-3						
1,3-Butadiene	106-99-0	X	4.99E-02	ND	4.27E-04	ND	
2-Butanone (MEK)	78-93-3		3.33E-02	ND	ND	ND	
Butyl benzyl phthalate	85-68-7						
Carbon Disulfide	75-15-0	X	ND	ND	ND	7.01E-05	
Carbon Tetrachloride	56-23-5	X	3.22E-04	3.92E-04	2.55E-04	1.62E-04	
4-Chloroaniline	106-47-8						
Chlorobenzene	108-90-7	X	ND	ND	ND	ND	
Chlorodibromomethane	124-48-1		ND	ND	ND	ND	
Chloroethane	75-00-3	X	ND	ND	ND	ND	
bis (2-Chloroethoxy) Methane	111-91-1						
bis(2-Chloroethyl) Ether	111-44-4	X					
Chloroform	67-66-3	X	ND	ND	1.03E-04	ND	
bis(2-Choroisopropyl) Ether	39638-32-9	**					
Chloromethane	74-87-3	X	ND	AA	AA	AΔ	
4-Chloro-3-methylphenol	59-50-7						
2-Chloronaphthalene	91-58-7						
2-Chlorophenol 1-chloro-4-phenoxybenzene	95-57-8 7005-72-3						
	218-01-9	X					
Chrysene o-Cresol	95-48-7	X		_			1
p-Cresol	106-44-5	X					
Crotonaldehyde	4170-30-3	Λ	2.66E-02	ND	ND	ND	
Dibenzofuran	132-64-9	X	2.00E-02	ND	ND 	ND	
Dibutyl Phthalate	84-74-2	X					
1,2-Dichlorobenzene	95-50-1	^					
1,3-Dichlorobenzene	541-73-1						
1,4-Dichlorobenzene	106-46-7	v					
3.3'-Dichlorobenzidine	91-94-1	X					
1.1-Dichloroethane	75-34-3	X	ND	ND	ND	ND	
1,2-Dichloroethane	107 6-2	X	ND	ND ND	ND	ND ND	
1,1-Dichloroethene	15-35-4	X	ND	ND	ND	ND	
cis-1,2-Dicholorethene	156-59-2	Λ	ND	ND	ND	ND	
trans-1,2-Dichloroethene	156-60-5		ND	ND ND	ND ND	ND ND	
2,4-Dichlorophenol	120-83-2		ND	ND	ND	ND	
1,2-Dichloropropane	78-87-5	X	ND	ND	ND	ND	
cis-1,3-Dichloropropen	10061-01-5	Λ.	ND	ND ND	ND ND	ND ND	
trans-1,3-Dichloro opene	10061-01-3		ND	ND ND	ND ND	ND ND	
Diethyl Phthate	84-66-2		ND	ND	ND	ND	
Dietilyl Filtrate	84-00-2						

	Po	wer Setting	Idle	Approach	Intermediate	Military	Afterbur
	Fuel Flour	ate (lb/hr)1	1377	2740	10110	18612	J170
		Thrust/hp	10%	20%	70%	100%	150%
Compound Name	CAS Number	HAP					
	105-67-9	HAP			tors (lb/1000lb	fuel arned)	
2,4-Dimethylphenol Dimethyl phthalate	131-11-3	X					
4,6-Dinitro-o-cresol 2,4-Dinitrophenol	534-52-1 51-28-5	X					
2,4-Dinitrophenoi 2,4-Dinitrotoluene	121-14-2	X					
2,4-Dinitrotoluene	606-20-2	Α					
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X					
Di-n-Octyl phthalate	117-84-0	Λ					
Ethylbenzene	100-41-4	X	1.64E.0	2.55E-04	4.99E-04	1.34E-04	
Fluoranthene	206-44-0	X	1.040	2.33E-04	4.99E-04	1.34E-04	
Fluorene	86-73-7	X					
Formaldehyde	50-00-0	X	9.95E-01	3.56E-02	2.44E-02	7.58E-03	
Hexachlorobenzene	118-74-1	X	9.9315-01	3.30L2-02	2.4415-02	7.36E-03	
Hexachlorobenzene Hexachlorobutadiene	87-68-3	X					
Hexachlorocyclopentadiene	77.4.4	X					
Hexachlorocyclopentadiene Hexachloroethane	31-72-1	X					
Hexanal	66-25-1	Λ	ND	ND	ND	ND	
2-Hexanone	591-78-6		ND	ND	ND ND	ND	
Indeno(1,2,3-cd)pyrene	193-39-5	X				ND 	
Isophorone	78-59-1	X					
Isovaleraldehyde	590-86-3	Α	ND	ND	ND	ND	
Methylene Chlorid	75-09-2	X	5.03E-04	AA	AA	AA	
2-Methylnaph alene	91-57-6	Λ	3.0312-04		AA		
4-Methyl pentanone (MIBK)	108-10-1	X	ND	ND	ND	ND	
Namanalene	91-20-3	X	ND			ND	
Nitroaniline	99-09-2	Λ					
o-Nitroaniline	88-74-4						
4-Nitrobenzenamine	100-01-6						
Nitrobenzene	98-95-3	X					
2-Nitrophenol	88-75-5	- 1					
4-Nitrophenol	100-02-7	X					
N-Nitrosodiphenylamine	86-30-6	- 1					
N-Nitrosodi-n-propylamine	621-64-7						
Pentachlorophenol	87-86-5	X					
Pentanal	110-62-3		ND	ND	ND	ND	
Phenanthrene	85-01-8	X					
Phenol	108-95-2	X					
Propanal	123-38-6	X	1.60E-02	ND	9.78E-04	4.10E-04	
Pyrene	129-00-0	X					
Styrene	100-42-5	X	3.12E-02	2.55E-04	ND	ND	
1,1,2,2-Tetrachloroethane	79-34-5	X	ND	ND	ND	ND	
Tetrachloroethene	127-18-4	X	3.02E-04	2.89E-04	ND	ND	
m-Tolualdehyde	620-23-5		1.91E-02	ND	1.18E-03	1.64E-04	
o-Tolualdehyde	529-20-4		2.77E-02	ND	ND	4.31E-04	
Toluene	108-88-3	X	6.37E-02	2.68E-04	AA	AA	
1,2,4-Trichlorobenzene	120-82-1	X					
1,1,1-Trichloroethane	71-55-6	X	ND	ND	ND	ND	
1,1,2-Trichloroethane	79-00-5	X	ND	ND	ND	ND	
Trichloroethene	79-01-6	X	ND	ND	ND	ND	
2,4,5-Trichlorophenol	95-95-4	X					
2,4,6-Trichlorophenol	88-06-2	X					
Vinyl Acetate	108-05-4	X	ND	ND	ND	ND	
Vinyl Chloride	75-01-4	X	ND	ND	ND	ND	
m,p-Xylene	1330-20-7	X	3.92E-02	5.60E-04	AA	2.57E-04	
o-Xylene	95-47-6	X	2.79E-02	3.21E-04	4.89E-04	1.20E-04	

1. Data obtained from Aircraft Engine and APU Emissions Testing Final Report Addendum F119-PW-100 Engine June 2002, IERA-RS-BR-SR-2002-0006

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) F404-GE-400, -F1D2

	Po	wer Setting	Idle	Approach	Intermediate	Military	Afterburner-3
	Fuel Flow	ate (lb/hr)1	685	3111	6464	7739	15851
		hrust/hp1	6%	38%	79%	91%	114%
Compound Name	CAS Number	HAP		Emission Foo	tors (lb/1000ll	fuel humad)	2
•	83-32-9	X	ND	ND ND	ND	ND ND	ND
Acenaphthene Acenaphthylene	208-96-8	X	1.20E-02	ND ND	ND ND	ND ND	ND ND
Acetaldehyde	75-07-0	X	5.69E-02	ND	ND	ND	3.38E-02
Acrolein	107-02-8	X	1.71E-01	ND	ND	ND	1.44E-01
Anthracene	120-12-7	X	ND ND	ND	ND	ND	ND
Benzaldehyde	100-52-7		1.31E-01	ND	1.70E-03	ND	1.32E-01
Benz(a)anthracene	56-55-3	X	ND	ND	ND	ND	ND
Benzene	71-43-2	X	5.12E-01	7.56E-04	6.45E-04	7.38E-04	3.70E-01
Benzenemethanol	100-51-6		3.45E-02	ND	ND	ND	2.84E-02
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND	ND	ND
Benzo(a)pyrene	50-32-8	X	ND	ND	ND	ND	ND
Benzoic Acid	65-85-0		ND	1.59E-02	1.62E-02	7.56E-03	1.41E-01
Bromodichloromethane	75-27-4		2.49E-03	ND	ND	ND	2.00E-03
Bromoform	75-25-2	X	2.49E-03	ND	ND	ND	2.00E-03
Bromomethane	74-83-9	X	2.49E-03	ND	ND	ND	2.13E-03
4-Bromophenyl-phenyl Ether	101-55-3		ND	ND	ND	ND	ND
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		2.31E-02	ND	ND	ND	2.74E-02
Butyl benzyl phthalate	85-68-7		ND	ND	ND	ND	ND
Carbon Disulfide	75-15-0	X	2.49E-03	ND	ND	ND	2.00E-03
Carbon Tetrachloride	56-23-5	X	2.49E-03	2.37E-04	1.91E-04	ND	2.00E-03
4-Chloroaniline	106-47-8		ND	ND	ND	ND	ND
Chlorobenzene	108-90-7	X	2.49E-03	ND	ND	ND	2.00E-03
Chlorodibromomethane	124-48-1		2.49E-03	ND	ND	ND	2.00E-03
Chloroethane	75-00-3	X	2.49E-03	ND	ND	ND	2.00E-03
bis(2-Chloroethoxy) Methane	111-91-1	**	ND	ND	ND	ND	ND
bis (2-Chloroethyl) Ether	111-44-4	X	ND 2.49E-03	ND 4.67E-04	ND 3.38E-04	ND 3.84E-04	ND 2.00E-03
Chloroform bis(2-Choroisopropyl) Ether	67-66-3 39638-32-9	X	2.49E-03 ND	4.6/E-04 ND	3.38E-04 ND	5.84E-04 ND	2.00E-03 ND
Chloromethane	74-87-3	X	2.65E-03	3.28E-04	4.82E-04	2° £-04	2.00E-03
4-Chloro-3-methylphenol	74-87-3 59-50-7	А	2.65E-03 ND	3.28E-04 ND	4.82E-04 ND	ND	2.00E-03 ND
2-Chloronaphthalene	91-58-7		ND ND	ND ND	ND ND	ND ND	ND ND
2-Chlorophenol	95-57-8		ND	ND	ND	ND	ND
1-chloro-4-phenoxybenzene	7005-72-3		ND	ND	ND	ND	ND
Chrysene	218-01-9	X	ND	ND	ND	ND	ND
o-Cresol	95-48-7	X	ND	N	ND	ND	ND
p-Cresol	106-44-5	X	2.58E-02	ND	ND	ND	1.94E-02
Crotonaldehyde	4170-30-3	- 1	9.14E-02	ND	ND	ND	8.45E-02
Dibenzofuran	132-64-9	X	ND	ND	ND	ND	ND
Dibutyl Phthalate	84-74-2	X	ND	ND	1.89E-03	1.60E-04	ND
1,2-Dichlorobenzene	95-50-1		ND	ND	ND	ND	ND
1,3-Dichlorobenzene	541-73-1		ND	ND	ND	ND	ND
1,4-Dichlorobenzene	106-46-7	X	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	91-94-1	X	ND	ND	ND	ND	ND
1,1-Dichloroethane	<i>7</i> ⁵ 4-3	X	2.49E-03	ND	ND	ND	2.00E-03
1,2-Dichloroethane	107-06-2	X	2.49E-03	ND	ND	ND	2.00E-03
1,1-Dichloroethene	75-35-4	X	2.49E-03	ND	ND	ND	2.00E-03
cis-1,2-Dicholorethene	156-59-2		2.49E-03	ND	ND	ND	2.00E-03
trans-1,2-Dichloroethene	156-60-5		2.49E-03	ND	ND	ND	2.00E-03
2,4-Dichlorophenol	120-83-2		ND	ND	ND	ND	ND
1,2-Dichloropropane	78-87-5	X	2.49E-03	ND	ND	ND	2.00E-03
cis-1,3-Dichlorop pene	10061-01-5		2.49E-03	ND	ND	ND	2.00E-03
trans-1,3-Di noropropene	10061-02-6		2.49E-03	ND	ND	ND	2.00E-03
Diethy nthalate	84-66-2		ND	AA	1.14E-04	AA	ND

	Pov	wer Setting	Idle	Approach	Intermediate	Military	Afterburg
	Fuel Flowr	ate (lb/hr)1	685	3111	6464	7739	.5851
	Percent T	hrust/hp1	6%	38%	79%	91%	114%
Compound Name	CAS Number	HAP		Emission Fac	tors (lb/1000lb	o fuel aurned)	2
2,4-Dimethylphenol	105-67-9		ND	ND	ND	ND	ND
Dimethyl phthalate	131-11-3	X	ND	ND	ND	ND	ND
I,6-Dinitro-o-cresol	534-52-1	X	ND	ND	ΔD.	ND	ND
2,4-Dinitrophenol	51-28-5	X	ND	ND	ND	ND	ND
2.4-Dinitrotoluene	121-14-2	X	ND	ND	ND	ND	ND
2.6-Dinitrotoluene	606-20-2		ND		ND	ND	ND
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	2.54E-03	5.11E-04	2.20E-03	8.68E-04	ND
Di-n-Octyl phthalate	117-84-0		ND ND	ND	ND ND	ND	ND
Ethylbenzene	100-41-4	X	7.487 32	4.84E-04	3.53E-04	ND	4.86E-02
Fluoranthene	206-44-0	X	ND	ND	ND	ND	ND
Fluorene	86-73-7	X	2.57E-03	ND	ND	ND	ND
Formaldehyde	50-00-0		1.14E+00	1.67E-02	2.17E-02	9.02E-03	3.74E-02
Hexachlorobenzene	118-74-1	X	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68	X	ND	ND	ND ND	ND	ND
Hexachlorocyclopentadiene	2" 47-4	X	ND	ND	ND	ND	ND
Hexachloroethane	67-72-1	X	ND	ND ND	ND ND	ND ND	ND ND
Hexanal	66-25-1	Λ	ND	ND	ND ND	ND	1.26E-02
2-Hexanone	591-78-6		1.24E-02	ND ND	ND ND	ND ND	1.20E-02 1.01E-02
indeno(1,2,3-cd)pyrene	193-39-5	X	1.24E402 ND	ND ND	ND ND	ND	ND
	78-59-1	X	ND	ND ND	ND ND	ND ND	ND
sophorone sovaleraldehyde	/8-39-1 590-86-3	А	ND ND	1.14E-03	1.84E-02	ND ND	1.32E-02
Methylene Chlorae	75-09-2	X	1.19E-02	1.47E-03	1.14E-02	3.09E-03	8.39E-03
		A					
2-Methyla inthalene	91-57-6	V.	1.10E-01	1.77E-04	1.78E-05	1.05E-05	6.69E-02
-Met y1-2-pentanone (MIBK)	108-10-1	X	1.24E-02	ND	ND	ND 1 000 04	1.01E-02
aphthalene	91-20-3	X	1.31E-01	3.10E-04	7.04E-05	1.03E-04	7.32E-02
m-Nitroaniline	99-09-2		ND	ND	ND	ND	ND
o-Nitroaniline	88-74-4		ND	ND	ND	ND	ND
l-Nitrobenzenamine	100-01-6		ND	ND	ND	ND	ND
Vitrobenzene	98-95-3	X	ND	ND	ND	ND	ND
2-Nitrophenol	88-75-5		ND	ND	ND	ND	2.45E-02
l-Nitrophenol	100-02-7	X	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	86-30-6		ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND	ND
Pentachlorophenol	87-86-5	X	ND	ND	ND	ND	ND
Pentanal	110-62-3		ND	ND	ND	ND	ND
Phenanthrene	85-01-8	X	2.57E-03	ND	ND	ND	ND
Phenol	108-95-2	X	1.15E-01	ND	ND	ND	6.69E-02
Propanal	123-38-6	X					
Pyrene	129-00-0	X	ND	ND	ND	ND	ND
Styrene	100-42-5	X	8.66E-02	ND	ND	ND	4.90E-03
,1,2,2-Tetrachloroethane	79-34-5	X	2.49E-03	ND	ND	ND	2.00E-03
Tetrachloroethene	127-18-4	X	2.49E-03	ND	ND	ND	2.00E-03
n-Tolualdehyde	620-23-5		6.80E-02	ND	ND	ND	9.65E-02
o-Tolualdehyde	529-20-4		ND	ND	ND	ND	5.61E-03
Toluene	108-88-3	X	2.60E-01	8.73E-04	1.07E-03	6.61E-04	1.78E-01
,2,4-Trichlorobenzene	120-82-1	X	ND	ND	ND	ND	ND
,1,1-Trichloroethane	71-55-6	X	2.49E-03	ND	ND	ND	2.00E-03
,1,2-Trichloroethane	79-00-5	X	2.49E-03	ND	ND	ND	2.00E-03
Trichloroethene	79-01-6	X	2.49E-03	ND	ND	ND	2.00E-03
.,4,5-Trichlorophenol	95-95-4	X	ND	ND	ND	ND	ND
,4,6-Trichlorophenol	88-06-2	X	ND	ND	ND	ND	ND
Vinyl Acetate	108-05-4	X	1.24E-02	ND	ND	ND	1.01E-02
/inyl Chloride	75-01-4	X	2.49E-03	ND	ND	ND	2.00E-03
n,p-Xylene	1330-20-7	X	1.68E-01	1.76E-03	1.38E-03	7.45E-04	9.29E-02
o-Xylene	95-47-6	X	8.07E-02	8.75E-04	5.90E-04	2.65E-04	4.86E-02

Data obtained from Aircraft Engine and APU Emissions Testing Volumes 1-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) GTCP85-180

							G.
	Por	wer Setting	Constant				
	Fuel Flowr	ate (lb/hr)1	270				
Compound Name	CAS Number	HAP		Emission Fact	tors (lb/1000ll	b fuel burned)	2
Acenaphthene	83-32-9	X	ND				
Acenaphthylene	208-96-8	X	ND				
Acetaldehyde	75-07-0	X	2.09E-03				
Acrolein	107-02-8	X	3.04E-04				
Anthracene	120-12-7	X	ND				
Benzaldehyde	100-52-7		ND				
Benz(a)anthracene	56-55-3	X	ND				
Benzene	71-43-2	X	1.50E-02				
Benzenemethanol	100-51-6		ND				
Benzo(b)fluoranthene	205-99-2	X	ND				
Benzo(k)fluoranthene	207-08-9	X	ND				
Benzo(g,h,i)perylene	191-24-2	X	ND				
Benzo(a)pyrene	50-32-8	X	ND				
Benzoic Acid	65-85-0	- 1	4.14E-03				
Bromodichloromethane	75-27-4		ND				
Bromoform	75-25-2	X	ND				
Bromomethane	74-83-9	X	8.76E-05				
4-Bromophenyl-phenyl Ether	101-55-3	А	ND				
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3	Λ.	9.96E-04				
Butyl benzyl phthalate	85-68-7		7.77E-05				
Carbon Disulfide	75-15-0	X	7.79E-05				
Carbon Tetrachloride	56-23-5	X	7.79E-03 ND				
4-Chloroaniline	106-47-8	Λ	ND ND				
Chlorobenzene	108-90-7	X	4.59E-04				
Chlorodibromomethane	124-48-1	Λ	4.39E-04 ND				
Chloroethane	75-00-3	X	ND ND				
	111-91-1	Λ	ND ND				
bis(2-Chloroethoxy) Methane		37					
bis(2-Chloroethyl) Ether	111-44-4	X	ND				
Chloroform	67-66-3	X	2.07E-04				
bis(2-Choroisopropyl) Ether	39638-32-9	X	ND				
Chloromethane	74-87-3	X	ND				
4-Chloro-3-methylphenol	59-50-7		ND				
2-Chloronaphthalene	91-58-7		ND				
2-Chlorophenol	95-57-8		ND				
1-chloro-4-phenoxybenzene	7005-72-3		ND				
Chrysene	218-01-9	X	ND				
o-Cresol	95-48-7	X	ND				
p-Cresol	106-44-5	X	ND				
Crotonaldehyde	4170-30-3		5.25E-04				
Dibenzofuran	132-64-9	X	ND				
Dibutyl Phthalate	84-74-2	X	2.68E-04				
1,2-Dichlorobenzene	95-50-1						
1,3-Dichlorobenzene	541-73-1	_	ND				
1,4-Dichlorobenzene	106-46-7	X	ND				
3,3'-Dichlorobenzidine	91-94-1		ND				
1,1-Dichloroethane	75-34-3	X	ND				
1,2-Dichloroethane	107-0 2	X	ND				
1,1-Dichloroethene	o-35-4	X	ND				
cis-1,2-Dicholorethene	156-59-2		ND				
trans-1,2-Dichloroethene	156-60-5		ND				
2,4-Dichlorophenol	120-83-2		ND				
1,2-Dichloropropane	78-87-5	X	ND				
cis-1,3-Dichloropropene	10061-01-5		ND				
trans-1,3-Dichlorop pene	10061-02-6		ND				
Diethyl Phthalice	84-66-2		5.29E-04				

	Po	wer Setting	Constant				
	Fuel Flow	ate (lb/hr)1	270				
Compound Name	CAS Number	HAP		Emission Fact	tors (1b/10001	h fuel hurne	
2,4-Dimethylphenol	105-67-9		ND			o luci bulb	
Dimethyl phthalate	131-11-3	X	ND				
4,6-Dinitro-o-cresol	534-52-1	X	ND				
2,4-Dinitrophenol	51-28-5	X	ND				
2,4-Dinitrophenoi	121-14-2	X	ND				
2,6-Dinitrotoluene	606-20-2	А	ND				
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	4.59E-04				
Di-n-Octyl phthalate	117-84-0	Λ.	4.39E-04 ND				
Ethylbenzene	100-41-4	X	1.20E-04				
Fluoranthene	206-44-0	X	4.44E-00				
Fluorene	86-73-7	X					
Formaldehyde	50-00-0	X	2.03E-02				
Hexachlorobenzene	118-74-1	X	2.03E-02 ND				
	87-68-3	A	ND ND				
Hexachlorobutadiene	87-68-3 77-47-4	X	ND ND				
Hexachlorocyclopentadiene Hexachloroethane	67-71	X	ND ND				
		A	ND ND	<b>+</b>			
Hexanal	50-25-1						
2-Hexanone	591-78-6	37	ND				
Indeno(1,2,3-cd)pyrene	193-39-5	X	ND				
Isophorone	78-59-1	X	ND				
Isovaleraldehyde	590-86-3		ND				
Methylene Chloride	75-09-2	X	2.60E-03				
2-Methylnaphthal	91-57-6		AA				
4-Methyl-2-panone (MIBK)	108-10-1	X	ND				
Naphtherne	91-20-3	X	AA				
maoaniline	99-09-2		ND				
-Nitroaniline	88-74-4		ND				
4-Nitrobenzenamine	100-01-6		ND				
Nitrobenzene	98-95-3	X	ND				
2-Nitrophenol	88-75-5		ND				
4-Nitrophenol	100-02-7	X	ND				
N-Nitrosodiphenylamine	86-30-6		ND				
N-Nitrosodi-n-propylamine	621-64-7		ND				
Pentachlorophenol	87-86-5	X	1.55E-03				
Pentanal	110-62-3		ND				
Phenanthrene	85-01-8	X	2.31E-05				
Phenol	108-95-2	X	1.44E-04				
Propanal	123-38-6	X					
Pyrene	129-00-0	X	ND				
Styrene	100-42-5	X	1.91E-04				
1,1,2,2-Tetrachloroethane	79-34-5	X	ND				
Tetrachloroethene	127-18-4	X	ND				
m -Tolualdehyde	620-23-5		ND				
o-Tolualdehyde	529-20-4		ND				
Гoluene	108-88-3	X	2.94E-03				
1,2,4-Trichlorobenzene	120-82-1	X	ND				
1,1,1-Trichloroethane	71-55-6	X	ND				
1,1,2-Trichloroethane	79-00-5	X	ND				
l'richloroethene	79-01-6	X	ND				
2,4,5-Trichlorophenol	95-95-4	X	ND				
2,4,6-Trichlorophenol	88-06-2	X	ND				
Vinyl Acetate	108-05-4	X	ND				
Vinyl Chloride	75-01-4	X	ND				
m,p-Xylene	1330-20-7	X	2.32E-03				
o-Xvlene	95-47-6	X	3.27E-04				

1. Data obtained from Aircraft Engine and APU Emissions Testing Volumes 1-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) GTCP165-1

	Po	wer Setting	Constant				
	Fuel Flowr		273				
Compound Name	CAS Number	HAP					
•	83-32-9	X	ND	Emission Fac	ors (ID/1000II	b fuel burned)	
Acenaphthene	208-96-8	X	ND ND				
Acenaphthylene							
Acetaldehyde	75-07-0	X	5.61E-03				
Acrolein	107-02-8	X	1.21E-02				
Anthracene	120-12-7	X	ND 12 CF 02				
Benzaldehyde	100-52-7	**	1.26E-02				
Benz(a)anthracene	56-55-3	X	ND				
Benzene	71-43-2	X	3.79E-02				
Benzenemethanol	100-51-6		1.94E-03				
Benzo(b)fluoranthene	205-99-2	X	ND				
Benzo(k)fluoranthene	207-08-9	X	ND				
Benzo(g,h,i)perylene	191-24-2	X	ND				
Benzo(a)pyrene	50-32-8	X	ND				
Benzoic Acid	65-85-0		1.65E+00				
Bromodichloromethane	75-27-4		ND				
Bromoform	75-25-2	X	ND				
Bromomethane	74-83-9	X	3.45E-04				
4-Bromophenyl-phenyl Ether	101-55-3		ND				
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		2.77E-03				
Butyl benzyl phthalate	85-68-7		ND				
Carbon Disulfide	75-15-0	X	2.28E-04				
Carbon Tetrachloride	56-23-5	X	ND				
4-Chloroaniline	106-47-8		ND				
Chlorobenzene	108-90-7	X	4.16E-04				
Chlorodibromomethane	124-48-1		ND				
Chloroethane	75-00-3	X	ND				
bis(2-Chloroethoxy) Methane	111-91-1		ND				
bis(2-Chloroethyl) Ether	111-44-4	X	ND				
Chloroform	67-66-3	X	4.71E-04				
bis(2-Choroisopropyl) Ether	39638-32-9	А	ND				
Chloromethane	74-87-3	X	3.90E-04				
4-Chloro-3-methylphenol	59-50-7	Λ	3.90E-04 ND				
2-Chloronaphthalene	91-58-7		ND ND				
	95-57-8		ND ND				
2-Chlorophenol							
1-chloro-4-phenoxybenzene	7005-72-3	**	ND				
Chrysene	218-01-9	X	ND				
o-Cresol	95-48-7	X	ND				
p-Cresol	106-44-5	X	ND 5 000 00				
Crotonaldehyde	4170-30-3		5.83E-03				
Dibenzofuran	132-64-9	X	2.57E-04				
Dibutyl Phthalate	84-74-2	X					
1,2-Dichlorobenzene	95-50-1		ND				
1,3-Dichlorobenzene	541-73-1		ND				
1,4-Dichlorobenzene	106-46-7		ND				
3,3'-Dichlorobenzidine	91-94-1	X	ND				
1,1-Dichloroethane	75-31	X	ND				
1,2-Dichloroethane	37-06-2	X	ND				
1,1-Dichloroethene	75-35-4	X	ND				
cis-1,2-Dicholorethene	156-59-2		ND				
trans-1,2-Dichloroethene	156-60-5		ND				
2,4-Dichlorophenol	120-83-2		ND				
1.2-Dichloropropane	78-87-5	X	ND				
cis-1,3-Dichloropp	10061-01-5		ND				
trans-1,3-Dich oropropene	10061-02-6		ND				
Diethythalate	84-66-2		4.55E-04				
Dictily	0+*UU*Z		4.2212'04				

	Po	wer Setting	Constant				
	Fuel Flow	rate (lb/hr)1	273				
Compound Name	CAS Number	HAP		Emission Fact	ors (lb/1000lb	l fuel burn	
2,4-Dimethylphenol	105-67-9		ND			j ider bar a)	
Dimethyl phthalate	131-11-3	X	ND			-	
4,6-Dinitro-o-cresol	534-52-1	X	ND				
2,4-Dinitrophenol	51-28-5	X	ND				
2,4-Dinitrotoluene	121-14-2	X	ND				
2.6-Dinitrotoluene	606-20-2	Α.	ND				
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	2.35E-04				
Di-n-Octyl phthalate	117-84-0	- 1	ND				
Ethylbenzene	100-41-4	X	8.63E-04				
Fluoranthene	206-44-0	X	ND ND				
Fluorene	86-73-7	X	ND				
	50-00-0	X	1.88E-02				
Formaldehyde	118-74-1	X V	1.88E-02 ND				
Hexachlorobenzene							
Hexachlorobutadiene	87-68-3	X	ND				
Hexachlorocyclopentadiene	77-47-4	X	ND				
Hexachloroethane	67 2-1	X	ND				
Hexanal	66-25-1		ND				
2-Hexanone	591-78-6		ND				
Indeno(1,2,3-cd)pyrene	193-39-5	X	ND				
Isophorone	78-59-1	X	ND				
Isovaleraldehyde	590-86-3		ND				
Methylene Chloride	75-09-2	X	6.24E-03				
2-Methylnaphtl tene	91-57-6		2.35E-03				
4-Methyl pentanone (MIBK)	108-10-1	X	ND				
Naphralene	91-20-3	X	5.54E-03				
Nitroaniline	99-09-2		ND				
o-Nitroaniline	88-74-4		ND				
4-Nitrobenzenamine	100-01-6		ND				
Nitrobenzene	98-95-3	X	ND				
2-Nitrophenol	88-75-5		1.24E-03				
4-Nitrophenol	100-02-7	X	1.24E-03				
N-Nitrosodiphenylamine	86-30-6		ND				
N-Nitrosodi-n-propylamine	621-64-7		ND				
Pentachlorophenol	87-86-5	X	ND				
Pentanal	110-62-3		5.39E-03				
Phenanthrene	85-01-8	X	ND				
Phenol	108-95-2	X	4.48E-03				
Propanal	123-38-6	X					
Pyrene	129-00-0	X	ND				
Styrene	100-42-5	X	2.24E-03				
1,1,2,2-Tetrachloroethane	79-34-5	X	ND				
Tetrachloroethene	127-18-4	X	ND				
n -Tolualdehyde	620-23-5		5.61E-03				
o-Tolualdehyde	529-20-4		3.89E-03				
Foluene	108-88-3	X	1.87E-02				
1,2,4-Trichlorobenzene	120-82-1	X	ND				
I,1,1-Trichloroethane	71-55-6	X	ND				
I,1,2-Trichloroethane	79-00-5	X	ND				
richloroethene	79-01-6	X	ND				
2,4,5-Trichlorophenol	95-95-4	X	ND				
2,4,6-Trichlorophenol	88-06-2	X	ND				
Vinvl Acetate	108-05-4	X	ND				
Vinyl Chloride	75-01-4	X	ND ND				
mp-Xylene	1330-20-7	X	4.84E-03				
цр-лукие	95-47-6	X	4.84E-03 1.17E-03				

Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006
 Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) J69-T-25

	Po	wer Setting	Idle	Intermediate	Military		
	Fuel Flow	ate (lb/hr)1	167	872	1085		
		hrust/hp <sup>1</sup>	4%	63%	84%		
Compound Name	CAS Number	HAP	.,.	Emission Fact	0.110	6-11	
	83-32-9		ND	ND ND	ND ND	o ruer burnea)	
Acenaphthene	83-32-9 208-96-8	X	7.25E-04	ND ND	ND ND		
Acenaphthylene Acetaldehyde	208-96-8 75-07-0	X	9.76E-02	2.12E-03	ND ND		
Acrolein	107-02-8	X	9.76E-02 1.96E-01	2.12E-03 ND	ND ND		
Anthracene	120-12-7	X	1.90E-01 ND	ND ND	ND ND		
Benzaldehyde	100-52-7	Λ	1.04E-01	ND ND	ND ND		
Benz(a)anthracene	56-55-3	X	ND	ND ND	ND ND		
Benzene	71-43-2	X	1.89E-01	3.47E-03	1.86E-03		
Benzenemethanol	100-51-6	Λ	4.74E-03	ND	ND		
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND		
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND		
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND		
Benzo(a)pyrene	50-32-8	X	ND	ND	ND		
Benzoic Acid	65-85-0		3.52E-02	1.23E-02	1.03E-02		
Bromodichloromethane	75-27-4		ND	ND	ND		
Bromoform	75-25-2	X	ND	ND	ND		
Bromomethane	74-83-9	X	4.99E-04	ND	ND		
4-Bromophenyl-phenyl Ether	101-55-3		ND	ND	ND		
1.3-Butadiene	106-99-0	Х					
2-Butanone (MEK)	78-93-3		2.41E-02	8.70E-04	8.79E-04		
Butyl benzyl phthalate	85-68-7		ND	1.90E-04	ND		
Carbon Disulfide	75-15-0	X	1.04E-03	6.64E-04	1.09E-03		
Carbon Tetrachloride	56-23-5	X	ND	ND	ND		
4-Chloroaniline	106-47-8		ND	ND	ND		
Chlorobenzene	108-90-7	X	ND	ND	ND		
Chlorodibromomethane	124-48-1		ND	ND	ND		
Chloroethane	75-00-3	X	ND	ND	ND		
bis(2-Chloroethoxy) Methane	111-91-1		ND	ND	ND		
bis(2-Chloroethyl) Ether	111-44-4	X	ND	ND	ND		
Chloroform	67-66-3	X	ND	6.10E-04	7.26E-04		
bis(2-Choroisopropyl) Ether	39638-32-9		ND	ND	ND		
Chloromethane	74-87-3	X	5.68E-04	6.40E-04	ND		
4-Chloro-3-methylphenol	59-50-7		ND	ND	ND	1	
2-Chloronaphthalene	91-58-7		ND	ND	ND		
2-Chlorophenol	95-57-8		ND	ND	2		
1-chloro-4-phenoxybenzene	7005-72-3		ND	ND	ND		
Chrysene	218-01-9	X	ND	ND	ND		
o-Cresol	95-48-7	X	5.56E-03	<b>X</b>	ND		
p-Cresol	106-44-5	X	6.47E-03	ND	ND		
Crotonaldehyde	4170-30-3		1.22E-01	ND	ND		
Dibenzofuran	132-64-9	X	2.445 35	ND	ND		
Dibutyl Phthalate	84-74-2	X	AA	3.81E-04	4.44E-04		
1,2-Dichlorobenzene	95-50-1		ND	ND	ND		
1,3-Dichlorobenzene	541-73-1		ND	ND	ND		
1,4-Dichlorobenzene	106-46-7	X	ND	ND	ND		
3,3'-Dichlorobenzidine	91-94	X	ND	ND	ND		
1,1-Dichloroethane	77 34-3	X	ND	ND	ND		
1,2-Dichloroethane	107-06-2	X	ND	ND	ND		
1,1-Dichloroethene	75-35-4	X	ND	ND	ND		
cis-1,2-Dicholorethene	156-59-2		ND	ND	ND		
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND		
2,4-Dichlorophenol	120-83-2		ND	ND	ND		
1,2-Dichloropropane	78-87-5	X	ND	ND	ND		
cis-1,3-Dichlore copene	10061-01-5		ND	ND	ND		
trans-1,3 Dinforopropene	10061-02-6		ND	ND 2 02F 04	ND		
Dieth Phthalate	84-66-2		ND	2.02E-04	ND		

	Po	wer Setting	Idle	Intermediate	Military		
	Fuel Flow	ate (lb/hr)1	167	872	1085		
	Percent 1	hrust/hp1	4%	63%	84%		
g 137			470		4.74		
Compound Name	CAS Number	HAP		Emission Fact		fuel ourned)2	
,4-Dimethylphenol	105-67-9		ND	ND	ND		
Dimethyl phthalate	131-11-3	X	ND	ND	ND		
,6-Dinitro-o-cresol	534-52-1	X	ND	ND	10		
,4-Dinitrophenol	51-28-5	X	ND	ND	ND		
,4-Dinitrotoluene	121-14-2	X	ND	ND	ND		
,6-Dinitrotoluene	606-20-2	**	ND	0000.00	ND # 1500 of		
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	6.89E-04	2.08E-03	5.47E-04		
Di-n-Octyl phthalate	117-84-0	**	ND	ND	ND		
thylbenzene	100-41-4	X	2.027 02	ND	ND		
luoranthene	206-44-0	X	ND 0.50F.04	ND	ND		
luorene	86-73-7	X	9.52E-04	ND 2 72E 02	ND 1165.00		
ormaldehyde Jexachlorobenzene	50-00-0 118-74-1	X	9.16E-01 ND	2.72E-02 ND	1.16E-02 ND		
Hexachlorobutadiene	87-68 2 47-4	X	ND ND	ND ND	ND ND		
Hexachlorocyclopentadiene Hexachloroethane	67-72-1	X	ND ND	ND ND	ND ND		
lexachloroethane lexanal	66-25-1	X	ND ND	ND ND	ND ND		
-Hexanone	591-78-6		2.08E-03	1.62E-03	1.69E-03		
	193-39-5	X	2.08E-03 ND	1.62E-03 ND	1.69E-03 ND		
ndeno(1,2,3-cd)pyrene	78-59-1	X	ND ND	ND ND	ND ND		
sophorone sovaleraldehyde	78-59-1 590-86-3	A	2.00E-02	ND ND	ND ND		
Methylene Chl. de	75-09-2	X	2.00E-02 3.86E-02	2.56E-02	4.80E-02		
-Methylene Chronice -Methyle pathalene	75-09-2 91-57-6	A	3.86E-02 4.21E-02	2.56E-02 1.34E-04	4.80E-02 8.41E-05		
-Methyl-2-pentanone (MIBK)	108-10-1	X	2.08E-03	1.62E-03	1.69E-03		
aphthalene	91-20-3	X	3.54E-02	3.41E-04	2.22E-04		
n-Nitroaniline	99-09-2	Λ	3.34E-02 ND	3.41E-04 ND	ND		
-Nitroaniline	88-74-4		ND	ND ND	ND ND		
-Nitrobenzenamine	100-01-6		ND	ND	ND		
Vitrobenzene	98-95-3	X	ND	ND	ND		
-Nitrophenol	88-75-5	- ^	ND	ND	ND		
-Nitrophenol	100-02-7	X	ND	ND	ND		
V-Nitrosodiphenylamine	86-30-6	- ^	ND	ND	ND		
V-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND		
entachlorophenol	87-86-5	X	ND	ND	ND		
entaemolophenol	110-62-3	- A	3.70E-02	ND	ND		
henanthrene	85-01-8	X	ND	ND	ND		
henol	108-95-2	X	2.85E-02	9.86E-04	ND		
ropanal	123-38-6	X		7.00E 01			
Pyrene	129-00-0	X	ND	ND	ND		
tyrene	100-42-5	X	2.72E-02	ND	ND		
.1.2.2-Tetrachloroethane	79-34-5	X	ND ND	ND	ND		
etrachloroethene	127-18-4	X	2.08E-03	1.62E-03	1.69E-03		
n-Tolualdehyde	620-23-5		1.19E-01	ND	ND		
-Tolualdehyde	529-20-4		6.11E-02	ND	ND		
oluene	108-88-3	X	1.12E-01	1.56E-03	8.29E-04		
,2,4-Trichlorobenzene	120-82-1	X	ND	ND	ND		
,1,1-Trichloroethane	71-55-6	X	ND	ND	ND		
,1,2-Trichloroethane	79-00-5	X	ND	ND	ND		
richloroethene	79-01-6	X	ND	ND	ND		
,4,5-Trichlorophenol	95-95-4	X	ND	ND	ND		
,4,6-Trichlorophenol	88-06-2	X	ND	ND	ND		
/inyl Acetate	108-05-4	X	ND	ND	ND		
/inyl Chloride	75-01-4	X	ND	ND	ND		
n.p-Xylene	1330-20-7	X	6.45E-02	2.13E-03	4.94E-04		

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) J85-GE-5A

							303
	Po	wer Setting	Idle	Intermediate	Military	Afterburner-1	
	Fuel Flow	rate (lb/hr)1	434	950	2740	8138	
	Percent 1		4%	15%	88%	116%	
Compound Name	CAS Number	HAP	1,7.0			b fuel burned)	2
Acenaphthene	83-32-9	X	ND	ND ND	ND	ND ND	
Acenaphthylene	208-96-8	X	2.70E-03	4.11E-04	ND ND	ND ND	
Acetaldehyde	75-07-0	X	1.18E-01	ND	ND	ND	
Acrolein	107-02-8	X	2.70E-01	ND	ND	ND	
Anthracene	120-12-7	X	2.70E-01 ND	ND ND	ND ND	ND ND	
Benzaldehyde	100-52-7	Λ	1.10E-01	ND	ND	ND	
Benz(a)anthracene	56-55-3	X	ND	ND	ND	ND	
Benzene	71-43-2	X	1.48E-01	1.34E-01	1.14E-02	6.84E-03	
Benzenemethanol	100-51-6	А	3.64E-02	7.56E-03	6.09E-04	1.36E-04	
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND	ND	
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND	ND	
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND	ND	
Benzo(a)pyrene	50-32-8	X	ND	ND	ND	ND	
Benzoic Acid	65-85-0	Λ	ND ND	2.84E-02	1.82E-02	8.90E-03	
Bromodichloromethane	75-27-4		6.61E-03	ND	ND	8.90E-03 ND	
Bromoform	75-25-2	X	6.61E-03	ND	ND ND	ND ND	
Bromomethane	74-83-9	X	6.41E-03	ND	ND	ND	
4-Bromophenyl-phenyl Ether	101-55-3	Λ	0.41E-03 ND	ND ND	ND ND	ND ND	
1,3-Butadiene	106-99-0	X		IND			
2-Butanone (MEK)	78-93-3	А	2.88E-02	9.09E-03	ND	3.27E-04	
Butyl benzyl phthalate	85-68-7		2.88E-02 ND	9.09E-05 ND	1.12E-04	3.27E-04 3.06E-05	
Carbon Disulfide	75-15-0	X	6.77E-03	5.40E-03	6.40E-04	1.24E-04	
Carbon Tetrachloride	56-23-5	X	6.27E-03	5.36E-03	0.40L-04 ND	ND	
4-Chloroaniline	106-47-8	Λ	ND	ND	ND	ND	
Chlorobenzene	108-90-7	X	6.61E-03	ND	ND	ND	
Chlorodibromomethane	124-48-1	А	6.61E-03	ND	ND	ND	
Chloroethane	75-00-3	X	6.61E-03	ND	ND	ND	
bis(2-Chloroethoxy) Methane	111-91-1	А	ND	ND	ND	ND	
bis(2-Chloroethyl) Ether	111-44-4	X	ND	ND	ND	ND	
Chloroform	67-66-3	X	6.61E-03	5.80E-03	7.03E-04	2.29E-04	
bis(2-Choroisopropyl) Ether	39638-32-9	А	ND	ND	ND	ND ND	
Chloromethane	74-87-3	X	1.19E-02	1.10E-02	2.42E-04	1 ,6-04	
4-Chloro-3-methylphenol	59-50-7	А	ND	ND	ND ND	ND	
2-Chloronaphthalene	91-58-7		ND	ND	ND	ND	
2-Chlorophenol	95-57-8		ND	ND	Y	ND	
1-chloro-4-phenoxybenzene	7005-72-3		ND	ND	ND	ND	
Chrysene	218-01-9	X	ND	ND	ND	ND	
o-Cresol	95-48-7	X	8.04E-03	1.315 03	ND	ND	
p-Cresol	106-44-5	X	2.70E-02	.42E-03	ND	1.71E-04	
Crotonaldehyde	4170-30-3	Α.	1.34E-01	ND	ND	ND	
Dibenzofuran	132-64-9	X	1.10F	1.07E-03	ND	7.14E-05	
Dibutyl Phthalate	84-74-2	X	1.10 6E-03	3.47E-04	2.23E-04	6.93E-05	
1,2-Dichlorobenzene	95-50-1	Λ.	ND	ND	ND	ND	
1,3-Dichlorobenzene	541-73-1		ND	ND	ND	ND	
1.4-Dichlorobenzene	106-46-7	X	ND	ND	ND	ND	
3.3'-Dichlorobenzidine	91-94-1	X	ND ND	ND ND	ND ND	ND ND	
1,1-Dichloroethane	75 4-3	X	6.61E-03	ND	ND	ND	
1,1-Dichloroethane	107-06-2	X	6.61E-03	ND	ND ND	ND	
1,2-Dichloroethane 1.1-Dichloroethene	75-35-4	X	6.61E-03	ND ND	ND ND	ND ND	
cis-1,2-Dicholorethene	156-59-2	Λ	6.61E-03	ND ND	ND ND	ND ND	
			6.61E-03		ND ND	ND ND	
trans-1,2-Dichloroethene	156-60-5			ND			
2,4-Dichlorophenol 1,2-Dichloropropane	120-83-2 78-87-5	X	ND 6.61E-03	ND ND	ND ND	ND ND	
		А		ND ND	ND ND	ND ND	
cis-1,3-Dichlorop pene	10061-01-5		6.61E-03				
trans-1,3-Di noropropene	10061-02-6		6.61E-03	ND 0.52E.04	ND	ND	
Diethy nthalate	84-66-2		ND	9.53E-04	1.61E-03	1.01E-03	

	Po	wer Setting	Idle	Intermediate	Military	Afterburner-1	
	Fuel Flow	ate (lb/hr)1	434	950	2740	8138	
		hrust/hp <sup>1</sup>	4%	15%	88%	116%	
C IV	CAS Number	HAP				1100	
Compound Name		HAP				b fuel surned)2	
2,4-Dimethylphenol	105-67-9	V.	ND	ND	ND ND	ND	
Dimethyl phthalate	131-11-3	X	ND ND	ND ND		ND ND	
4,6-Dinitro-o-cresol	534-52-1				10		
2,4-Dinitrophenol	51-28-5	X	ND	ND ND	ND	ND	
2,4-Dinitrotoluene	121-14-2	X	ND	ND	ND	ND	
2,6-Dinitrotoluene	606-20-2	V	ND 1 car oa	1.54E-04	ND 2 OTE 04	ND 1 22E 04	
Di(2-Ethylhexyl) Phthalate (DEHP) Di-n-Octyl phthalate	117-81-7 117-84-0	X	1.63E-03 ND	7.54E-04 ND	3.87E-04 ND	1.33E-04 ND	
Ethylbenzene	100-41-4	X		8.80E-03	3.75E-04	5.24E-04	
Fluoranthene	206-44-0	X	3.06T 52	8.80E-03 ND	3.73E-04 ND	3.24E404 ND	
Fluorene	86-73-7	X	5.37E-03	3.62E-04	ND ND	ND ND	
Formaldehyde	50-00-0	^_	2.26E-01	5.45E-01	7.37E-02	2.40E-02	
Hexachlorobenzene	118-74-1	X	2.26E-01 ND	5.45E-01 ND	7.5/E-02 ND	2.40E-02 ND	
Hexachlorobenzene Hexachlorobutadiene	87-68	X	ND ND	ND ND	ND ND	ND ND	
Hexachlorocyclopentadiene	2 47-4	X	ND ND	ND ND	ND ND	ND ND	
Hexachloroethane	67-72-1	X	ND ND	ND ND	ND	ND ND	
Hexacoloroetnane Hexanal	66-25-1	Λ	ND ND	ND ND	ND ND	ND ND	
Hexanai 2-Hexanone	591-78-6		6.61E-03	5.73E-03	ND ND	1.94E-04	
Indeno(1,2,3-cd)pyrene	193-39-5	X	0.01E-03 ND	3.73E-03 ND	ND	1.94E-04 ND	
	78-59-1	X	ND ND	ND ND	ND	ND ND	
Isophorone Isovaleraldehyde	78-59-1 590-86-3	А	ND ND	ND ND	ND ND	ND ND	
Methylene Chlorae	75-09-2	X	3.28E-02	5.53E-02	2.85E-02	6.44E-03	
	91-57-6	Λ	3.28E-02 1.24E-01	1.35E-02	1.07E-03	1.21E-03	
2-Methylp onthalene 4-Methyl-2-pentanone (MIBK)	108-10-1	X	6.61E-03	1.53E-02 ND	ND	ND	
aphthalene	91-20-3	X	9.65E-02	1.28E-02	1.27E-03	8.16E-04	
m-Nitroaniline	99-09-2	Λ	9.63E-02 ND	1.28E-02 ND	1.2/E-03 ND	8.10E-04 ND	
o-Nitroaniline	88-74-4		ND	ND ND	ND ND	ND ND	
4-Nitrobenzenamine	100-01-6		ND	ND	ND	ND ND	
Nitrobenzene	98-95-3	X	ND	ND	ND	ND ND	
2-Nitrophenol	88-75-5	Λ	ND	2.21E-03	ND	ND	
4-Nitrophenol	100-02-7	X	ND	ND ND	ND	ND	
N-Nitrosodiphenylamine	86-30-6	Α	ND	ND	ND	ND	
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND ND	
Pentachlorophenol	87-86-5	X	ND	ND ND	ND	ND ND	
Pentanal	110-62-3	А	ND	ND	ND	ND	
Phenanthrene	85-01-8	X	1.48E-03	6.03E-04	ND	ND	
Phenol	108-95-2	X	7.17E-02	1.24E-02	1.52E-03	9.39E-04	
Propanal	123-38-6	X	7.172.02	1.2 12 02		7.572 01	
Pyrene	129-00-0	X	ND	1.89E-04	ND	ND	
Styrene	100-42-5	X	4.17E-02	1.29E-02	5.02E-04	2.85E-04	
1,1,2,2-Tetrachloroethane	79-34-5	X	6.61E-03	ND	ND	ND	
Tetrachloroethene	127-18-4	X	6.61E-03	5.73E-03	ND	ND	
n-Tolualdehyde	620-23-5		ND	ND	ND	ND	
o-Tolualdehyde	529-20-4		ND	ND	ND	ND	
Foluene	108-88-3	X	1.67E-01	4.91E-02	3.23E-03	1.74E-03	
1,2,4-Trichlorobenzene	120-82-1	X	ND	ND	ND ND	ND	
1,1,1-Trichloroethane	71-55-6	X	6.61E-03	ND	ND	ND	
1,1,2-Trichloroethane	79-00-5	X	6.61E-03	ND	ND	ND	
Frichloroethene	79-01-6	X	6.61E-03	ND	ND	ND	
2,4,5-Trichlorophenol	95-95-4	X	ND	ND	ND	ND	
2,4,6-Trichlorophenol	88-06-2	X	ND	ND	ND	ND	
Vinyl Acetate	108-05-4	X	6.61E-03	ND	ND	ND	
Vinyl Chloride	75-01-4	X	6.61E-03	ND	ND	ND	
m,p-Xylene	1330-20-7	X	9.89E-02	2.55E-02	1.29E-03	1.88E-03	
o-Xylene	95-47-6	X	3.85E-02	1.07E-02	4.90E-04	9.04E-04	

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes 1-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) J85-GE-5M

							305
	Po	wer Setting	Idle	Intermediate	Military	Afterburner	
	Fuel Flow	ate (lb/hr)1	525	1045	2550	7695	
	Percent 1		50%	86%	99%	100%	
Compound Name	CAS Number	HAP		Emission Fact			2
Acenaphthene	83-32-9	X	ND	ND ND	ND		
Acenaphthylene	208-96-8	X	ND	ND	ND		
Acetaldehyde	75-07-0	X	2.44E-01	1.91E-02	1.57E-03		
Acrolein	107-02-8	X	3.14E-01	1.24E-02	1.18E-03		
Anthracene	120-12-7	X	ND	ND	ND		
Benzaldehyde	100-52-7		7.81E-02	1.24E-02	1.18E-03		
Benz(a)anthracene	56-55-3	X	ND	ND	ND		
Benzene	71-43-2	X	3.05E-02	2.34E-02	2.56E-03		
Benzenemethanol	100-51-6				-		
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND		
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND		
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND		
Benzo(a)pyrene	50-32-8	X	ND	ND	ND		
Benzoic Acid	65-85-0						
Bromodichloromethane	75-27-4		ND	ND	ND		
Bromoform	75-25-2	X	ND	ND	ND		
Bromomethane	74-83-9	X	ND	6.62E-05	ND		
4-Bromophenyl-phenyl Ether	101-55-3						
1,3-Butadiene	106-99-0	X	1.20E-02	6.02E-03	ND		
2-Butanone (MEK)	78-93-3		3.94E-02	6.77E-03	9.29E-04		
Butyl benzyl phthalate	85-68-7						
Carbon Disulfide	75-15-0	X	ND	ND	ND		
Carbon Tetrachloride	56-23-5	X	1.09E-04	3.18E-04	1.47E-04		
4-Chloroaniline	106-47-8	**			1770		
Chlorobenzene	108-90-7	X	ND	ND	ND		
Chlorodibromomethane	124-48-1	**	ND	ND	ND		
Chloroethane	75-00-3	X	ND	9.44E-05	ND 		
bis(2-Chloroethoxy) Methane	111-91-1 111-44-4	37					
bis (2-Chloroethyl) Ether Chloroform	67-66-3	X	ND	ND	ND		
bis(2-Choroisopropyl) Ether	39638-32-9	A	ND 	ND 	ND 		
Chloromethane	74-87-3	X	2.69E-04	3.12E-04	7.77E-05		
4-Chloro-3-methylphenol	59-50-7	Λ	2.09E-04	3.12E-04	7.77E-03		
2-Chloronaphthalene	91-58-7		ND	ND	ND		
2-Chlorophenol	95-57-8		ND	ND	ND		
1-chloro-4-phenoxybenzene	7005-72-3				-		
Chrysene	218-01-9	X	ND	ND	ND		
o-Cresol	95-48-7	X					
p-Cresol	106-44-5	X					
Crotonaldehyde	4170-30-3		1.18E-01	1.24E-02	1.18E-03		
Dibenzofuran	132-64-9	X					
Dibutyl Phthalate	84-74-2	X					
1,2-Dichlorobenzene	95-50-1						
1,3-Dichlorobenzene	541-73-1						
1,4-Dichlorobenzene	106-46-7	A					
3,3'-Dichlorobenzidine	91-94-1	X					
1,1-Dichloroethane	75-3	X	ND	ND	ND		
1,2-Dichloroethane	01-06-2	X	ND	ND	ND		
1,1-Dichloroethene	75-35-4	X	ND	ND	ND		
cis-1,2-Dicholorethene	156-59-2		ND	ND	ND		
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND		
2,4-Dichlorophenol	120-83-2						
1,2-Dichloropropane	78-87-5	X					
cis-1,3-Dichloropro ne	10061-01-5	- 1	ND	7.91E-05	ND		
			ND ND	7.91E-05 9.44E-05	ND ND		

	Po	wer Setting	Idle	Intermediate	Military	Afterburner	
	Fuel Flow	ate (lb/hr)1	525	1045	2550	7695	
			50%	86%	99%	100%	
		hrust/hp1			77.14		
Compound Name	CAS Number	HAP		Emission Fact	ors (lb/1000ll	b fuel Jarned) <sup>2</sup>	
2,4-Dimethylphenol	105-67-9						
Dimethyl phthalate	131-11-3	X					
4,6-Dinitro-o-cresol	534-52-1	X					
2,4-Dinitrophenol	51-28-5 121-14-2	X					
2,4-Dinitrotoluene 2,6-Dinitrotoluene	606-20-2	Λ					
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X					
Di-n-Octyl phthalate	117-84-0	- ^					
Ethylbenzene	100-41-4	X	7.36F o	2.38E-03	8.21E-05		
Fluoranthene	206-44-0	X	ND	ND	ND		
Fluorene	86-73-7	X	ND	ND	ND		
Formaldehyde	50-00-0		2.27E+00	3.48E-01	2.39E-02		
Hexachlorobenzene	118-74-1	X					
Hexachlorobutadiene	87-68-2	X					
Hexachlorocyclopentadiene	77-11-4	X					
Hexachloroethane	67-72-1	X					
Hexanal	66-25-1		7.81E-02	1.24E-02	1.18E-03		
2-Hexanone	591-78-6		ND	ND	ND		
Indeno(1,2,3-cd)pyrene	193-39-5	X	ND	ND	ND		
sophorone	78-59-1	X					
sovaleraldehyde	590-86-3	**	7.81E-02	1.24E-02	1.18E-03		
Methylene Chlorice	75-09-2	X	1.32E-04	5.53E-04	2.53E-04		
2-Methylne athalene	91-57-6 108-10-1	X	1.29E-01 ND	ND ND	ND ND		
4-Meth 1-2-pentanone (MIBK)	91-20-3	X		ND ND	ND ND		
m-Nitroaniline	99-09-2	А	8.29E-02	ND 	ND 		
o-Nitroaniline	88-74-4						
4-Nitrobenzenamine	100-01-6						
Nitrobenzene	98-95-3	X					
2-Nitrophenol	88-75-5	- 1					
4-Nitrophenol	100-02-7	X					
N-Nitrosodiphenylamine	86-30-6						
N-Nitrosodi-n-propylamine	621-64-7						
Pentachlorophenol	87-86-5	X					
Pentanal	110-62-3		2.44E-01	1.24E-02	1.18E-03		
Phenanthrene	85-01-8	X	ND	ND	ND		
Phenol	108-95-2	X					
Propanal	123-38-6	X	7.81E-02	1.24E-02	1.18E-03		
Pyrene	129-00-0	X	ND	ND	ND		
Styrene	100-42-5	X	7.88E-03	2.44E-03	1.08E-04		
1,1,2,2-Tetrachloroethane	79-34-5	X	ND	ND	ND		
Tetrachloroethene	127-18-4 620-23-5	X	ND	ND	ND		
m-Tolualdehyde o-Tolualdehyde	529-20-4		9.33E-02	1.24E-02	1.18E-03		
Foluene	108-88-3	X	9.33E-02 2.76E-02	1.24E-02 1.14E-02	9.14E-04		
1.2.4-Trichlorobenzene	120-82-1	X	2.7013-02	1.1415-02	9.1412-04		
1,1,1-Trichloroethane	71-55-6	X	ND	ND	ND		
1,1,2-Trichloroethane	79-00-5	X	ND	ND	ND		
Trichloroethene	79-01-6	X					
2,4,5-Trichlorophenol	95-95-4	X					
2,4,6-Trichlorophenol	88-06-2	X					
Vinyl Acetate	108-05-4	X	ND	ND	ND		
Vinyl Chloride	75-01-4	X					
m,p-Xylene	1330-20-7	X	2.44E-02	7.63E-03	4.33E-04		
o-Xylene	95-47-6	X	1.59E-02	4.83E-03	2.33E-04		

Data obtained from Clean Air Act Emissions Testing of the T-38C Aircraft Engines September 2002, IERA-RS-BR-TR-2003-0001

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) PT6A-68

	Po	wer Setting	Ground Idle	Flight Idle	Descend	Approach	Max. Continuou:
	Fuel Flow	ate (lb/hr)1	156	180	328	449	612
		hrust/hp <sup>1</sup>	2%	3%	19%	46%	88%
C IV	CAS Number	HAP	270		->,,,		0077
Compound Name					ctors (lb/1000l		
Acenaphthene	83-32-9 208-96-8	X	ND ND	ND ND	ND ND	ND ND	ND ND
Acenaphthylene Acetaldehyde	75-07-0	X	2.99E-01	3.47E-01	8.78E-02	1.04E-02	2.17E-03
Acrolein	107-02-8	X	7.16E-01	6.00E-01	5.06E-02	ND	2.17E-03 ND
Anthracene	120-12-7	X	ND	ND	ND	ND	ND
Benzaldehyde	100-52-7	Λ	2.34E-02	1.73E-01	4.45E-02	8.01E-03	ND
Benz(a)anthracene	56-55-3	X	ND	ND	ND	ND	ND
Benzene	71-43-2	X	1.67E-01	5.22E-01	8.49E-02	1.04E-02	8.63E-04
Benzenemethanol	100-51-6						
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND	ND	ND
Benzo(a)pyrene	50-32-8	X	ND	ND	ND	ND	ND
Benzoic Acid	65-85-0						
Bromodichloromethane	75-27-4		ND	ND	ND	ND	ND
Bromoform	75-25-2	X	ND	ND	ND	ND	ND
Bromomethane	74-83-9	X	ND	ND	ND	ND	1.53E-04
4-Bromophenyl-phenyl Ether	101-55-3						
1,3-Butadiene	106-99-0	X	1.49E-01	2.67E-01	1.10E-02	ND	ND
2-Butanone (MEK)	78-93-3		1.32E-02	ND	2.65E-03	ND	ND
Butyl benzyl phthalate	85-68-7						
Carbon Disulfide	75-15-0	X	ND	ND	ND	ND	ND
Carbon Tetrachloride	56-23-5	X	ND	ND	ND	ND	ND
4-Chloroaniline	106-47-8	**	170				
Chlorobenzene	108-90-7	X	ND	ND	ND	ND	ND
Chlorodibromomethane	124-48-1	**	ND	ND	ND	ND	ND
Chloroethane	75-00-3	X	ND 	ND 	ND 	ND 	ND
bis(2-Chloroethoxy) Methane	111-91-1 111-44-4	v					
bis(2-Chloroethyl) Ether	67-66-3	X	ND	ND	ND	ND	ND
Chloroform bis(2-Choroisopropyl) Ether	39638-32-9	X	ND	ND	ND	ND	ND
Chloromethane	74-87-3	X	1.55E-03	ND	1.47E-03	1 04	5.72E-04
4-Chloro-3-methylphenol	59-50-7	А	1.33E-03	ND 	1.4/E-05	Æ-04	3.72E+04
2-Chloronaphthalene	91-58-7		ND	ND	ND	ND	ND
2-Chlorophenol	95-57-8				, ND		
1-chloro-4-phenoxybenzene	7005-72-3						
Chrysene	218-01-9	X	ND	ND	ND	ND	ND
o-Cresol	95-48-7	X		1.12			
p-Cresol	106-44-5	X					
Crotonaldehyde	4170-30-3		2.08E-01	1.73E-01	ND	ND	ND
Dibenzofuran	132-64-9	X					
Dibutyl Phthalate	84-74-2	X					
1,2-Dichlorobenzene	95-50-1						
1,3-Dichlorobenzene	541-73-1		-				
1,4-Dichlorobenzene	106-46-7	Х	-				
3,3'-Dichlorobenzidine	91-94	X	-				
1,1-Dichloroethane	34-3	X	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	X	ND	ND	ND	ND	ND
1,1-Dichloroethene	75-35-4	X	ND	ND	ND	ND	ND
cis-1,2-Dicholorethene	156-59-2		ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND	ND	ND
2,4-Dichlorophenol	120-83-2						
1,2-Dichloropropan	78-87-5	X	ND	ND	ND	ND	ND
cis-1,3-Dichlo propene	10061-01-5		ND	ND	ND	ND	ND
trans-1,3 chloropropene	10061-02-6		ND	ND	ND	ND	ND
Die 1 Phthalate	84-66-2						

	Pov	wer Setting	Ground Idle	Flight Idle	Descend	Approach	Max. Continu
	Fuel Flowr	ate (lb/hr)1	156	180	328	449	,12
	Percent T	hrust/hp1	2%	3%	19%	46%	88%
Compound Name	CAS Number	НАР					
•		ПАГ			ctors (lb/1000		
,4-Dimethylphenol Dimethyl phthalate	105-67-9 131-11-3	X					
,6-Dinitro-o-cresol	534-52-1	X					
,4-Dinitro-o-cresor ,4-Dinitrophenol	51-28-5	X					
4-Dinitrophenoi	121-14-2	X					
.6-Dinitrotoluene	606-20-2	Λ.					
i(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X					
i-n-Octyl phthalate	117-84-0	А					
thylbenzene	100-41-4	X	4.76F	4.94E-02	2.52E-03	2.09E-04	1.07E-04
luoranthene	206-44-0	X	ND	ND	ND	ND	ND
luorene	86-73-7	X	ND	ND	ND	ND	ND
ormaldehyde	50-00-0		4.81E+00	5.27E+00	2.93E+00	6.73E-01	2.21E-02
lexachlorobenzene	118-74-1	X					
lexachlorobutadiene	87-68	X					
lexachlorocyclopentadiene	2 41-4	X					
exachloroethane	67-72-1	X					
[exanal	66-25-1		1.56E-01	ND	ND	ND	ND
-Hexanone	591-78-6		1.52E-02	ND	ND	ND	ND
ndeno(1,2,3-cd)pyrene	193-39-5	X	ND	ND	ND	ND	ND
ophorone	78-59-1	X					
ovaleraldehyde	590-86-3		ND	ND	ND	ND	ND
lethylene Chl., de	75-09-2	X	ND	ND	1.93E-03	3.42E-04	1.72E-04
-Methyl phthalene	91-57-6		ND	ND	ND	ND	9.04E-02
M nyl-2-pentanone (MIBK)	108-10-1	X	1.52E-02	ND	ND	ND	ND
aphthalene	91-20-3	X	ND	1.16E-02	ND	ND	7.68E-02
-Nitroaniline	99-09-2 88-74-4						
-Nitroaniline	100-01-6						
-Nitrobenzenamine litrobenzene	98-95-3	X					
-Nitrophenol	98-75-5 88-75-5	Λ					
-Nitrophenol	100-02-7	X					
-Nitrosodiphenylamine	86-30-6	- 1					
-Nitrosodi-n-propylamine	621-64-7						
entachlorophenol	87-86-5	X					
entanal	110-62-3		9.61E-02	6.83E-02	3.32E-02	ND	ND
henanthrene	85-01-8	X	ND	ND	ND	ND	ND
henol	108-95-2	X					
ropanal	123-38-6	X					
yrene	129-00-0	X	ND	ND	ND	ND	ND
tyrene	100-42-5	X	4.68E-02	3.80E-02	8.05E-03	ND	ND
1,2,2-Tetrachloroethane	79-34-5	X	ND	ND	ND	ND	ND
etrachloroethene	127-18-4	X	ND	ND	ND	ND	ND
1-Tolualdehyde	620-23-5		1.56E-01	8.83E-02	ND	7.20E-03	ND
-Tolualdehyde	529-20-4		ND	ND	ND	ND	ND
oluene	108-88-3	X	1.65E-01	2.42E-01	2.46E-02	2.37E-03	5.18E-04
2,4-Trichlorobenzene	120-82-1	X					
1,1-Trichloroethane	71-55-6	X	ND	ND	ND	ND	ND
1,2-Trichloroethane	79-00-5	X	ND	ND	ND	ND	ND
richloroethene	79-01-6 95-95-4	X	ND	ND	ND	ND	ND
4,5-Trichlorophenol	95-95-4 88-06-2	X					
4,6-Trichlorophenol	88-06-2 108-05-4	X	1.52E-02	ND	ND	ND	ND
inyl Acetate inyl Chloride	75-01-4	X	1.52E-02	ND 	ND 	ND 	ND
inyi Chionde Lp-Xylene	1330-20-7	X	1.13E-01	1.31E-01	6.03E-03	6.01E-04	1.29E-03
-Xylene	95-47-6	X	5.98E-02	6.60E-02	2.92E-03	6.01E-04 2.59E-04	1.29E-03 1.54E-04

<sup>1.</sup> Data obtained from PT6A-68 Emissions Measurement Program Summary September 2002, IERA-RS-BR-SR-2003-0003

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) T56-A-7

	Po	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flow	rate (lb/hr)1	724	880	1742	2262	
	Percent 1	Thrust/hp <sup>1</sup>	5%	15%	61%	90%	
Compound Name	CAS Number	HAP		Emission Fac	tors (lb/1000ll	fuel burned)	2
Acenaphthene	83-32-9	X	ND	ND	ND	ND	
Acenaphthylene	208-96-8	X	ND	ND	ND	ND	
Acetaldehyde	75-07-0	X	1.04E-02	AA	5.43E-04	1.64E-04	
Acrolein	107-02-8	X	ND	ND	ND	ND	
Anthracene	120-12-7	X	ND	ND	ND	ND	
Benzaldehyde	100-52-7		1.13E-03	8.76E-04	4.67E-04	ND	
Benz(a)anthracene	56-55-3	X	ND	ND	ND	ND	
Benzene	71-43-2	X	4.77E-03	4.45E-03	1.34E-03	7.84E-04	
Benzenemethanol	100-51-6		ND	ND	ND	ND	
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND	ND	
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND	ND	
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND	ND	
Benzo(a)pyrene	50-32-8	X	ND	ND	ND	ND	
Benzoic Acid	65-85-0		6.44E-03	8.87E-03	3.83E-03	2.03E-03	
Bromodichloromethane	75-27-4		ND	ND	ND	ND	
Bromoform	75-25-2	X	ND	ND	ND	ND	
Bromomethane	74-83-9	X	ND	ND	ND	ND	
4-Bromophenyl-phenyl Ether	101-55-3		ND	ND	ND	ND	
1.3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		4.63E-04	3.62E-04	ND	1.75E-04	
Butyl benzyl phthalate	85-68-7		ND	ND	ND	ND	
Carbon Disulfide	75-15-0	X	7.20E-04	1.63E-03	1.04E-03	2.87E-04	
Carbon Tetrachloride	56-23-5	X	ND	5.24E-04	1.43E-04	2.35E-04	
4-Chloroaniline	106-47-8		ND	ND	ND	ND	
Chlorobenzene	108-90-7	X	ND	ND	ND	ND	
Chlorodibromomethane	124-48-1		ND	ND	ND	ND	
Chloroethane	75-00-3	X	ND	ND	ND	ND	
bis(2-Chloroethoxy) Methane	111-91-1		ND	ND	ND	ND	
bis(2-Chloroethyl) Ether	111-44-4	X	ND	ND	ND	ND	
Chloroform	67-66-3	X	2.23E-03	5.40E-04	9.66E-04	5.15E-04	
bis(2-Choroisopropyl) Ether	39638-32-9		ND	ND	ND	ND	
Chloromethane	74-87-3	X	ND	4.54E-04	3.14E-04	24E-04	
4-Chloro-3-methylphenol	59-50-7		ND	ND	ND	ND	
2-Chloronaphthalene	91-58-7		ND	ND	ND	ND	
2-Chlorophenol	95-57-8		ND	ND	.0	ND	
1-chloro-4-phenoxybenzene	7005-72-3		ND	ND	ND	ND	
Chrysene	218-01-9	X	ND	ND	ND	ND	
o-Cresol	95-48-7	X	ND	23	ND	ND	
p-Cresol	106-44-5	X	ND	ND	ND	ND	
Crotonaldehyde	4170-30-3		ND 🥒	ND	ND	ND	
Dibenzofuran	132-64-9	X	N	ND	ND	ND	
Dibutyl Phthalate	84-74-2	X	.03E-04	3.32E-04	1.11E-04	1.05E-04	
1.2-Dichlorobenzene	95-50-1		ND	ND	ND	ND	
1,3-Dichlorobenzene	541-73-1		ND	ND	ND	ND	
1.4-Dichlorobenzene	106-46-7	Х	ND	ND	ND	ND	
3,3'-Dichlorobenzidine	91-94	X	ND	ND	ND	ND	
1,1-Dichloroethane	2 34-3	X	ND	ND	ND	ND	
1.2-Dichloroethane	107-06-2	X	ND	ND	ND	ND	
1,1-Dichloroethene	75-35-4	X	ND	ND	ND	ND	
cis-1,2-Dicholorethene	156-59-2		ND	ND	ND	ND	
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND	ND	
2,4-Dichlorophenol	120-83-2		ND	ND	ND	ND	
1,2-Dichloropropane	78-87-5	X	ND	ND	ND	ND	
cis-1,3-Dichlore ropene	10061-01-5	- ^	ND	ND	ND	ND	
trans-1,3 P inforopropene	10061-01-5		ND	ND	ND	ND	
Dieth Phthalate	84-66-2		9.66E-04	2.58E-04	ND ND	4.25E-04	
- Intrasact	04-00-2		7.00L20 <del>1</del>	2.701704	IND.	7.271707	

	Pov	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flowr	t (1b/b)1	724	880	1742	2262.	
		, ,					
	Percent T	hrust/hp1	5%	15%	61%	90%	
Compound Name	CAS Number	HAP		Emission Fac	tors (lb/1000lb	o fuel Jurned) <sup>2</sup>	
2,4-Dimethylphenol	105-67-9		ND	ND	ND	ND	
Dimethyl phthalate	131-11-3	X	ND	ND	ND	ND	
4,6-Dinitro-o-cresol	534-52-1	X	ND	ND	Ē	ND	
2,4-Dinitrophenol	51-28-5	X	ND	ND	ND	ND	
2,4-Dinitrotoluene	121-14-2	X	ND	ND	ND	ND	
2,6-Dinitrotoluene	606-20-2		ND	8	ND	ND	
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	2.42E-03	3.32E-03	1.19E-03	AA	
Di-n-Octyl phthalate	117-84-0		ND	ND	ND	ND	
Ethylbenzene	100-41-4	X	M	4.06E-04	2.07E-04	1.80E-04	
Fluoranthene	206-44-0	X	ND	ND	ND	ND	
Fluorene	86-73-7	X	ND	ND	ND	ND	
Formaldehyde	50-00-0		4.10E-02	3.34E-02	9.30E-03	3.81E-04	
Hexachlorobenzene	118-74-1	X	ND	ND	ND	ND	
Hexachlorobutadiene	87-68	X	ND	ND	ND	ND	
Hexachlorocyclopentadiene	47-4	X	ND	ND	ND	ND	
Hexachloroethane	67-72-1	X	ND	ND	ND	ND	
Hexanal	66-25-1		ND	ND	ND	ND	
2-Hexanone	591-78-6	**	ND	ND	ND	ND	
Indeno(1,2,3-cd)pyrene	193-39-5	X	ND	ND	ND	ND	
Isophorone	78-59-1	X	ND ND	ND ND	ND ND	ND ND	
Isovaleraldehyde	590-86-3 75-09-2	X	7.14E-04	ND 9.81E-04	7.83E-04	4.23E-04	
Methylene Chlde		А	7.14E-04 7.27E-04	6.81E-04	7.83E-04 1.03E-04		
2-Methyl phthalene	91-57-6 108-10-1	X	7.2/E-04 ND	0.81E-04 ND	1.03E-04 ND	3.45E-05 ND	
4-M xyl-2-pentanone (MIBK)	91-20-3	X	1.16E-03	1.03E-03	1.77E-04	1.34E-04	
m-Nitroaniline	99-09-2	А	1.16E-03 ND	1.03E-03 ND	1.//E-04 ND	1.34E-04 ND	
o-Nitroaniline	88-74-4		ND	ND	ND	ND	
4-Nitrobenzenamine	100-01-6		ND	ND	ND	ND ND	
Nitrobenzene	98-95-3	X	ND	ND	ND	ND	
2-Nitrophenol	88-75-5	Λ	ND	ND	ND	ND	
4-Nitrophenol	100-02-7	X	ND	ND	ND	ND	
N-Nitrosodiphenylamine	86-30-6		ND	ND	ND	ND	
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND	
Pentachlorophenol	87-86-5	X	ND	ND	ND	ND	
Pentanal	110-62-3		ND	ND	ND	ND	
Phenanthrene	85-01-8	X	ND	ND	ND	ND	
Phenol	108-95-2	X	ND	ND	ND	ND	
Propanal	123-38-6	X					
Pyrene	129-00-0	X	ND	ND	ND	ND	
Styrene	100-42-5	X	7.09E-04	3.67E-04	ND	ND	
1,1,2,2-Tetrachloroethane	79-34-5	X	ND	ND	ND	ND	
Tetrachloroethene	127-18-4	X	ND	ND	ND	2.15E-04	
m-Tolualdehyde	620-23-5		ND	ND	ND	ND	
o-Tolualdehyde	529-20-4		ND	ND	ND	ND	
Toluene	108-88-3	X	2.71E-03	2.29E-03	9.61E-04	2.53E-05	
1,2,4-Trichlorobenzene	120-82-1	X	ND	ND	ND	ND	
1,1,1-Trichloroethane	71-55-6	X	ND	ND	ND	ND	
1,1,2-Trichloroethane	79-00-5	X	1.58E-03	1.30E-03	6.30E-04	4.78E-04	
Trichloroethene	79-01-6	X	ND	ND	ND	ND	
2,4,5-Trichlorophenol	95-95-4	X	ND	ND	ND	ND	
2,4,6-Trichlorophenol	88-06-2	X	ND	ND	ND	ND	
Vinyl Acetate	108-05-4	X	ND	ND	ND	ND	
Vinyl Chloride	75-01-4	X	ND	ND	ND	ND	
m,p-Xylene	1330-20-7	X	6.70E-04	7.31E-04	4.14E-04	6.26E-04	
o-Xylene	95-47-6	X	6.56E-04	3.23E-04	1.68E-04	2.48E-04	

Data obtained from Aircraft Engine and APU Emissions Testing Volumes 1-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)
T64-GE-100

	Po	wer Setting	Ground Idle	75% Normal	Normal	Military	
	Fuel Flow	ate (lb/hr)1	298	941	1698	1848	
		hrust/hp <sup>1</sup>	2%	34%	81%	90%	
a 111						, , , , ,	2
Compound Name	CAS Number	HAP		Emission Fac			
Acenaphthene	83-32-9	X	7.92E-04	ND	ND	ND	
Acenaphthylene	208-96-8	X	3.59E-03	ND 1 20F 02	ND	2.13E-04	
Acetaldehyde	75-07-0	X	5.07E-02	1.20E-03	ND	ND	
Acrolein	107-02-8	X	1.14E-01	1.37E-03	ND ND	ND	
Anthracene Benzaldehyde	120-12-7 100-52-7	X	4.97E-04 5.91E-02	ND 1.86E-03	ND ND	ND ND	
Benz(a)anthracene	56-55-3	X	3.91E-02 4.97E-04	1.80E-03 ND	ND ND	ND ND	
Benzene Benzene	71-43-2	X	2.16E-01	1.26E-02	4.00E-03	3.88E-03	
Benzenemethanol	100-51-6	Λ	2.48E-03	1.20E-02 ND	4.00E-03 ND	3.88E-03 ND	
Benzo(b)fluoranthene	205-99-2	X	4.97E-04	ND	ND	ND	
Benzo(k)fluoranthene	207-08-9	X	4.97E-04	ND	ND	ND	
Benzo(g,h,i)perylene	191-24-2	X	4.97E-04	ND	ND	ND	
Benzo(a)pyrene	50-32-8	X	4.97E-04	ND	ND	ND	
Benzoic Acid	65-85-0		4.93E-02	7.14E-03	3.22E-03	ND	
Bromodichloromethane	75-27-4		1.13E-03	ND	ND	ND	
Bromoform	75-25-2	X	1.13E-03	ND	ND	ND	
Bromomethane	74-83-9	X	1.13E-03	ND	ND	ND	
4-Bromophenyl-phenyl Ether	101-55-3		4.97E-04	ND	ND	ND	
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		2.96E-02	2.33E-04	ND	ND	
Butyl benzyl phthalate	85-68-7		4.97E-04	ND	ND	ND	
Carbon Disulfide	75-15-0	X	1.13E-03	ND	ND	ND	
Carbon Tetrachloride	56-23-5	X	1.13E-03	ND	ND	ND	
4-Chloroaniline	106-47-8		4.97E-03	ND	ND	ND	
Chlorobenzene	108-90-7	X	1.13E-03	ND	ND	ND	
Chlorodibromomethane	124-48-1		1.13E-03	ND	ND	ND	
Chloroethane	75-00-3	X	1.13E-03	ND	ND	ND	
bis (2-Chloroethoxy) Methane	111-91-1	**	4.97E-04	ND	ND	ND	
bis(2-Chloroethyl) Ether Chloroform	111-44-4 67-66-3	X	4.97E-04 1.13E-03	ND 7.45E-05	ND 4.00E-05	ND 3.70E-05	
bis (2-Chorois opropyl) Ether	39638-32-9	Λ	4.97E-04	7.43E-03 ND	4.00E-03 ND	3.70E-03 ND	
Chloromethane	74-87-3	X	1.21E-03	ND ND	ND ND	NI AD	
4-Chloro-3-methylphenol	59-50-7	Λ	2.48E-03	ND	ND ND	NO	
2-Chloronaphthalene	91-58-7		4.97E-04	ND	ND ND	ND	
2-Chlorophenol	95-57-8		2.48E-03	ND	IND 2	ND	
1-chloro-4-phenoxybenzene	7005-72-3		4.97E-04	ND	ND	ND	
Chrysene	218-01-9	X	4.97E-04	ND ND	ND	ND	
o-Cresol	95-48-7	X	2.35E-03	N	ND	ND	
p-Cresol	106-44-5	X	2.66E-03	ND	ND	NO	
Crotonaldehyde	4170-30-3		5.07E-02	1.01E-03	ND	ND	
Dibenzofuran	132-64-9	X	1.86F 3	ND	ND	ND	
Dibutyl Phthalate	84-74-2	X	7/E-04	ND	2.81E-05	2.13E-04	
1,2-Dichlorobenzene	95-50-1		4.97E-04	ND	ND	ND	
1,3-Dichlorobenzene	541-73-1		4.97E-04	ND	ND	ND	
1,4-Dichlorobenzene	106-46-7	X	4.97E-04	ND	ND	ND	
3,3'-Dichlorobenzidine	91-94.1	X	4.97E-04	ND	ND	ND	
1,1-Dichloroethane	7° 54-3	X	1.13E-03	ND	ND	ND	
1,2-Dichloroethane	107-06-2	X	1.13E-03	ND	ND	ND	
1,1-Dichloroethene	75-35-4	X	1.13E-03	ND	ND	ND	
cis-1,2-Dicholorethene	156-59-2		1.13E-03	ND	ND	ND	
trans-1,2-Dichloroethene	156-60-5		1.13E-03	ND	ND	ND	
2,4-Dichlorophenol	120-83-2	V.	2.48E-03	ND	ND	ND	
1,2-Dichloropropane	78-87-5	X	1.13E-03	ND	ND	ND	
cis-1,3-Dichloror pene	10061-01-5		1.13E-03	ND	ND	ND	
trans-1,3-Di noropropene	10061-02-6		1.13E-03	ND	ND	ND 2.22F.04	
Diethy hthalate	84-66-2		4.97E-04	ND	ND	2.32E-04	

	Po	wer Setting	Ground Idle	75% Normal	Normal	Military	
	Fuel Flow	rate (lb/br) <sup>1</sup>	298	941	1698	1848	
		hrust/hp <sup>1</sup>	2%	34%	81%	90%	
G IV	CAS Number	HAP					
Compound Name		HAP				o fuel Jurned)	
2,4-Dimethylphenol	105-67-9	V.	2.48E-03	ND	ND ND	ND ND	
Dimethyl phthalate	131-11-3	X	4.97E-04 9.90E-03	ND ND		ND ND	
4,6-Dinitro-o-cresol	534-52-1				10		
2,4-Dinitrophenol	51-28-5	X	9.90E-03	ND	ND	ND	
2,4-Dinitrotoluene	121-14-2	X	4.97E-03	ND	ND	ND	
2,6-Dinitrotoluene	606-20-2	V	4.97E-04	7.14E-04	ND 100E-04	ND 2 12F 04	
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	4.97E-04		1.06E-04	2.13E-04	
Di-n-Octyl phthalate	117-84-0	V	4.97E-04	ND 3.07E-04	ND	ND	
Ethylbenzene	100-41-4	X	2.24 32		ND	ND	
Fluoranthene	206-44-0	X	19E-04	ND	ND	ND	
Fluorene	86-73-7	X	2.44E-03	ND	ND	2.90E-04	
Formaldehyde	50-00-0		7.15E-02	1.17E-02	3.18E-04	1.83E-04	
Hexachlorobenzene	118-74-1	X	4.97E-04	ND	ND	ND	
Hexachlorobutadiene	87-68	X	4.97E-04	ND	ND	ND	
Hexachlorocyclopentadiene	2 47-4	X	4.97E-03	ND	ND	ND	
Hexachloroethane	67-72-1	X	4.97E-04	ND	ND	ND	
Hexanal	66-25-1		1.81E-02	3.83E-05	ND	ND	
2-Hexanone	591-78-6		5.63E-03	ND	ND	ND	
Indeno(1,2,3-cd)pyrene	193-39-5	X	4.97E-04	ND	ND	ND	
Isophorone	78-59-1	X	4.97E-04	ND	ND	ND	
Isovaleraldehyde	590-86-3		7.15E-03	3.83E-05	ND	ND	
Methylene Chl. Me	75-09-2	X	2.65E-03	2.91E-03	3.13E-03	1.92E-03	
2-Methylp anthalene	91-57-6		6.41E-02	3.60E-04	ND	6.82E-04	
4-Mo yl-2-pentanone (MIBK)	108-10-1	X	5.63E-03	ND	ND	ND	
aphthalene	91-20-3	X	5.44E-02	1.52E-03	4.96E-06	2.50E-03	
m-Nitroaniline	99-09-2		4.97E-04	ND	ND	ND	
o-Nitroaniline	88-74-4		4.97E-04	ND	ND	ND	
4-Nitrobenzenamine	100-01-6		4.97E-04	ND	ND	ND	
Nitrobenzene	98-95-3	X	4.97E-04	ND	ND	ND	
2-Nitrophenol	88-75-5		2.48E-03	ND	ND	ND	
4-Nitrophenol	100-02-7	X	5.94E-03	ND	ND	ND	
N-Nitrosodiphenylamine	86-30-6		4.97E-04	ND	ND	ND	
N-Nitrosodi-n-propylamine	621-64-7		4.97E-04	1.49E-04	2.16E-05	1.93E-04	
Pentachlorophenol	87-86-5	X	4.97E-03	ND	ND	ND	
Pentanal	110-62-3		2.10E-02	3.83E-05	ND	ND	
Phenanthrene	85-01-8	X	2.82E-03	ND	ND	4.45E-04	
Phenol	108-95-2	X	8.26E-03	ND	ND	ND	
Propanal	123-38-6	X					
Pyrene	129-00-0	X	1.01E-03	ND	ND	ND	
Styrene	100-42-5	X	4.11E-02	5.12E-04	ND	ND	
1,1,2,2-Tetrachloroethane	79-34-5	X	1.13E-03	ND	ND	ND	
Tetrachloroethene	127-18-4	X	1.13E-03	ND	ND	ND	
m-Tolualdehyde	620-23-5		2.44E-02	3.83E-05	ND	ND	
o-Tolualdehyde	529-20-4		1.59E-02	1.75E-04	ND	ND	
Toluene	108-88-3	X	1.02E-01	2.88E-03	1.33E-04	1.27E-04	
1,2,4-Trichlorobenzene	120-82-1	X	4.97E-04	ND	ND	ND	
1,1,1-Trichloroethane	71-55-6	X	1.13E-03	ND	ND	ND	
1,1,2-Trichloroethane	79-00-5	X	1.13E-03	ND	ND	ND	
Trichloroethene	79-01-6	X	1.13E-03	ND	ND	ND	
2,4,5-Trichlorophenol	95-95-4	X	2.48E-03	ND	ND	ND	
2,4,6-Trichlorophenol	88-06-2	X	2.48E-03	ND	ND	ND	
Vinyl Acetate	108-05-4	X	5.63E-03	ND	ND	ND	
Vinyl Chloride	75-01-4	X	1.13E-03	ND	ND	ND	
m,p-Xylene	1330-20-7	X	4.38E-02	6.83E-04	ND	ND	
o-Xvlene	95-47-6	X	2.07E-02	2.85E-04	ND	ND	

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes 1-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) T700-GE-700

							1700
	Po	wer Setting	Ground Idle	Flight Idle	Flight Max	Overspeed	
	Fuel Flow	ate (lb/hr)1	134	469	626	725	
	Percent 1	hrust/hp1	4%	56%	82%	100%	
Compound Name	CAS Number	HAP		Emission Fac	tors (lb/1000l)	b fuel burned)	2
Acenaphthene	83-32-9	X	ND	ND	ND	ND	
Acenaphthylene	208-96-8	X	ND	ND	ND	ND	
Acetaldehyde	75-07-0	X	1.81E-02	3.03E-04	2.00E-04	ND	
Acrolein	107-02-8	X	7.23E-03	9.68E-05	1.10E-05	ND	
Anthracene	120-12-7	X	ND	ND	ND	ND	
Benzaldehyde	100-52-7		ND	9.00E-04	4.15E-04	ND	
Benz(a)anthracene	56-55-3	X	ND	ND	ND	ND	
Benzene	71-43-2	X	4.87E-02	2.97E-04	3.12E-04	3.00E-04	
Benzenemethanol	100-51-6		2.87E-03	ND	ND	ND	
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND	ND	
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND	ND	
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND	ND	
Benzo(a)pyrene	50-32-8	X	ND	ND	ND	ND	
Benzoic Acid	65-85-0		2.08E-02	5.52E-03	3.05E-03	9.09E-04	
Bromodichloromethane	75-27-4		ND	ND	ND	ND	
Bromoform	75-25-2	X	ND	ND	ND	ND	
Bromomethane	74-83-9	X	ND	ND	ND	ND	
4-Bromophenyl-phenyl Ether	101-55-3		ND	ND	ND	ND	
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		2.00E-03	3.26E-04	ND	ND	
Butyl benzyl phthalate	85-68-7		1.31E-04	1.86E-04	8.13E-05	ND	
Carbon Disulfide	75-15-0	X	3.72E-04	3.00E-04	2.27E-04	4.69E-04	
Carbon Tetrachloride	56-23-5	X	3.64E-04	ND	ND	ND	
4-Chloroaniline	106-47-8		ND	ND	ND	ND	
Chlorobenzene	108-90-7	X	ND	ND	ND	ND	
Chlorodibromomethane	124-48-1		ND	ND	ND	ND	
Chloroethane	75-00-3	X	ND	ND	ND	ND	
bis(2-Chloroethoxy) Methane	111-91-1		ND	ND	ND	ND	
bis (2-Chloroethyl) Ether	111-44-4	X	ND	ND	ND	ND	
Chloroform	67-66-3	X	1.04E-03	3.44E-04	3.39E-04	3.06E-04	
bis(2-Choroisopropyl) Ether	39638-32-9		ND	ND	ND	ND	
Chloromethane	74-87-3	X	ND	ND	ND	10	
4-Chloro-3-methylphenol	59-50-7		ND	ND	ND	ND	
2-Chloronaphthalene	91-58-7		ND	ND	ND	ND	
2-Chlorophenol	95-57-8		ND	ND	.0	ND	
1-chloro-4-phenoxybenzene	7005-72-3		ND	ND	ND	ND	
Chrysene	218-01-9	X	ND	ND	ND	ND	
o-Cresol	95-48-7	X	7.84E-04		ND	ND	
p-Cresol	106-44-5	X	1.21E-01	ND ND	ND ND	ND ND	
Crotonaldehyde	4170-30-3	37	9.93E-03				
Dibenzofuran	132-64-9	X	2.085 .4	ND	ND	ND	
Dibutyl Phthalate	84-74-2	X	./4E-05 ND	A A ND	AA ND	6.54E-05 ND	
1,2-Dichlorobenzene 1,3-Dichlorobenzene	95-50-1 541-73-1		ND ND	ND ND	ND ND	ND ND	
1,4-Dichlorobenzene	106-46-7	X	ND ND	ND ND	ND ND	ND ND	
	91-94	X	ND ND	ND ND			
3,3'-Dichlorobenzidine	75 34-3	X	ND ND	ND ND	ND ND	ND ND	
1,1-Dichloroethane 1,2-Dichloroethane	107-06-2	X	ND	ND	ND	ND ND	
1,1-Dichloroethene	75-35-4	X	ND	ND	ND ND	ND ND	
cis-1,2-Dicholorethene	156-59-2	Λ	ND ND	ND ND	ND ND	ND ND	
trans-1,2-Dichloroethene	156-60-5		ND	ND ND	ND ND	ND ND	
2,4-Dichlorophenol	120-83-2		ND	ND	ND ND	ND ND	
1,2-Dichloropropane	78-87-5	X	ND ND	ND ND	ND ND	ND ND	
	10061-01-5	Λ	ND ND	ND ND	ND ND	ND ND	
cis-1,3-Dichloro opene trans-1,3-D' moropropene	10061-01-5		ND ND	ND ND	ND ND	ND ND	
	84-66-2		2.37E-04	1.14E-04	3.02E-04	6.32E-05	
Dieth Phthalate	84-00-2		2.5/E-04	1.14E-04	5.02E-04	0.32E-05	

	Po	wer Setting	Ground Idle	Flight Idle	Flight Max	Overspeed	
	Fuel Flow	ate (lb/hr)1	134	469	626	725	
			4%	56%	82%	100%	
		hrust/hp1					
Compound Name	CAS Number	HAP		Emission Fact	tors (lb/1000ll	o fuel Jurned)2	
2,4-Dimethylphenol	105-67-9		ND	ND	ND	ND	
Dimethyl phthalate	131-11-3	X	ND	ND	ND	ND	
4,6-Dinitro-o-cresol	534-52-1	X	ND	ND	-10	ND	
2,4-Dinitrophenol	51-28-5	X	ND	ND	ND	ND	
2,4-Dinitrotoluene	121-14-2	X	ND	ND	ND	ND	
2,6-Dinitrotoluene	606-20-2 117-81-7	X	ND 1.00E-03	1.46E-03	ND 6.26E-04	ND 2.28E-04	
Di(2-Ethylhexyl) Phthalate (DEHP) Di-n-Octyl phthalate	117-81-7	А	ND ND	1.46E-03 ND	6.26E-04 ND	2.28E-04 ND	
Ethylbenzene	100-41-4	X	2.25	2.57E-04	ND ND	1.99E-04	
Fluoranthene	206-44-0	X	ND	ND	ND ND	ND	
Fluorene	86-73-7	X	ND	ND	ND	ND	
Formaldehyde	50-00-0	A	2.19E-01	4.09E-03	2.09E-03	4.81E-03	
Hexachlorobenzene	118-74-1	X	ND ND	ND	ND	ND	
Hexachlorobutadiene	87-68	X	ND	ND	ND	ND	
Hexachlorocyclopentadiene	2 47-4	X	ND	ND	ND	ND	
Hexachloroethane	67-72-1	X	ND	ND	ND	ND	
Hexanal	66-25-1		ND	ND	ND	ND	
2-Hexanone	591-78-6		9.53E-04	6.35E-04	4.42E-04	ND	
Indeno(1,2,3-cd)pyrene	193-39-5	X	ND	ND	ND	ND	
Isophorone	78-59-1	X	ND	ND	ND	ND	
Isovaleraldehyde	590-86-3		ND	ND	ND	ND	
Methylene Chloride	75-09-2	X	1.06E-02	2.99E-03	3.30E-03	6.91E-03	
2-Methylandene	91-57-6		4.89E-03	1.36E-04	3.90E-05	1.86E-05	
4-Mayl-2-pentanone (MIBK)	108-10-1	X	9.38E-04	6.35E-04	4.42E-04	4.03E-04	
aphthalene	91-20-3	X	7.33E-03	1.56E-04	6.73E-05	2.91E-05	
m-Nitroaniline	99-09-2		ND	ND	ND	ND	
o-Nitroaniline 4-Nitrobenzenamine	88-74-4 100-01-6		ND ND	ND ND	ND ND	ND ND	
Nitrobenzene	98-95-3	X	ND ND	ND ND	ND ND	ND ND	
2-Nitrophenol	98-93-3 88-75-5	Λ	7.99E-04	ND ND	ND ND	ND ND	
4-Nitrophenol	100-02-7	X	7.99E-04 ND	ND	ND	ND ND	
N-Nitrosodiphenylamine	86-30-6	Λ	ND ND	ND ND	ND ND	ND ND	
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND	
Pentachlorophenol	87-86-5	X	ND	ND	ND	ND	
Pentanal	110-62-3		ND	9.00E-04	4.15E-04	ND	
Phenanthrene	85-01-8	X	ND	ND	ND	ND	
Phenol	108-95-2	X	6.24E-03	ND	ND	ND	
Propanal	123-38-6	X					
Pyrene	129-00-0	X	ND	ND	ND	ND	
Styrene	100-42-5	X	5.16E-03	ND	ND	ND	
1,1,2,2-Tetrachloroethane	79-34-5	X	ND	6.35E-04	4.42E-04	ND	
Tetrachloroethene	127-18-4	X	ND	ND	ND	ND	
m-Tolualdehyde	620-23-5		ND	ND	ND	ND	
o-Tolualdehyde	529-20-4		ND	ND	ND	ND 2 car of	
Toluene	108-88-3	X	1.28E-02	1.24E-03	AA	2.92E-04	
1,2,4-Trichlorobenzene	120-82-1	X	ND 7.07F.04	ND 2.20E-04	ND 2.17E.04	ND 1 00E 04	
1,1,1-Trichloroethane 1.1.2-Trichloroethane	71-55-6 79-00-5	X	7.07E-04 ND	2.26E-04 ND	2.17E-04 ND	1.92E-04 ND	
1,1,2-1 richloroethane Trichloroethene	79-00-5 79-01-6	X	ND ND	5.10E-04	ND 4.65E-04	ND ND	
1richloroethene 2,4,5-Trichlorophenol	79-01-6 95-95-4	X	ND ND	5.10E-04 ND	4.65E-04 ND	ND ND	
2,4,6-Trichlorophenol	93-93-4 88-06-2	X	ND	ND ND	ND ND	ND ND	
Vinyl Acetate	108-05-4	X	ND ND	ND ND	ND ND	ND ND	
Vinyl Chloride	75-01-4	X	ND ND	ND ND	ND ND	ND ND	
m,p-Xylene	1330-20-7	X	4.35E-03	3.17E-04	3.23E-04	8.36E-04	
o-Xylene	95-47-6	X	2.80E-03	2.52E-04	1.85E-04	4.05E-04	

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)
TF33-P-7/7A

	Military
Fuel Flowrate (lb/hr) <sup>1</sup> 1093 4884 6356	8264
Percent Thrust/hp <sup>1</sup> 4% 45% 58%	73%
Terecite museying	-
Compound Name CAS Number HAP Emission Factors (lb/1000lb fuel	
Acenaphthene 83-32-9 X ND ND ND	ND
Acenaphthylene 208-96-8 X 2.92E-02 ND ND ND	ND
Acetaldehyde         75-07-0         X         ND         8.72E-03         ND           Acrolein         107-02-8         X         ND         ND         ND	ND
Actolem 107-02-8 X ND ND ND ND Anthracene 120-12-7 X ND ND ND ND	ND
Antimacene	ND
ND   ND   ND   ND   ND   ND   ND   ND	ND
	.47E-03
Benzenemethanol 100-51-6 ND ND ND	ND
Benzo(b)fluoranthene	ND
Benzo(k)fluoranthene 207-08-9 X ND ND ND	ND
Benzo(g,h,i)perylene 191-24-2 X ND ND ND	ND
Benzo(a)pyrene 50-32-8 X ND ND ND	ND
Benzoic Acid 65-85-0 ND 1.71E-02 9.24E-03 4.	.44E-03
Bromodichloromethane 75-27-4 1.94E-03 ND ND	ND
Bromoform 75-25-2 X 1.94E-03 ND ND	ND
Bromomethane 74-83-9 X 3.45E-03 4.61E-04 4.15E-04 3.	.16E-04
4-Bromophenyl-phenyl Ether 101-55-3 ND ND ND ND	ND
1,3-Butadiene 106-99-0 X	
2-Butanone (MEK) 78-93-3 1.89E-02 7.11E-03 ND	ND
Butyl benzyl phthalate 85-68-7 ND ND ND	ND
	.10E-04
	.09E-04
4-Chloroaniline 106-47-8 ND ND ND	ND
Chlorobenzene         108-90-7         X         1.94E-03         ND         ND	ND
Chlorodibromomethane 124-48-1 1.94E-03 ND ND	ND
Chloroethane 75-00-3 X 1.94E-03 ND ND	ND
bis(2-Chloroethoxy) Methane 111-91-1 ND	ND ND
bis(2-Chloroethyl) Ether 111-44-4 X ND ND ND ND	ND
Chloroform         67-66-3         X         1.94E-03         2.08E-03         1.38E-03         1.           bis(2-Choroisopropyl) Ether         39638-32-9         ND         ND         ND         ND	.17E-03
Dis(2-Choronethane 74-87-3 X 2.13E-03 4.10E-04 6.96E-04	1E-04
4-Chloro-3-methylphenol 59-50-7 ND ND ND ND	ND
2-Chloronaphthalene 91-58-7 ND ND ND	ND
2-Chlorophenol 95-57-8 ND ND ND	ND
1-chloro-4-phenoxybenzene 7005-72-3 ND ND ND	ND
Chrysene	ND
o-Cresol 95-48-7 X ND ND	ND
p-Cresol 106-44-5 X 4.17E-02 ND ND	ND
Crotonaldehyde 4170-30-3 ND ND ND	ND
Dibenzofuran 132-64-9 X 1.100 Z ND ND	ND
Dibutyl Phthalate 84-74-2 X ND AA 1.45E-03	AA
1,2-Dichlorobenzene 95-50-1 ND ND ND	ND
1,3-Dichlorobenzene 541-73-1 ND ND ND	ND
1,4-Dichlorobenzene 106-46-7 X ND ND ND	ND
3,3'-Dichlorobenzidine 91-94 X ND ND ND	ND
1,1-Dichloroethane 22.4-3 X 1.94E-03 ND ND	ND
1,2-Dichloroethane 107-06-2 X 1.94E-03 ND ND	ND
1,1-Dichloroethene 75-35-4 X 1.94E-03 ND ND	ND
cis-1,2-Dicholorethene 156-59-2 1.94E-03 ND ND	ND
trans-1,2-Dichloroethene 156-60-5 1.94E-03 ND ND	ND
2,4-Dichlorophenol 120-83-2 ND ND ND ND	ND
1,2-Dichloropropane 78-87-5 X 1.94E-03 ND ND ND	ND
cis-1,3-Dichlorr Jopene 10061-01-5 1.94E-03 ND ND ND	ND
trans-1,3-D nforopropene 10061-02-6 1.94E-03 ND	ND
Dieth Phthalate 84-66-2 ND 3.54E-04 1.07E-03	ND

	Po	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flow	ate (lb/hr)1	1093	4884	6356	8264	
	Percent 1	hrust/hp1	4%	45%	58%	73%	
Compound Name	CAS Number	HAP					2
2,4-Dimethylphenol	105-67-9	IIAI	ND	ND ND	tors (lb/1000ll	ND ND	
Dimethyl phthalate	131-11-3	X	ND ND	ND ND	ND ND	ND ND	
4,6-Dinitro-o-cresol	534-52-1	X	ND	ND	,NI	ND	
2.4-Dinitrophenol	51-28-5	X	ND	ND .	ND	ND	
2.4-Dinitrotoluene	121-14-2	X	ND	ND ND	ND ND	ND	
2,6-Dinitrotoluene	606-20-2	А	ND	TAD	ND	ND	
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	ND	2.68E-03	1.79E-03	1.59E-03	
Di-n-Octyl phthalate	117-84-0		ND		ND	ND	
Ethylbenzene	100-41-4	X	2.000 01	2.04E-03	5.11E-04	3.88E-04	
Fluoranthene	206-44-0	X	92E-03	ND	ND	ND	
Fluorene	86-73-7	X	9.09E-03	ND	ND	ND	
Formaldehyde	50-00-0		2.31E+00	1.26E-01	2.80E-02	5.28E-03	
Hexachlorobenzene	118-74-1	X	ND	ND	ND	ND	
Hexachlorobutadiene	87-68	X	ND	ND	ND	ND	
Hexachlorocyclopentadiene	2 47-4	X	ND	ND	ND	ND	
Hexachloroethane	67-72-1	X	ND	ND	ND	ND	
Hexanal	66-25-1		ND	ND	ND	ND	
2-Hexanone	591-78-6		9.73E-03	2.31E-03	2.07E-03	1.58E-03	
Indeno(1,2,3-cd)pyrene	193-39-5	X	ND	ND	ND	ND	
Isophorone	78-59-1	X	ND	ND	ND	ND	
Isovaleraldehyde	590-86-3		ND	ND	ND	ND	
Methylene Chl. de	75-09-2	X	9.76E-02	2.11E-02	3.01E-02	2.72E-02	
2-Methyly puthalene	91-57-6		4.55E-01	2.48E-03	1.65E-04	ND	
4-M yl-2-pentanone (MIBK)	108-10-1	X	9.73E-03	2.31E-03	2.05E-03	1.58E-03	
aphthalene	91-20-3	X	3.71E-01	3.13E-03	3.54E-04	AA	
m-Nitroaniline	99-09-2		ND	ND	ND	ND	
o-Nitroaniline	88-74-4		ND	ND	ND	ND	
4-Nitrobenzenamine	100-01-6		ND	ND	ND	ND	
Nitrobenzene	98-95-3	X	ND	ND	ND	ND	
2-Nitrophenol	88-75-5	**	ND	ND	ND	ND	
4-Nitrophenol	100-02-7	X	ND	ND	ND	ND	
N-Nitrosodiphenylamine	86-30-6		ND ND	ND ND	ND ND	ND ND	
N-Nitrosodi-n-propylamine Pentachlorophenol	621-64-7 87-86-5	X	ND ND	ND ND	ND ND	ND ND	
Pentanal	110-62-3	A	ND ND	ND ND	ND ND	ND ND	
Phenanthrene	85-01-8	X	1.25E-02	3.87E-04	ND	ND	
Phenol	108-95-2	X	1.67E-01	3.54E-03	1.28E-03	ND	
Propanal	123-38-6	X	1.0712-01	3.342-03	1.2012-03		
Pyrene	129-00-0	X	7.20E-03	ND	ND	ND	
Styrene	100-42-5	X	2.42E-01	3.43E-03	7.46E-04	ND	
1,1,2,2-Tetrachloroethane	79-34-5	X	1.94E-03	ND	ND	ND	
Tetrachloroethene	127-18-4	X	1.94E-03	ND	ND	ND	
m-Tolualdehyde	620-23-5		ND	ND	ND	ND	
o-Tolualdehyde	529-20-4		ND	ND	ND	ND	
Toluene	108-88-3	X	3.73E-01	1.01E-02	2.54E-03	2.27E-03	
1,2,4-Trichlorobenzene	120-82-1	X	ND	ND	ND	ND	
1,1,1-Trichloroethane	71-55-6	X	1.94E-03	3.11E-04	2.79E-04	4.21E-04	
1,1,2-Trichloroethane	79-00-5	X	1.94E-03	ND	ND	ND	
Trichloroethene	79-01-6	X	1.94E-03	ND	ND	ND	
2,4,5-Trichlorophenol	95-95-4	X	ND	ND	ND	ND	
2,4,6-Trichlorophenol	88-06-2	X	ND	ND	ND	ND	
Vinyl Acetate	108-05-4	X	9.73E-03	ND	ND	ND	
Vinyl Chloride	75-01-4	X	1.94E-03	ND	ND	ND	
m,p-Xylene	1330-20-7	X	3.35E-01	3.40E-03	1.04E-03	1.21E-03	
o-Xylene	95-47-6	X	1.27E-01	1.42E-03	3.05E-04	4.31E-04	

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) TF33-P-102

					1	•	1173
	Po	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flowr	ate (lb/hr)1	1114	4737	5782	7561	
	Percent T	hrust/hp1	5%	49%	59%	75%	
Compound Name	CAS Number	HAP		Emission Fac	tors (lb/1000ll	fuel burned)	2
Acenaphthene	83-32-9	X	ND	ND	ND	ND	
Acenaphthylene	208-96-8	X	1.18E-02	ND	ND	ND	
Acetaldehyde	75-07-0	X	ND	ND	ND	ND	
Acrolein	107-02-8	X	ND	ND	ND	ND	
Anthracene	120-12-7	X	ND	ND	ND	ND	
Benzaldehyde	100-52-7		ND	ND	ND	ND	
Benz(a)anthracene	56-55-3	X	ND	ND	ND	ND	
Benzene	71-43-2	X	7.09E-01	1.14E-02	4.05E-03	9.53E-04	
Benzenemethanol	100-51-6		ND	ND	ND	ND	
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND	ND	
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND	ND	
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND	ND	
Benzo(a)pyrene	50-32-8	X	ND	ND	ND	ND	
Benzoic Acid	65-85-0		ND	9.27E-03	9.24E-03	6.32E-03	
Bromodichloromethane	75-27-4		1.31E-02	ND	2.74E-04	ND	
Bromoform	75-25-2	X	1.31E-02	ND	2.74E-04	ND	
Bromomethane	74-83-9	X	1.57E-02	4.76E-04	4.11E-04	3.77E-04	
4-Bromophenyl-phenyl Ether	101-55-3		ND	ND	ND	ND	
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		3.64E-02	1.59E-03	7.45E-04	ND	
Butyl benzyl phthalate	85-68-7		ND	ND	ND	ND	
Carbon Disulfide	75-15-0	X	1.38E-02	ND	1.18E-03	ND	
Carbon Tetrachloride	56-23-5	X	1.31E-02	3.13E-04	2.74E-04	2.74E-04	
4-Chloroaniline	106-47-8		ND	ND	ND	ND	
Chlorobenzene	108-90-7	X	1.31E-02	ND	2.74E-04	ND	
Chlorodibromomethane	124-48-1		1.31E-02	ND	2.74E-04	ND	
Chloroethane	75-00-3	X	1.31E-02	ND	2.74E-04	ND	
bis (2-Chloroethoxy) Methane	111-91-1		ND	ND	ND	ND	
bis (2-Chloroethyl) Ether	111-44-4	X	ND	ND	ND	ND	
Chloroform	67-66-3	X	1.31E-02	1.12E-03	7.21E-04	8.95E-04	
bis(2-Choroisopropyl) Ether	39638-32-9		ND	ND	ND	ND	
Chloromethane	74-87-3	X	1.31E-02	5.68E-04	3.44E-04	3.20	
4-Chloro-3-methylphenol	59-50-7		ND	ND	ND	ND	
2-Chloronaphthalene	91-58-7		ND	ND	ND _	ND	
2-Chlorophenol	95-57-8		ND	ND	ND	ND	
1-chloro-4-phenoxybenzene	7005-72-3		ND	ND	ΝĎ	ND	
Chrysene	218-01-9	X	ND	ND	ND	ND	
o-Cresol	95-48-7	X	ND	ND	ND	ND	
p-Cresol	106-44-5	X	ND	.0	ND	ND	
Crotonaldehyde	4170-30-3		ND	ND	ND	ND	
Dibenzofuran	132-64-9	X	6.54E-03	ND	ND	ND	
Dibutyl Phthalate	84-74-2	X	3	5.66E-04	AA	AA	
1,2-Dichlorobenzene	95-50-1		ND	ND	ND	ND	
1,3-Dichlorobenzene	541-73-1		ND	ND	ND	ND	
1.4-Dichlorobenzene	106-46-7		ND	ND	ND	ND	
3,3'-Dichlorobenzidine	91-94-1	X	ND	ND	ND	ND	
1,1-Dichloroethane	75-34	X	1.31E-02	ND	2.74E-04	ND	
1,2-Dichloroethane	16-06-2	X	1.31E-02	ND	2.74E-04	ND	
1.1-Dichloroethene	75-35-4	X	1.31E-02	ND	2.74E-04	ND	
cis-1,2-Dicholorethene	156-59-2		1.31E-02	ND	2.74E-04	ND	
trans-1,2-Dichloroethene	156-60-5		1.31E-02	ND	2.74E-04	ND	
2,4-Dichlorophenol	120-83-2		ND	ND	ND	ND	
1,2-Dichloropropane	78-87-5	X	1.31E-02	ND	2.74E-04	ND	
cis-1,3-Dichloroprop	10061-01-5		1.31E-02	ND	2.74E-04	ND	
trans-1,3-Dichle propene	10061-02-6		1.31E-02	ND	2.74E-04	ND	
Diethyl Phadate	84-66-2		ND	4.52E-04	ND	2.76E-04	

	Po	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flow	ate (lb/hr)1	1114	4737	5782	7561	-
	Percent 1	hrust/hp1	5%	49%	59%	75%	
G IV		HAP		1,7,10	*****	10.10	
Compound Name	CAS Number	HAP				o fuel Jurned) <sup>2</sup>	
,4-Dimethylphenol	105-67-9		ND	ND	ND	ND	
Dimethyl phthalate	131-11-3	X	ND	ND	ND	ND	
4,6-Dinitro-o-cresol	534-52-1	X	ND	ND	.0	ND	
,4-Dinitrophenol	51-28-5	X	ND	ND	ND	ND	
2,4-Dinitrotoluene	121-14-2	X	ND	ND	ND	ND	
2,6-Dinitrotoluene	606-20-2		ND		ND	ND	
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	ND	2.24E-03	3.82E-03	1.71E-03	
Di-n-Octyl phthalate	117-84-0	**	ND	ND	ND	ND	
Ethylbenzene	100-41-4	X	8.63F 2	8.23E-04	4.79E-04	ND	
Fluoranthene	206-44-0	X	ND 3.92E-03	ND	ND	ND	
Fluorene	86-73-7	X		ND	ND	ND	
Formaldehyde	50-00-0		9.43E-01	6.65E-02	2.27E-02	ND	
Hexachlorobenzene	118-74-1	X	ND	ND	ND	ND	
Hexachlorobutadiene	87-68-3	X	ND ND	ND ND	ND ND	ND ND	
Hexachlorocyclopentadiene	77 7-4	X	ND ND	ND ND	ND ND		
Hexachloroethane Hexanal	67-72-1	X	ND ND	ND ND	ND ND	ND ND	
	66-25-1 591-78-6		6.53E-02	ND ND	1.36E-03	ND ND	
2-Hexanone indeno(1,2,3-cd)pyrene	591-78-6 193-39-5	X	6.53E-02 ND	ND ND	1.36E-03 ND	ND ND	
	78-59-1	X	ND ND	ND ND	ND ND	ND ND	
sophorone	78-59-1 590-86-3	X	ND ND	ND ND	ND ND	ND ND	
sovaleraldehyde		X					
Methylene Chloride P-Methylnar malene	75-09-2 91-57-6	X	AA 2.31E-01	7.28E-02 1.03E-03	5.25E-02 1.23E-03	8.96E-02 5.77E-04	
	108-10-1	X		ND	1.36E-03		
-Meth 2-pentanone (MIBK)	91-20-3	X	6.53E-02 2.15E-01	1.10E-03	7.35E-04	ND 1.30E-04	
n-Nitroaniline	99-09-2	Λ	2.13E-01 ND	1.10E-03 ND	7.53E-04 ND	1.30E-04 ND	
n-Nitroaniline o-Nitroaniline	99-09-2 88-74-4		ND ND	ND ND	ND ND	ND ND	
-Nitrobenzenamine	100-01-6		ND ND	ND ND	ND ND	ND ND	
Vitrobenzene	98-95-3	X	ND	ND	ND	ND	
2-Nitrophenol	98-93-3 88-75-5	Α	ND ND	ND ND	ND ND	ND ND	
-Nitrophenol	100-02-7	X	ND	ND	ND	ND	
N-Nitrosodiphenylamine	86-30-6	Α	ND	ND	ND ND	ND ND	
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND ND	
Pentachlorophenol	87-86-5	X	ND	ND	ND ND	ND ND	
Pentanal	110-62-3	А	ND	ND	ND	ND	
Phenanthrene	85-01-8	X	6.17E-03	ND	ND	ND ND	
Phenol	108-95-2	X	8.41E-02	1.76E-03	ND	ND	
Propanal	123-38-6	X	0.411.702	1.702-03	1415	1415	
vrene	129-00-0	X	ND	ND	ND	ND	
Styrene	100-42-5	X	1.09E-01	1.18E-03	4.38E-04	ND	
1.1.2.2-Tetrachloroethane	79-34-5	X	1.31E-02	ND	2.74E-04	ND	
Tetrachloroethene	127-18-4	X	1.31E-02	4.54E-04	8.34E-04	3.77E-04	
n-Tolualdehyde	620-23-5		ND	ND	ND	ND	
-Tolualdehyde	529-20-4		ND	ND	ND	ND	
Toluene	108-88-3	X	2.65E-01	2.28E-03	2.65E-03	9.50E-04	
,2,4-Trichlorobenzene	120-82-1	X	ND	ND	ND	ND	
.1.1-Trichloroethane	71-55-6	X	1.31E-02	ND	2.87E-04	ND	
,1,2-Trichloroethane	79-00-5	X	1.31E-02	ND	2.74E-04	ND	
Trichloroethene	79-01-6	X	1.31E-02	ND	2.74E-04	ND	
4,4,5-Trichlorophenol	95-95-4	X	ND	ND	ND	ND	
2.4.6-Trichlorophenol	88-06-2	X	ND	ND	ND	ND	
Vinyl Acetate	108-05-4	X	6.53E-02	ND	1.71E-03	1.89E-03	
Vinyl Chloride	75-01-4	X	1.31E-02	ND	2.74E-04	ND	
n,p-Xylene	1330-20-7	X	1.37E-01	2.40E-03	1.04E-03	8.35E-04	
o-Xvlene	95-47-6	X	6.09E-02	AA	ND	2.46E-04	

Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.) TF34-GE-100A

							11.34
	Po	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flow	ate (lb/hr)1	498	933	1512	2628	
	Percent 1	hrust/hp1	7%	28%	46%	78%	
Compound Name	CAS Number	HAP		Emission Fac	tors (lb/1000ll	fuel burned)	2
Acenaphthene	83-32-9	X	ND	ND ND	ND	ND ND	
Acenaphthylene	208-96-8	X	4.26E-03	ND	ND	ND	
Acetaldehyde	75-07-0	X	1.27E-01	3.08E-02	ND	ND	
Acrolein	107-02-8	X	6.10E-02	1.36E-02	5.42E-03	2.96E-03	
Anthracene	120-12-7	X	ND	ND	ND	ND	
Benzaldehyde	100-52-7		5.10E-02	2.03E-02	7.80E-03	5.94E-03	
Benz(a)anthracene	56-55-3	X	ND	ND	ND	ND	
Benzene	71-43-2	X	2.81E-01	6.37E-02	9.57E-03	4.27E-03	
Benzenemethanol	100-51-6		7.85E-03	ND	ND	ND	
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND	ND	
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND	ND	
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND	ND	
Benzo(a)pyrene	50-32-8	X	ND	ND	ND	ND	
Benzoic Acid	65-85-0		3.63E-02	3.02E-02	1.83E-02	1.48E-02	
Bromodichloromethane	75-27-4		ND	ND	ND	ND	
Bromoform	75-25-2	X	ND	ND	ND	ND	
Bromomethane	74-83-9	X	ND	4.26E-03	ND	ND	
4-Bromophenyl-phenyl Ether	101-55-3		ND	ND	ND	ND	
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		1.50E-02	5.94E-03	ND	ND	
Butyl benzyl phthalate	85-68-7		ND	ND	ND	ND	
Carbon Disulfide	75-15-0	X	ND	ND	ND	ND	
Carbon Tetrachloride	56-23-5	X	1.48E-03	1.14E-03	1.08E-03	7.07E-04	
4-Chloroaniline	106-47-8		ND	ND	ND	ND	
Chlorobenzene	108-90-7	X	ND	ND	ND	ND	
Chlorodibromomethane	124-48-1		ND	ND	ND	ND	
Chloroethane	75-00-3	X	ND	ND	ND	ND	
bis(2-Chloroethoxy) Methane	111-91-1	X/	ND	ND ND	ND	ND	
bis (2-Chloroethyl) Ether Chloroform	111-44-4	X	ND 2.26E-03		ND 1.43E-03	ND	
bis(2-Choroisopropyl) Ether	67-66-3 39638-32-9	А	2.26E-03 ND	1.17E-03 ND	1.43E-03 ND	7.33E-04 ND	
Chloromethane	74-87-3	X	ND	7.05E-03	1.38E-03	1 /E-03	
4-Chloro-3-methylphenol	59-50-7	Λ	ND	ND	ND	ND	
2-Chloronaphthalene	91-58-7		ND	ND	ND ND	ND	
2-Chlorophenol	95-57-8		ND	ND	ND	ND	
1-chloro-4-phenoxybenzene	7005-72-3		ND	ND	ND	ND	
Chrysene	218-01-9	X	ND	ND	ND	ND	
o-Cresol	95-48-7	X	ND	3	ND	ND	
p-Cresol	106-44-5	X	5.26E-03	3,42E-03	ND	ND	
Crotonaldehyde	4170-30-3		5.10E-02	ND	ND	ND	
Dibenzofuran	132-64-9	X	NT	ND	ND	ND	
Dibutyl Phthalate	84-74-2	X	.47E-03	5.27E-04	ND	ND	
1,2-Dichlorobenzene	95-50-1		ND	ND	ND	ND	
1,3-Dichlorobenzene	541-73-1		ND	ND	ND	ND	
1,4-Dichlorobenzene	106-46-7	X	ND	ND	ND	ND	
3,3'-Dichlorobenzidine	91-94	X	ND	ND	ND	ND	
1,1-Dichloroethane	7° 54-3	X	ND	ND	ND	ND	
1,2-Dichloroethane	107-06-2	X	ND	ND	ND	ND	
1,1-Dichloroethene	75-35-4	X	ND	ND	7.18E-04	ND	
cis-1,2-Dicholorethene	156-59-2		ND	ND	ND	ND	
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND	ND	
2,4-Dichlorophenol	120-83-2		ND	ND	ND	ND	
1,2-Dichloropropane	78-87-5	X	ND	ND	ND	ND	
cis-1,3-Dichlore copene	10061-01-5		ND	ND	ND	ND	
trans-1,3-D nloropropene	10061-02-6		ND	ND	ND	ND	
Dieth Phthalate	84-66-2		2.13E-05	AA	AA	AA	

	Po	wer Setting	Idle	Approach	Intermediate	Military			
	Fuel Flow	ate (lb/hr)1	498	933	1512	2628			
	Percent 1	hrust/hp1	7%	28%	46%	78%			
Compound Name	CAS Number	HAP	.,,		/ /II /I 0000II	0 1 2	2		
•		ПАГ	Emission Factors (lb/1000lb fuel ourned) <sup>2</sup>						
,4-Dimethylphenol	105-67-9	**	ND	ND	ND	ND			
Dimethyl phthalate	131-11-3	X	ND	ND	ND	ND			
,6-Dinitro-o-cresol	534-52-1	X	ND	ND	10	ND			
,4-Dinitrophenol	51-28-5	X	ND	ND	ND	ND			
,4-Dinitrotoluene	121-14-2	X	ND	ND	ND	ND			
2,6-Dinitrotoluene	606-20-2	V	ND 2.25F.02	5.20E-03	ND 1 44E 02	ND			
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	2.25E-03		1.44E-03	1.73E-03			
Di-n-Octyl phthalate	117-84-0	**	ND	ND	ND	ND 1 OND 04			
thylbenzene	100-41-4	X	2.627 02	3.50E-03	ND	6.82E-04			
luoranthene	206-44-0	X	5.55E-04	ND	ND	ND			
luorene	86-73-7	X	1.49E-03	ND	ND	ND			
Formaldehyde	50-00-0		1.22E+00	5.31E-01	6.61E-02	2.82E-02			
Iexachlorobenzene	118-74-1	X	ND	ND	ND	ND			
Hexachlorobutadiene	87-68	X	ND	ND	ND	ND			
Hexachlorocyclopentadiene	47-4	X	ND	ND	ND	ND			
Hexachloroethane	67-72-1	X	ND	ND	ND	ND			
Hexanal	66-25-1		ND	ND	ND	ND			
-Hexanone	591-78-6		ND	ND	ND	ND			
ndeno(1,2,3-cd)pyrene	193-39-5	X	ND	ND	ND	ND			
sophorone	78-59-1	X	ND	ND	ND	ND			
sovaleraldehyde	590-86-3		ND	1.47E-02	ND	ND			
Methylene Chl., de	75-09-2	X	AA	AA	AA	5.26E-02			
-Methyle puthalene	91-57-6		2.79E-02	3.58E-03	ND	ND			
-M yl-2-pentanone (MIBK)	108-10-1	X	ND	ND	ND	ND			
aphthalene	91-20-3	X	4.48E-02	8.51E-03	1.59E-03	3.20E-05			
n-Nitroaniline	99-09-2		ND	ND	ND	ND			
o-Nitroaniline	88-74-4		ND	ND	ND	ND			
l-Nitrobenzenamine	100-01-6		ND	ND	ND	ND			
Vitrobenzene	98-95-3	X	ND	ND	ND	ND			
2-Nitrophenol	88-75-5		ND	ND	ND	ND			
l-Nitrophenol	100-02-7	X	ND	4.00E-03	ND	ND			
N-Nitrosodiphenylamine	86-30-6		ND	ND	ND	ND			
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND			
Pentachlorophenol	87-86-5	X	ND	ND	ND	ND			
Pentanal	110-62-3		ND	ND	ND	ND			
Phenanthrene	85-01-8	X	2.43E-03	ND	ND	ND			
Phenol	108-95-2	X	2.73E-02	6.61E-01	ND	ND			
Propanal	123-38-6	X							
yrene	129-00-0	X	5.56E-04	ND	ND	ND			
Styrene	100-42-5	X	4.41E-02	6.72E-03	ND	ND			
,1,2,2-Tetrachloroethane	79-34-5	X	ND	ND	ND	ND			
l'etrachloroethene	127-18-4	X	ND	9.25E-04	ND	5.72E-04			
n-Tolualdehyde	620-23-5		ND	ND	1.20E-02	7.80E-03			
-Tolualdehyde	529-20-4		ND	ND	ND	ND			
Toluene	108-88-3	X	1.12E-01	1.40E-02	3.21E-03	1.34E-04			
,2,4-Trichlorobenzene	120-82-1	X	ND	ND	ND	ND			
,1,1-Trichloroethane	71-55-6	X	ND	ND	ND	ND			
,1,2-Trichloroethane	79-00-5	X	ND	ND	ND	ND			
Trichloroethene	79-01-6	X	ND	1.33E-03	1.10E-03	7.35E-04			
,4,5-Trichlorophenol	95-95-4	X	ND	ND	ND	ND			
,4,6-Trichlorophenol	88-06-2	X	ND	ND	ND	ND			
/inyl Acetate	108-05-4	X	ND	ND	ND	ND			
/inyl Chloride	75-01-4	X	ND	ND	ND	ND			
n,p-Xylene	1330-20-7	X	5.50E-02	7.95E-03	1.52E-03	2.41E-03			
-Xylene	95-47-6	X	2.67E-02	3.65E-03	ND	7.35E-04			

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)
TF39-GE-1C

							115
	Po	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flow	rate (lb/hr)1	1448	10477	12541	13862	
		Thrust/hp <sup>1</sup>	7%	76%	87%	94%	
Compound Name	CAS Number	HAP		Emission Fac	tors (lb/1000lb	fuel burned)	2
Acenaphthene	83-32-9	X	ND	ND	ND	ND	
Acenaphthylene	208-96-8	X	ND	ND	ND	ND	
Acetaldehyde	75-07-0	X	2.12E-01	3.16E-03	2.61E-04	6.17E-04	
Acrolein	107-02-8	X	2.06E-01	ND	ND	ND	
Anthracene	120-12-7	X	ND	ND	ND	ND	
Benzaldehyde	100-52-7		1.42E-01	1.15E-03	1.88E-03	1.70E-03	
Benz(a)anthracene	56-55-3	X	ND	ND	ND	ND	
Benzene	71-43-2	X	3.58E-01	1.56E-03	1.41E-03	2.16E-03	
Benzenemethanol	100-51-6		ND	ND	ND	ND	
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND	ND	
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND	ND	
Benzo(g,h,i)perylene	191-24-2	X	ND	ND	ND	ND	
Benzo(a)pyrene	50-32-8	X	ND	ND	ND	ND	
Benzoic Acid	65-85-0		ND	6.50E-03	7.02E-03	6.85E-03	
Bromodichloromethane	75-27-4		ND	ND	ND	ND	
Bromoform	75-25-2	X	ND	ND	ND	ND	
Bromomethane	74-83-9	X	ND	ND	ND	ND	
4-Bromophenyl-phenyl Ether	101-55-3		ND	ND	ND	ND	
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		2.59E-02	ND	1.16E-03	2.46E-04	
Butyl benzyl phthalate	85-68-7		ND	ND	ND	1.95E-04	
Carbon Disulfide	75-15-0	X	ND	ND	ND	ND	
Carbon Tetrachloride	56-23-5	X	ND	1.01E-03	3.15E-04	3.05E-04	
4-Chloroaniline Chlorobenzene	106-47-8 108-90-7	X	ND ND	ND ND	ND ND	ND ND	
Chlorodibromomethane		A	ND ND	ND ND	ND ND	ND ND	
	124-48-1	X/	ND ND	ND ND			
Chloroethane bis(2-Chloroethoxy) Methane	75-00-3 111-91-1	X	ND ND	ND ND	ND ND	ND ND	
bis(2-Chloroethyl) Ether	111-91-1	X	ND ND	ND ND	ND ND	ND ND	
Chloroform	67-66-3	X	3.68E-03	1.77E-03	1.52E-03	1.32E-03	
bis(2-Choroisopropyl) Ether	39638-32-9	Λ	3.08E-03	ND	ND	ND	
Chloromethane	74-87-3	X	1.05E-02	1.10E-03	6.14E-04	60° 2-04	
4-Chloro-3-methylphenol	59-50-7	Λ	ND	ND	ND	ND	
2-Chloronaphthalene	91-58-7		ND	ND	ND ND	ND	
2-Chlorophenol	95-57-8		ND	ND	N	ND	
1-chloro-4-phenoxybenzene	7005-72-3		ND	ND	ND	ND	
Chrysene	218-01-9	Х	ND	ND 4	ND	ND	
o-Cresol	95-48-7	X	ND	ND	ND	ND	
p-Cresol	106-44-5	X	ND	ND	ND	ND	
Crotonaldehyde	4170-30-3		8.77E-02	ND	ND	ND	
Dibenzofuran	132-64-9	X	ND	ND	ND	ND	
Dibutyl Phthalate	84-74-2	X	10	6.50E-04	3.41E-04	3.90E-04	
1,2-Dichlorobenzene	95-50-1		ND	ND	ND	ND	
1,3-Dichlorobenzene	541-73-1		ND	ND	ND	ND	
1,4-Dichlorobenzene	106-46-7	X	4.81E-03	1.80E-04	1.79E-04	1.62E-04	
3,3'-Dichlorobenzidine	91-94-1	X	ND	ND	ND	ND	
1,1-Dichloroethane	75-2 3	X	ND	ND	ND	ND	
1,2-Dichloroethane	-07-06-2	X	ND	ND	ND	ND	
1,1-Dichloroethene	75-35-4	X	ND	ND	ND	ND	
cis-1,2-Dicholorethene	156-59-2		ND	ND	ND	ND	
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND	ND	
2,4-Dichlorophenol	120-83-2		ND	ND	ND	ND	
1,2-Dichloropropane	78-87-5	X	ND	ND	ND	ND	
cis-1,3-Dichloropr	10061-01-5		ND	ND	ND	ND	
trans-1,3-Dich ropropene	10061-02-6		ND	ND	ND	ND	
Diethyl P. malate	84-66-2		ND	2.89E-04	4.49E-04	5.86E-04	

	Po	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flow	rate (lb/hr)1	1448	10477	12541	13862	
		hrust/hp1	7%	76%	87%	94%	
Compound Name	CAS Number	HAP			tors (lb/1000lb		
2,4-Dimethylphenol	105-67-9	IIAI	ND	ND ND	ND ND	ND ND	
Dimethyl phthalate	131-11-3	X	ND ND	ND	ND ND	ND ND	
4,6-Dinitro-o-cresol	534-52-1	X	ND	ND	.0	ND	
2.4-Dinitrophenol	51-28-5	X	ND	ND .	ND	ND	
2,4-Dinitrotoluene	121-14-2	X	ND	ND ND	ND ND	ND	
2.6-Dinitrotoluene	606-20-2	Α	ND	ND	ND	ND	
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	ND	5.25E-03	1.49E-03	4.71E-03	
Di-n-Octyl phthalate	117-84-0	- 1	ND /	ND	ND	ND ND	
Ethylbenzene	100-41-4	X	2.0172	ND	4.99E-04	AA	
Fluoranthene	206-44-0	X	ND	ND	1.98E-04	ND	
Fluorene	86-73-7	X	ND	ND	ND	ND	
Formaldehyde	50-00-0		1.42E+00	8.15E-03	4.90E-03	1.05E-02	
Hexachlorobenzene	118-74-1	X	ND	ND	ND	ND	
Hexachlorobutadiene	87-68	X	ND	ND	ND	ND	
Hexachlorocyclopentadiene	72 ,1-4	X	ND	ND	ND	ND	
Hexachloroethane	67-72-1	X	ND	ND	ND	ND	
Hexanal	66-25-1		ND	ND	ND	ND	
2-Hexanone	591-78-6		ND	ND	ND	ND	
ndeno(1,2,3-cd)pyrene	193-39-5	X	ND	ND	ND	ND	
sophorone	78-59-1	X	ND	ND	ND	ND	
sovaleraldehyde	590-86-3		ND	ND	ND	ND	
Methylene Chlorae	75-09-2	X	ND	AA	AA	AA	
-Methylne athalene	91-57-6		8.35E-02	AA	AA	AA	
-Met 1-2-pentanone (MIBK)	108-10-1	X	ND	ND	ND	ND	
pnthalene	91-20-3	X	9.74E-02	AA	AA	AA	
n-Nitroaniline	99-09-2		ND	ND	ND	ND	
-Nitroaniline	88-74-4		ND	ND	ND	ND	
l-Nitrobenzenamine	100-01-6		ND	ND	ND	ND	
Nitrobenzene	98-95-3	X	ND	ND	ND	ND	
2-Nitrophenol	88-75-5		ND	ND	ND	ND	
l-Nitrophenol	100-02-7	X	ND	ND	ND	ND	
N-Nitrosodiphenylamine	86-30-6		ND	ND	ND	ND	
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND	
Pentachlorophenol	87-86-5	X	ND	ND	ND	ND	
Pentanal	110-62-3		4.62E-01	ND	ND	ND	
Phenanthrene	85-01-8	X	ND	ND	ND	ND	
henol	108-95-2	X	4.38E-02	ND	ND	ND	
ropanal	123-38-6	X					
yrene	129-00-0	X	ND	ND	ND	ND	
tyrene	100-42-5	X	4.49E-02	ND	ND	6.94E-04	
,1,2,2-Tetrachloroethane	79-34-5	X	ND	ND	ND	ND	
etrachloroethene	127-18-4	X	5.39E-03	ND	ND	6.09E-04	
n-Tolualdehyde	620-23-5		ND	ND	ND	ND	
-Tolualdehyde	529-20-4		ND	ND	ND	ND	
'oluene	108-88-3	X	1.28E-01	AA	AA	AA	
,2,4-Trichlorobenzene	120-82-1	X	ND	ND	ND	ND	
,1,1-Trichloroethane	71-55-6	X	ND	ND	3.15E-04	ND	
,1,2-Trichloroethane	79-00-5	X	ND	ND	ND	ND	
richloroethene	79-01-6	X	ND	ND	6.62E-04	ND	
2,4,5-Trichlorophenol	95-95-4	X	ND	ND	ND	ND	
2,4,6-Trichlorophenol	88-06-2	X	ND	ND	ND	ND	
/inyl Acetate	108-05-4	X	ND	ND	ND	ND	
/inyl Chloride	75-01-4	X	ND	ND	ND	ND	
n,p-Xylene	1330-20-7	X	3.81E-02	AA	1.90E-03	AA	
-Xylene	95-47-6	X	2.00E-02	9.26E-04	6.83E-04	AA	

Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>2.</sup> Emission Factors derived using the test results provided in the reference above.

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-10. Criteria Pollutant and Ozone Precursor Emission Factors for APUs<sup>1</sup>

Fuel Flow Rate Emission Factors in lb/hr of Operation

	Fuel Flow Rate			<b>Emission Fa</b>	ctors in lb/hr	of Operation		
Manufacturer	(lb/hr)	NO <sub>X</sub>	СО	VOC	SO <sub>X</sub> <sup>2</sup>	PM <sub>10</sub>	PM <sub>2.5</sub>	GHG <sup>3</sup>
Honeywell Inc.	210.00	0.81	3.11	0.03	0.22			674.49
Honeywell Inc.	282.20	2.85		0.06	0.30			
Honeywell Inc.	150.00	0.87	1.41	0.06				
Honeywell Inc.	282.20	2.85	0.58 <sup>(6)</sup>	0.06	0.30			
Honeywell Inc.	235.28	1.12		0.24	0.25			
Honeywell Inc.	235.28	1.12	4.23 <sup>(6)</sup>	0.24	0.25			
Honeywell Inc.	297.00	1.78	1.64	0.04				
Honeywell Inc.	235.28	1.12	4.23 <sup>(6)</sup>	0.24	0.25			
Honeywell Inc.	235.28	1.12	4.23(6)	0.24	0.25			
Honeywell Inc.	270.30	1.28	2.05	0.01	0.29	0.05	0.01	906.25
Honeywell Inc.	293.00	1.65	0.94	0.11	0.31			948.89
Honeywell Inc.	413.00	2.46	2.43	0.07	0.44			1337.86
Honeywell Inc.	272.60	1.22	3.76	0.49	0.29	0.13	0.04	910.75
Honeywell Inc.	267.92	2.55		0.12	0.28			
Honeywell Inc.	267.92	2.55	1.11 <sup>(6)</sup>	0.12	0.28			
Honeywell Inc.	536.00	7.86	0.05 <sup>(6)</sup>	0.07	0.57			
Honeywell Inc.	862.92	4.60	7.46 <sup>(6)</sup>	0.24	0.91			
Pratt & Whitney	862.92	2.72	14.48 <sup>(6)</sup>	1.29	0.91			
United Technologies Corporation	440.00	3.92	0.02	0.01	0.47			
United Technologies Corporation	102.00	0.40	4.36	0.79	0.11			344.76
United Technologies Corporation	235.28	1.01	9.46	0.04	0.25			
Honeywell Inc.	323.68	2.77		0.08	0.34			
Honeywell Inc.	323.68	2.77	0.48 <sup>(6)</sup>	0.08	0.34			
Williams International	140.00	0.65	0.79	0.03	0.15			444.77
	Honeywell Inc. United Technologies Corporation United Technologies Corporation United Technologies Corporation Honeywell Inc. Honeywell Inc.	Manufacturer	Manufacturer         (lb/hr)         NO <sub>X</sub> Honeywell Inc.         210.00         0.81           Honeywell Inc.         282.20         2.85           Honeywell Inc.         150.00         0.87           Honeywell Inc.         282.20         2.85           Honeywell Inc.         235.28         1.12           Honeywell Inc.         297.00         1.78           Honeywell Inc.         235.28         1.12           Honeywell Inc.         270.30         1.28           Honeywell Inc.         293.00         1.65           Honeywell Inc.         413.00         2.46           Honeywell Inc.         272.60         1.22           Honeywell Inc.         267.92         2.55           Honeywell Inc.         267.92         2.55           Honeywell Inc.         862.92         2.72           United Technologies Corporation         440.00         3.92           United Technologies Corporation         102.00         0.40           United Technologies Corporation         232.68         2.77           Honeywell Inc.         323.68         2.77	Manufacturer	NOX   CO   VOC	Manufacturer         (lb/hr)         NOx         CO         VOC         SOx2           Honeywell Inc.         210.00         0.81         3.11         0.03         0.22           Honeywell Inc.         282.20         2.85          0.06         0.30           Honeywell Inc.         282.20         2.85         0.58(6)         0.06         0.30           Honeywell Inc.         235.28         1.12          0.24         0.25           Honeywell Inc.         235.28         1.12         4.23(6)         0.24         0.25           Honeywell Inc.         297.00         1.78         1.64         0.04            Honeywell Inc.         235.28         1.12         4.23(6)         0.24         0.25           Honeywell Inc.         270.30         1.28         2.05         0.01         0.29           Honeywell Inc.         413.00         2	Honeywell Inc.   210.00   0.81   3.11   0.03   0.22	Manufacturer         (lb/lar)         NOx         CO         VOC         SOx²         PM <sub>10</sub> PM <sub>25</sub> Honeywell Inc.         210.00         0.81         3.11         0.03         0.22             Honeywell Inc.         282.20         2.85          0.06         0.30             Honeywell Inc.         282.20         2.85         0.58 <sup>60</sup> 0.06         0.30             Honeywell Inc.         235.28         1.12          0.24         0.25             Honeywell Inc.         235.28         1.12         4.23 <sup>60</sup> 0.24         0.25             Honeywell Inc.         270.30         1.28         2.05         0.01         0.29

- 1. SOURCE (unless otherwise stated): Technical Data to Support FAA's Advisory Circular on Reducing Emissions from Commercial Aviation memorandum. This document states the original source as Proposed Federal Implementation Plan for California, Docket No. A-94-09 memorandum
- 2. SOx Emission factors assume that JP-8, with an average wt. % of 0.053 Sulfur, is used to power the APU.
- 3. Greenhouse Gas (GHG) emission factors are presented in equivalent CO<sub>2</sub> (CO<sub>2</sub>e). Original source document provided emission factors for CO<sub>2</sub> and CH<sub>4</sub>. CH<sub>4</sub> emissions were then multiplied by the global warming potential (GWP) which is stated as 25 per Table A-1 to subpart A of 40 CFR 98.
- 4. SOURCE: Summary Tables of Gaseous and Particulate Emissions from Aircraft Engines, June 1990.
- 5. SOURCE: Air Pollutant Emission Factors for Military and Civil Aircraft.
- 6. SOURCE: Technical Data to Support FAA's Advisory Circular on Reducing Emissions from Commercial Aviation memorandum. This document states the original source as United Air Lines' APU Emissions Database (note: data for LAX 1991)
- 7. SOURCE: Aircraft Engine and Auxiliary Power Unit Emissions Testing Volume I -III, March 1999
- 8. SOURCE: Technical Data to Support FAA's Advisory Circular on Reducing Emissions from Commercial Aviation memorandum. This document states the original source as AIA Exhaust Emissions Data Sheet letter

<sup>&</sup>quot;---" Indicates No Data Available

**Table 2-11. VOC Weight Fractions for Turbofan Engines** 

Compound Name						Power Setting		
Accengalublene	Compound Name	CAS Number	HAP	Idle	Approach		Military	Afterburner-1
Acentalchylene			_					
Acetaltelyuke								
Aerolein								
Authracene								
Bezza   September   Septembe								
Bezza   September   Septembe								
Benzenemethanol	, ,		X					
Benzenemethanol								
Benzo(A)thorambene								
Bernox(s) Documenters			x					
Benzo(a)Djervlene								
Bemzoic Acid								
Benzoic Acid								
Bromodichloromethane			- 1					
Bromoferm								
Bromomethane			v					
### Homophenyl-phenyl Ether								
1.3-Butadiene			- 1					
2-Butanone (MEK)   78-93-3   0.82%   0.98%   0.82%   0.62%   1.82%			v					
Butyl benzyl phthalate	,		Λ					
Carbon Disulfide         75-15-0         X         0.08%         0.01%         0.35%         0.23%         0.10%           Carbon Tetrachloride         56-23-5         X         0.07%         0.14%         0.34%         0.20%         0.00%           4-Chloroanline         106-47-8         ND         ND         ND         ND         ND           Chlorodhromomethane         124-48-1         0.08%         ND         0.03%         0.02%         0.10%           Chlorodhromomethane         75-00-3         X         0.08%         ND         0.03%         0.02%         0.10%           bis(2-Chloroethoxy) Methane         111-91-1         ND         N								
Carbon Tetrachloride         56-23-5         X         0.07%         0.14%         0.34%         0.20%         0.06%           4-Chloronanime         106-47-8         ND			v					
4-Chloroaniline   106-47-8   ND ND ND ND ND ND ND								
Chlorodbromenthane			A					
Chlorodibromomethane			v					
Chloroethane			X					
bis(2-Chloroethoxy) Methane   111-91-1   ND								
bis(2-Chloroethyl) Ether         111-44-4         X         ND			X					
Chloroform         67-66-3         X         0.13%         0.40%         1.09%         0.82%         0.07%           bis(2-Choroisopropyl) Ether         39638-32-9         ND         ND<								
bis(2-Choroisopropyl) Either         39638-32-9         ND         AD         AS         AS         AS         AS         AS         AS         AS         AS								
Chloromethane			X					
4-Chloro-3-methylphenol         59-50-7         ND								
2-Chloronaphthalene         91-58-7         ND         ND         ND         ND         ND         ND           2-Chlorophenol         95-57-8         ND         A.09%         C.01%         C.01%         A.09%         A.09%         ND         A.29%         A.09%         A.09%         ND         ND         ND         A.02%         A.09%         A.09%         A.09%         A.09%         A.09%         A.09%         A.09%         A.09%			X					
2-Chlorophenol         95-57-8         ND         ND <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
1-chloro-4-phenoxybenzene								
Chrysene         218-01-9         X         ND         O.01%         O.01%         ND         ND         ND         O.01%         ND         ND         ND         0.00%         ND         ND         ND         0.00%         ND         ND         ND         ND         ND         0.00%         ND								
o-Cresol         95-48-7         X         0.00%         ND         ND         ND         0.01%           p-Cresol         106-44-5         X         0.37%         0.11%         ND         ND         ND         0.80%           Crotonaldehyde         4170-30-3         1.28%         0.57%         ND         ND         ND         3.72%           Dibenzofuran         132-64-9         X         0.09%         ND         ND         0.00%         0.10%           Dibutyl Phthalate         8.4-74-2         X         0.02%         0.09%         0.56%         0.08%         0.02%           1_2-Dichlorobenzene         95-50-1         ND         0.01%         0.10%         0.04%         ND           1_3-Dichlorobenzene         541-73-1         ND         ND         ND         0.02%         ND           1_4-Dichlorobenzene         541-73-1         ND         ND         ND         0.06%         0.04%         0.00%           3_3-Dichlorobenzene         541-73-1         ND								
p-Cresol         106-44-5         X         0.37%         0.11%         ND         ND         0.80%           Crotonaldehyde         4170-30-3         1.28%         0.57%         ND         ND         ND         3.72%           Dibenzofuran         132-64-9         X         0.09%         ND         ND         0.00%         0.10%           Dibutyl Phthalate         84-74-2         X         0.02%         0.09%         0.56%         0.08%         0.02%           1,2-Dichlorobenzene         95-50-1         ND         0.01%         0.10%         0.04%         ND           1,3-Dichlorobenzene         106-46-7         X         0.02%         0.01%         0.06%         0.04%         ND           1,4-Dichlorobenzene         106-46-7         X         0.02%         0.01%         0.06%         0.04%         ND           3,3-Dichlorobenzidine         91-94-1         X         ND         ND         ND         ND         ND           1,1-Dichloroethane         107-06-2         X         0.08%         ND         0.03%         0.02%         0.10%           1,1-Dichloroethane         107-06-2         X         0.08%         ND         0.03%         0.02%         0								
Crotonaldehyde         4170-30-3         1.28%         0.57%         ND         ND         3.72%           Dibenzofuran         132-64-9         X         0.09%         ND         ND         0.00%         0.10%           Dibutyl Phthalate         84-74-2         X         0.09%         0.56%         0.08%         0.02%           1,2-Dichlorobenzene         95-50-1         ND         0.01%         0.10%         0.04%         ND           1,3-Dichlorobenzene         541-73-1         ND         ND         ND         0.10%         0.02%         ND           4,4-Dichlorobenzene         106-46-7         X         0.02%         0.01%         0.06%         0.04%         ND           3,3-Dichlorobenzene         91-94-1         X         ND         ND         ND         ND         ND           1,1-Dichloroethane         97-94-1         X         ND								
Dibenzofuran   132-64-9   X   0.09%   ND   ND   0.00%   0.10%			X					
Dibutyl Phthalate								
1,2-Dichlorobenzene			-					
1,3-Dichlorobenzene   541-73-1   ND ND 0.10% 0.02% ND     1,4-Dichlorobenzene   106-46-7 X 0.02% 0.01% 0.00% 0.00% 0.00% 0.00%     1,4-Dichlorobenzene   106-46-7 X ND			X					
1,4-Dichlorobenzene         106-46-7         X         0.02%         0.01%         0.06%         0.04%         0.00%           3,3-Dichlorobenzidine         91-94-1         X         ND         ND         ND         ND         ND         ND         ND         ND         ND         0.02%         0.10%         1.1-Dichloroethane         107-06-2         X         0.08%         ND         0.03%         0.02%         0.10%         1.1-Dichloroethane         107-06-2         X         0.08%         ND         0.03%         0.02%         0.10%         1.1-Dichloroethane         156-59-2         X         0.08%         ND         0.11%         0.02%         0.10%         0.10%         0.10%         0.02%         0.10%         0.00%         0.02%         0.10%         0.00%         0.02%         0.00%         0.00%         0.02%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00%         0.00% <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>								
3,3*-Dichlorobenzidine         91-94-1         X         ND         ND         ND         ND           1,1-Dichlorocethane         75-34-3         X         0.08%         ND         0.03%         0.02%         0.10%           1,2-Dichlorocethane         107-06-2         X         0.08%         ND         0.03%         0.02%         0.10%           1,1-Dichlorocethene         75-35-4         X         0.08%         ND         0.11%         0.02%         0.10%           cis-1,2-Dichlorocethene         156-59-2         0.08%         ND         0.03%         0.02%         0.10%           2,4-Dichlorocethene         156-69-5         0.07%         ND         0.03%         0.02%         0.08%           2,4-Dichlorophenol         120-83-2         0.01%         0.06%         0.16%         0.13%         ND           1,2-Dichloropropene         78-87-5         X         0.09%         0.05%         0.10%         0.02%         0.10%           cis-1,3-Dichloropropene         10061-01-5         0.08%         ND         0.03%         0.02%         0.10%           cis-1,3-Dichloropropene         10061-02-6         0.08%         0.03%         0.09%         0.07%         0.12%								
1.1-Dichloroethane         75-34-3         X         0.08%         ND         0.03%         0.02%         0.10%           1.2-Dichloroethane         107-06-2         X         0.08%         ND         0.03%         0.02%         0.10%           1.1-Dichloroethene         75-35-4         X         0.08%         ND         0.11%         0.02%         0.10%           cis-1.2-Dichloroethene         156-59-2         0.08%         ND         0.03%         0.02%         0.10%           trans-1,2-Dichloroethene         156-60-5         0.07%         ND         0.03%         0.02%         0.08%           2,4-Dichloropropheno         120-83-2         0.01%         0.06%         0.16%         0.13%         ND           1,2-Dichloropropene         78-87-5         X         0.09%         0.05%         0.10%         0.02%         0.10%           cis-1,3-Dichloropropene         10061-01-5         0.08%         ND         0.03%         0.02%         0.10%           trans-1,3-Dichloropropene         10061-02-6         0.08%         0.03%         0.09%         0.07%         0.12%	,							
1,2-Dichloroethane         107-06-2         X         0.08%         ND         0.03%         0.02%         0.10%           1,1-Dichloroethene         75-35-4         X         0.08%         ND         0.11%         0.02%         0.10%           cis-1,2-Dichloroethene         156-59-2         0.08%         ND         0.03%         0.02%         0.10%           trans-1,2-Dichloroethene         156-60-5         0.07%         ND         0.03%         0.02%         0.08%           2,4-Dichlorophenol         120-83-2         0.01%         0.06%         0.16%         0.13%         ND           1,2-Dichloropropene         78-87-5         X         0.09%         0.05%         0.10%         0.02%         0.10%           cis-1,3-Dichloropropene         10061-01-5         0.08%         ND         0.03%         0.02%         0.10%           trans-1,3-Dichloropropene         10061-02-6         0.08%         0.03%         0.09%         0.07%         0.12%								
1,1-Dichloroethene         75-35-4         X         0.08%         ND         0.11%         0.02%         0.10%           cis-1,2-Dichloroethene         156-59-2         0.08%         ND         0.03%         0.02%         0.10%           trans-1,2-Dichloroethene         156-60-5         0.07%         ND         0.03%         0.02%         0.08%           2,4-Dichlorophenol         120-83-2         0.01%         0.06%         0.16%         0.13%         ND           1,2-Dichloropropane         78-87-5         X         0.09%         0.05%         0.10%         0.02%         0.10%           cis-1,3-Dichloropropene         10061-01-5         0.08%         ND         0.03%         0.02%         0.10%           trans-1,3-Dichloropropene         10061-02-6         0.08%         0.03%         0.09%         0.07%         0.12%	,							
cis-1,2-Dicholorethene         156-59-2         0.08%         ND         0.03%         0.02%         0.10%           trans-1,2-Dichloroethene         156-60-5         0.07%         ND         0.03%         0.02%         0.08%           2,4-Dichlorophenol         120-83-2         0.01%         0.06%         0.16%         0.13%         ND           1,2-Dichloropropane         78-87-5         X         0.09%         0.05%         0.10%         0.02%         0.10%           cis-1,3-Dichloropropene         10061-01-5         0.08%         ND         0.03%         0.02%         0.10%           trans-1,3-Dichloropropene         10061-02-6         0.08%         0.03%         0.09%         0.07%         0.12%								
trans-1,2-Dichloroethene         156-60-5         0.07%         ND         0.03%         0.02%         0.08%           2,4-Dichlorophenol         120-83-2         0.01%         0.06%         0.16%         0.13%         ND           1,2-Dichloropropane         78-87-5         X         0.09%         0.05%         0.10%         0.02%         0.10%           cis-1,3-Dichloropropene         10061-01-5         0.08%         ND         0.03%         0.02%         0.10%           trans-1,3-Dichloropropene         10061-02-6         0.08%         0.03%         0.09%         0.07%         0.12%			X					
2,4-Dichlorophenol         120-83-2         0.01%         0.06%         0.16%         0.13%         ND           1,2-Dichloropropane         78-87-5         X         0.09%         0.05%         0.10%         0.02%         0.10%           cis-1,3-Dichloropropene         10061-01-5         0.08%         ND         0.03%         0.02%         0.10%           trans-1,3-Dichloropropene         10061-02-6         0.08%         0.03%         0.09%         0.07%         0.12%								
1,2-Dichloropropane         78-87-5         X         0.09%         0.05%         0.10%         0.02%         0.10%           cis-1,3-Dichloropropene         10061-01-5         0.08%         ND         0.03%         0.02%         0.10%           trans-1,3-Dichloropropene         10061-02-6         0.08%         0.03%         0.09%         0.07%         0.12%		156-60-5		0.07%	ND	0.03%	0.02%	
cis-1,3-Dichloropropene 10061-01-5 0.08% ND 0.03% 0.02% 0.10% trans-1,3-Dichloropropene 10061-02-6 0.08% 0.03% 0.09% 0.07% 0.12%	2,4-Dichlorophenol	120-83-2		0.01%	0.06%	0.16%	0.13%	ND
trans-1,3-Dichloropropene 10061-02-6 0.08% 0.03% 0.09% 0.07% 0.12%			X					
	cis-1,3-Dichloropropene	10061-01-5			ND	0.03%	0.02%	0.10%
Diethyl Phthalate 84-66-2 0.12% 0.66% 1.19% 0.68% 0.45%	trans-1,3-Dichloropropene	10061-02-6		0.08%	0.03%	0.09%	0.07%	0.12%
	Diethyl Phthalate	84-66-2		0.12%	0.66%	1.19%	0.68%	0.45%

					Power Setting		
Compound Name	CAS Number	HAP	Idle	Approach	Interme diate	Military	Afterburner-1
2,4-Dimethylphenol	105-67-9		ND	ND	ND	ND	ND
Dimethyl phthalate	131-11-3	X	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	534-52-1	X	ND	ND	ND	ND	ND
2,4-Dinitrophenol	51-28-5	X	0.04%	0.21%	0.43%	ND	ND
2,4-Dinitrotoluene	121-14-2	X	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	606-20-2		ND	ND	ND	ND	ND
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X	0.29%	0.78%	2.53%	2.24%	0.14%
Di-n-Octyl phthalate	117-84-0		0.00%	ND	ND	ND	ND
Ethylbenzene	100-41-4	X	1.68%	0.26%	0.28%	0.20%	3.68%
Fluoranthene	206-44-0	X	0.03%	ND	0.02%	ND	ND
Fluorene	86-73-7	X	0.08%	ND	ND	ND	0.00%
Formaldehyde	50-00-0	X	39.58%	41.13%	22.08%	9.82%	2.49%
Hexachlorobenzene	118-74-1	X	ND	ND	ND	ND	ND
Hexachlorobutadiene	87-68-3	X	ND	0.01%	0.15%	0.06%	ND
Hexachlorocyclopentadiene	77-47-4	X	ND	ND	ND	ND	ND
Hexachloroethane	67-72-1	X	ND	ND	ND	ND	ND
Hexanal	66-25-1		0.10%	1.12%	2.78%	0.93%	0.86%
2-Hexanone	591-78-6		0.41%	0.14%	0.52%	0.38%	0.48%
Indeno(1,2,3-cd)pyrene	193-39-5	X	ND	ND	ND	ND	ND
Isophorone	78-59-1	X	ND	ND	ND	ND	ND
Isovaleraldehyde	590-86-3		0.14%	2.24%	2.97%	0.46%	0.50%
Methylene Chloride	75-09-2	X	1.23%	7.17%	23.71%	33.47%	1.42%
2-Methylnaphthalene	91-57-6		4.11%	0.25%	0.20%	0.13%	5.91%
4-Methyl-2-pentanone (MIBK)	108-10-1	X	0.39%	0.08%	0.37%	0.27%	0.48%
Naphthalene	91-20-3	Х	4.12%	0.43%	0.36%	0.13%	6.12%
m-Nitroaniline	99-09-2		ND	ND	ND	ND	ND
o-Nitroaniline	88-74-4		ND	ND	ND	ND	ND
4-Nitrobenzenamine	100-01-6		ND	ND	ND	ND	ND
Nitrobenzene	98-95-3	X	ND	ND	ND	ND	ND
2-Nitrophenol	88-75-5		0.05%	ND	ND	ND	1.08%
4-Nitrophenol	100-02-7	X	0.05%	0.12%	ND	ND	0.66%
N-Nitrosodiphenylamine	86-30-6		ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND	ND
Pentachlorophenol	87-86-5	X	ND	ND	ND	ND	ND
Pentanal	110-62-3		1.79%	0.00%	0.93%	1.85%	0.24%
Phenanthrene	85-01-8	X	0.11%	0.01%	ND	ND	0.00%
Phenol	108-95-2	X	2.07%	20.49%	0.13%	0.03%	3.38%
Propanal	123-38-6	X	1.72%	2.46%	7.61%	17.20%	0.36%
Pyrene	129-00-0	X	0.04%	ND	ND	ND	ND
Styrene	100-42-5	X	2.18%	0.34%	0.21%	0.09%	0.47%
1,1,2,2-Tetrachloroethane	79-34-5	X	0.09%	0.07%	0.22%	0.06%	0.07%
Tetrachloroethene	127-18-4	X	0.10%	0.17%	0.47%	0.50%	0.07%
m -Tolualdehyde	620-23-5		0.46%	0.25%	2.71%	1.02%	2.62%
o-Tolualdehyde	529-20-4		0.11%	0.13%	ND	0.04%	0.58%
Toluene	108-88-3	X	4.89%	1.19%	1.60%	0.88%	9.16%
1,2,4-Trichlorobenzene	120-82-1	X	ND	0.01%	0.22%	0.08%	0.00%
1,1,1-Trichloroethane	71-55-6	X	0.07%	0.06%	0.26%	0.14%	0.06%
1,1,2-Trichloroethane	79-00-5	X	0.08%	ND	0.03%	0.02%	0.10%
Trichloroethene	79-01-6	X	0.08%	0.06%	0.25%	0.09%	0.07%
2,4,5-Trichlorophenol	95-95-4	X	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	88-06-2	X	ND	ND	ND	ND	ND
Vinyl Acetate	108-05-4	X	0.43%	0.21%	0.74%	1.54%	1.12%
Vinyl Chloride	75-01-4	X	0.08%	ND	0.03%	0.02%	0.10%
m,p-Xylene	1330-20-7	X	3.20%	0.81%	1.20%	1.34%	6.36%
o-Xylene	95-47-6	X	1.38%	0.27%	0.25%	0.31%	3.00%

ND indicates compound not detected at detection limit. Compound may be present at a value less than the detection limit. 0.00% - Value is less than 0.00005.

<sup>&</sup>quot;X" indicates that compound is a HAP.

Table 2-12. VOC Weight Fractions for Turboprop for Large Aircraft

			Power Setting				
Compound Name	CAS Number	HAP	Idle	Approach	Intermediate	Military	
Acenaphthene	83-32-9	X	ND	ND	ND	ND	
Acenaphthylene	208-96-8	X	ND	ND	ND	ND	
Acetaldehyde	75-07-0	X	13.02%	AA	2.39%	2.10%	
Acrolein	107-02-8	X	ND	ND	ND	ND	
Anthracene	120-12-7	X	ND	ND	ND	ND	
Benzaldehyde	100-52-7		1.41%	1.39%	2.06%	ND	
Benz(a)anthracene	56-55-3	X	ND	ND	ND	ND	
Benzene	71-43-2	X	5.96%	7.04%	5.92%	10.02%	
Benzenemethanol	100-51-6		ND	ND	ND	ND	
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND	ND	
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND	ND	
Benzo(g,h,i)perylene	191-24-2	Х	ND	ND	ND	ND	
Benzo(a)pyrene	50-32-8	X	ND	ND	ND	ND	
Benzoic Acid	65-85-0		8.05%	14.05%	16.87%	25.93%	
Bromodichloromethane	75-27-4		ND	ND	ND	ND	
Bromoform	75-25-2	X	ND	ND	ND	ND	
Bromomethane	74-83-9	X	ND	ND	ND	ND	
-Bromophenyl-phenyl Ether	101-55-3	- 1	ND	ND	ND	ND	
.3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3	Α.	0.58%	0.57%	ND	2.24%	
Butyl benzyl phthalate	85-68-7		ND	ND	ND	ND	
Carbon Disulfide	75-15-0	Х	0.90%	2,59%	4.58%	3.67%	
Carbon Tetrachloride	56-23-5	X	ND	0.83%	0.63%	3.00%	
-Chloroaniline	106-47-8	^	ND	0.83% ND	0.03% ND	ND	
Chlorobenzene	108-90-7	Х	ND	ND	ND ND	ND ND	
Chlorodibromomethane	124-48-1	Α.	ND	ND		ND ND	
Chlorodibromomethane	75-00-3	X	ND ND	ND ND	ND ND	ND ND	
	111-91-1	Α.	ND			ND ND	
ois(2-Chloroethoxy) Methane ois(2-Chloroethyl) Ether	111-91-1	X	ND ND	ND ND	ND ND	ND ND	
		X	2.79%	0.86%	4.26%		
Chloroform	67-66-3 39638-32-9	X	2.79% ND	0.86% ND	4.26% ND	6.59% ND	
ois(2-Choroisopropyl) Ether		77					
Chloromethane	74-87-3	X	ND	0.72%	1.38%	4.63%	
-Chloro-3-methylphenol	59-50-7	_	ND	ND	ND	ND	
2-Chloronaphthalene	91-58-7		ND	ND	ND	ND	
2-Chlorophenol	95-57-8		ND	ND	ND	ND	
-chloro-4-phenoxybenzene	7005-72-3		ND	ND	ND	ND	
Chrysene	218-01-9	X	ND	ND	ND	ND	
o-Cresol	95-48-7	X	ND	ND	ND	ND	
-Cresol	106-44-5	X	ND	ND	ND	ND	
Crotonaldehyde	4170-30-3	$\vdash$	ND	ND	ND	ND	
Dibenzofuran	132-64-9	X	ND	ND	ND	ND	
Dibutyl Phthalate	84-74-2	X	0.63%	0.53%	0.49%	1.34%	
,2-Dichlorobenzene	95-50-1		ND	ND	ND	ND	
,3-Dichlorobenzene	541-73-1		ND	ND	ND	ND	
,4-Dichlorobenzene	106-46-7	X	ND	ND	ND	ND	
3,3'-Dichlorobenzidine	91-94-1	X	ND	ND	ND	ND	
,1-Dichloroethane	75-34-3	X	ND	ND	ND	ND	
,2-Dichloroethane	107-06-2	X	ND	ND	ND	ND	
,1-Dichloroethene	75-35-4	X	ND	ND	ND	ND	
is-1,2-Dicholorethene	156-59-2		ND	ND	ND	ND	
rans-1,2-Dichloroethene	156-60-5		ND	ND	ND	ND	
2,4-Dichlorophenol	120-83-2		ND	ND	ND	ND	
,2-Dichloropropane	78-87-5	X	ND	ND	ND	ND	
is-1,3-Dichloropropene	10061-01-5		ND	ND	ND	ND	
rans-1,3-Dichloropropene	10061-02-6		ND	ND	ND	ND	
Diethyl Phthalate	84-66-2		1.21%	0.41%	ND	5.43%	

					Power Setting		
Compound Name	CAS Number	HAP	Idle	Approach	Interme diate	Military	
2,4-Dimethylphenol	105-67-9		ND	ND	ND	ND	
Dimethyl phthalate	131-11-3	X	ND	ND	ND	ND	
4,6-Dinitro-o-cresol	534-52-1	X	ND	ND	ND	ND	
2,4-Dinitrophenol	51-28-5	X	ND	ND	ND	ND	
2.4-Dinitrotoluene	121-14-2	X	ND	ND	ND	ND	
2.6-Dinitrotoluene	606-20-2		ND	ND	ND	ND	
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	Х	3.02%	5.25%	5.26%	AA	
Di-n-Octyl phthalate	117-84-0		ND	ND	ND	ND	
Ethylbenzene	100-41-4	X	ND	0.64%	0.91%	2.29%	
Fluoranthene	206-44-0	X	ND	ND	ND	ND	
Fluorene	86-73-7	X	ND	ND	ND	ND	
Formaldehyde	50-00-0	X	51.28%	52.91%	40.98%	4.87%	
Hexachlorobenzene	118-74-1	X	ND	ND	ND	ND	
Hexachlorobutadiene	87-68-3	X	ND	ND	ND	ND	
Hexachlorocyclopentadiene	77-47-4	X	ND	ND	ND	ND	
Hexachloroethane	67-72-1	X	ND	ND	ND	ND	
Hexanal	66-25-1		ND	ND	ND	ND	
2-Hexanone	591-78-6		ND	ND	ND	ND	
Indeno(1,2,3-cd)pyrene	193-39-5	х	ND	ND	ND	ND	
sophorone	78-59-1	X	ND	ND	ND	ND	
Isovaleraldehyde	590-86-3	Α	ND	ND	ND	ND	
Methylene Chloride	75-09-2	X	0.89%	1.55%	3.45%	5.40%	
2-Methylnaphthalene	91-57-6	Α.	0.89%	1.08%	0.46%	0.44%	
4-Methyl-2-pentanone (MIBK)	108-10-1	Х	0.91% ND	1.08% ND	0.46% ND	0.44% ND	
	91-20-3	X	1.45%	1.64%	0.78%		
Naphthalene m-Nitroaniline	99-09-2	А	1.45% ND	1.04% ND	0.78% ND	1.71% ND	
m-Nitroaniline o-Nitroaniline	99-09-2 88-74-4		ND ND	ND ND	ND ND	ND ND	
4-Nitrobenzenamine	100-01-6		ND	ND ND	ND ND	ND ND	
4-Nitrobenzenamine Nitrobenzene	98-95-3	x	ND ND	ND ND	ND ND	ND ND	
	98-95-3 88-75-5	А	ND	ND ND		ND ND	
2-Nitrophenol	88-75-5 100-02-7	Х	ND ND	ND ND	ND ND	ND ND	
4-Nitrophenol		X					
N-Nitrosodiphenylamine	86-30-6		ND	ND	ND	ND	
N-Nitrosodi-n-propylamine	621-64-7		ND	ND	ND	ND	
Pentachlorophenol	87-86-5	X	ND	ND	ND	ND	
Pentanal	110-62-3		ND	ND	ND	ND	
Phenanthrene	85-01-8	X	ND	ND	ND	ND	
Phenol	108-95-2	X	ND	ND	ND	ND	
Propanal	123-38-6	X					
Pyrene	129-00-0	X	ND	ND	ND	ND	
Styrene	100-42-5	X	0.88%	0.58%	ND	ND	
1,1,2,2-Tetrachloroethane	79-34-5	X	ND	ND	ND	ND	
Tetrachloroethene	127-18-4	X	ND	ND	ND	2.75%	
n -Tolualdehyde	620-23-5		ND	ND	ND	ND	
>Tolualdehyde	529-20-4		ND	ND	ND	ND	
Γoluene	108-88-3	X	3.38%	3.63%	4.23%	0.32%	
1,2,4-Trichlorobenzene	120-82-1	X	ND	ND	ND	ND	
1,1,1-Trichloroethane	71-55-6	X	ND	ND	ND	ND	
1,1,2-Trichloroethane	79-00-5	X	1.98%	2.06%	2.78%	6.10%	
Trichloroethene	79-01-6	X	ND	ND	ND	ND	
2,4,5-Trichlorophenol	95-95-4	X	ND	ND	ND	ND	
2,4,6-Trichlorophenol	88-06-2	X	ND	ND	ND	ND	
Vinyl Acetate	108-05-4	X	ND	ND	ND	ND	
Vinyl Chloride	75-01-4	X	ND	ND	ND	ND	
n,p-Xylene	1330-20-7	X	0.84%	1.16%	1.83%	8.00%	
o-Xylene	95-47-6	X	0.82%	0.51%	0.74%	3.17%	

ND indicates compound not detected at detection limit. Compound may be present at a value less than the detection limit

0.00% - Value is less than 0.00005

"---" Indicates No Data Available

AA – Detected value was below the ambient air value

"X" indicates that compound is a HAP

All emission factors based off the T56-A-7 engine

This class of engine is found on large aircraft such as the C-2 and C-130

Table 2-13. VOC Weight Fractions for Turboprop for Small Aircraft

					Power Settin	ıg	
Compound Name	CAS Number	HAP	Ground Idle	Flight Idle	Descend	Approach	Max. Continuous
Acenaphthene	83-32-9	X	ND	ND	ND	ND	ND
Acenaphthylene	208-96-8	X	ND	ND	ND	ND	ND
Acetaldehyde	75-07-0	Х	4.12%	4.31%	2.67%	1.46%	1.11%
Acrolein	107-02-8	X	9.85%	7.45%	1.54%	ND	ND
Anthracene	120-12-7	Х	ND	ND	ND	ND	ND
Benzaldehyde	100-52-7		0.32%	2.15%	1.35%	1.12%	ND
Benz(a)anthracene	56-55-3	Х	ND	ND	ND	ND	ND
Benzene	71-43-2	X	2.30%	6.48%	2.58%	1.45%	0.44%
Benzenemethanol	100-51-6	А	2.30%	0.4070	2.3070	1.4370	0.4470
Benzo(b)fluoranthene	205-99-2	X	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	207-08-9	X	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	191-24-2	X	ND ND	ND	ND	ND	ND
Benzo(a)pyrene	50-32-8	X	ND	ND	ND	ND	ND
Benzoic Acid	65-85-0	Λ.	ND	ND	ND		ND
	75-27-4		ND	ND	ND	ND	ND
Bromodichloromethane Bromoform	75-27-4	v	ND ND	ND ND	ND ND	ND ND	ND ND
		X					
Bromomethane	74-83-9	X	ND	ND	ND	ND	0.08%
4-Bromophenyl-phenyl Ether	101-55-3						
1,3-Butadiene	106-99-0	X	2.05%	3.32%	0.33%	ND	ND
2-Butanone (MEK)	78-93-3		0.18%	ND	0.08%	ND	ND
Butyl benzyl phthalate	85-68-7						
Carbon Disulfide	75-15-0	X	ND	ND	ND	ND	ND
Carbon Tetrachloride	56-23-5	X	ND	ND	ND	ND	ND
4-Chloroaniline	106-47-8						
Chlorobenzene	108-90-7	X	ND	ND	ND	ND	ND
Chlorodibromomethane	124-48-1		ND	ND	ND	ND	ND
Chloroethane	75-00-3	X	ND	ND	ND	ND	ND
bis(2-Chloroethoxy) Methane	111-91-1						
bis(2-Chloroethyl) Ether	111-44-4	X					
Chloroform	67-66-3	X	ND	ND	ND	ND	ND
bis(2-Choroisopropyl) Ether	39638-32-9						
Chloromethane	74-87-3	X	0.02%	ND	0.04%	0.02%	0.29%
4-Chloro-3-methylphenol	59-50-7						
2-Chloronaphthalene	91-58-7		ND	ND	ND	ND	ND
2-Chlorophenol	95-57-8						
1-chloro-4-phenoxybenzene	7005-72-3						
Chrysene	218-01-9	Х	ND	ND	ND	ND	ND
o-Cresol	95-48-7	X					
p-Cresol	106-44-5	X					
Crotonaldehyde	4170-30-3		2.87%	2.15%	ND	ND	ND
Dibenzofuran	132-64-9	Х	2.0770	2.1370			
Dibutyl Phthalate	84-74-2	X					
1.2-Dichlorobenzene	95-50-1						
1.3-Dichlorobenzene	541-73-1						
1.4-Dichlorobenzene	106-46-7	Х					
3.3'-Dichlorobenzidine	91-94-1	X					
1.1-Dichloroethane	75-34-3	X	ND	ND	ND	ND	ND
1,2-Dichloroethane	107-06-2	X	ND ND	ND ND	ND ND	ND ND	ND ND
	75-35-4	X				ND	
1,1-Dichloroethene		X	ND	ND	ND		ND
cis-1,2-Dicholorethene	156-59-2		ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	156-60-5		ND	ND	ND	ND	ND
2,4-Dichlorophenol	120-83-2	L					
1,2-Dichloropropane	78-87-5	X	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	10061-01-5		ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	10061-02-6		ND	ND	ND	ND	ND
Diethyl Phthalate	84-66-2						

					Power Setting	g	
Compound Name	CAS Number	HAP	Ground Idle	Flight Idle	Descend	Approach	Max. Continuous
2,4-Dimethylphenol	105-67-9			-			
Dimethyl phthalate	131-11-3	X					
4,6-Dinitro-o-cresol	534-52-1	X		-			
2,4-Dinitrophenol	51-28-5	X					
2,4-Dinitrotoluene	121-14-2	X					
2,6-Dinitrotoluene	606-20-2						
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	X					
Di-n-Octyl phthalate	117-84-0						
Ethylbenzene	100-41-4	X	0.65%	0.62%	0.08%	0.03%	0.05%
Fluoranthene	206-44-0	X	ND	ND	ND	ND	ND
Fluorene	86-73-7	X	ND	ND	ND	ND	ND
Formaldehyde	50-00-0	Х	66.10%	65.50%	89.00%	94.41%	11.30%
Hexachlorobenzene	118-74-1	X					
Hexachlorobutadiene	87-68-3	Х					
Hexachlorocyclopentadiene	77-47-4	Х					
Hexachloroethane	67-72-1	Х					
Hexanal	66-25-1		2.15%	ND	ND	ND	ND
2-Hexanone	591-78-6		0.21%	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	193-39-5	Х	ND	ND	ND	ND	ND
Isophorone	78-59-1	X					
Isovaleraklehyde	590-86-3		ND	ND	ND	ND	ND
Methylene Chloride	75-09-2	Х	ND	ND	0.06%	0.05%	0.09%
2-Methylnaphthalene	91-57-6		ND	ND	ND	ND	46.31%
4-Methyl-2-pentanone (MIBK)	108-10-1	Х	0.21%	ND	ND	ND	ND
Naphthalene	91-20-3	X	ND	0.14%	ND	ND	39.32%
m-Nitroaniline	99-09-2	Α		0.1470			37.3270
o-Nitroaniline	88-74-4						
4-Nitrobenzenamine	100-01-6						
Nitrobenzene	98-95-3	х					
2-Nitrophenol	88-75-5	Α.					
4-Nitrophenol	100-02-7	х					
N-Nitrosodiphenylamine	86-30-6	Α.					
	621-64-7						
N-Nitrosodi-n-propylamine		37					
Pentachlorophenol	87-86-5	X	1.32%	0.050/	1.01%	ND	
Pentanal Phenanthrene	110-62-3	Х	1.32% ND	0.85% ND	1.01% ND	ND ND	ND ND
	85-01-8						
Phenol	108-95-2	X					
Propanal	123-38-6	X	ND	ND	ND	ND	
Pyrene	129-00-0						ND
Styrene	100-42-5	X	0.64%	0.47%	0.24%	ND	ND
1,1,2,2-Tetrachloroethane	79-34-5	X	ND	ND	ND	ND	ND
Tetrachloroethene	127-18-4	X	ND	ND	ND	ND	ND
m -Tolualdehyde	620-23-5	$\vdash$	2.15%	1.10%	ND	1.01%	ND
o-Tolualdehyde	529-20-4	L	ND	ND	ND	ND	ND
Toluene	108-88-3	X	2.27%	3.01%	0.75%	0.33%	0.27%
1,2,4-Trichlorobenzene	120-82-1	X					
1,1,1-Trichloroethane	71-55-6	X	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	79-00-5	X	ND	ND	ND	ND	ND
Trichloroethene	79-01-6	X	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	95-95-4	X					
2,4,6-Trichlorophenol	88-06-2	X					
Vinyl Acetate	108-05-4	X	0.21%	ND	ND	ND	ND
Vinyl Chloride	75-01-4	X					
m,p-Xylene	1330-20-7	X	1.56%	1.63%	0.18%	0.08%	0.66%
o-Xylene	95-47-6	X	0.82%	0.82%	0.09%	0.04%	0.08%

ND indicates compound not detected at detection limit. Compound may be present at a value less than the detection limit

0.00% - Value is less than 0.00005

All emission factors based off the PT6A-68 engine

This class of engine is found on small aircraft such as the T6-A

<sup>&</sup>quot;---" Indicates No Data Available

<sup>&</sup>quot;X" indicates that compound is a HAP

Table 2-14. VOC Weight Fraction for Turbojet Engines

			Power Setting						
Compound Name	CAS Number	HAP	Idle	Approach	Intermediate	Military	Afterburner-1		
Acenaphthene	83-32-9	Х	ND		ND	ND	ND		
Acenaphthylene	208-96-8	X	0.04%		0.03%	ND	ND		
Acetaldehyde	75-07-0	Х	5.28%		1.27%	0.54%	ND		
Acrolein	107-02-8	Х	8.96%		0.74%	0.41%	ND		
Anthracene	120-12-7	Х	ND		ND	ND	ND		
Benzaldehyde	100-52-7		3.36%		0.74%	0.41%	ND		
Benz(a)anthracene	56-55-3	Х	ND		ND	ND	ND		
Benzene	71-43-2	X	4.23%		9.61%	5.49%	11.97%		
Benzenemethanol	100-51-6		0.71%		0.68%	0.32%	0.24%		
Benzo(b)fluoranthene	205-99-2	X	ND		ND	ND	ND		
Benzo(k)fluoranthene	207-08-9	Х	ND		ND	ND	ND		
Benzo(g,h,i)perylene	191-24-2	X	ND		ND	ND	ND		
Benzo(a)pyrene	50-32-8	х	ND		ND	ND	ND		
Benzoic Acid	65-85-0		0.61%		3,65%	14.86%	15.58%		
Bromodichloromethane	75-27-4		0.07%		ND	ND	ND		
Bromoform	75-25-2	Х	0.08%		ND	ND	ND		
Bromomethane	74-83-9	X	0.08%		0.00%	ND	ND		
4-Bromophenyl-phenyl Ether	101-55-3	- 11	ND		ND	ND	ND		
1.3-Butadiene	106-99-0	Х	0.41%		1.08%	ND			
2-Butanone (MEK)	78-93-3	- 11	1.06%		1.00%	0.63%	0.57%		
Butyl benzyl phthalate	85-68-7		ND		0.02%	0.06%	0.05%		
Carbon Disulfide	75-15-0	Х	0.09%		0.36%	0.60%	0.22%		
Carbon Tetrachloride	56-23-5	X	0.07%		0.34%	0.05%	ND		
4-Chloroaniline	106-47-8	- 11	ND		ND	ND	ND		
Chlorobenzene	108-90-7	х	0.08%		ND	ND	ND		
Chlorodibromomethane	124-48-1	Α.	0.07%		ND	ND	ND		
Chloroethane	75-00-3	Х	0.08%		0.01%	ND	ND		
bis(2-Chloroethoxy) Methane	111-91-1	А	ND		ND	ND	ND		
bis(2-Chloroethyl) Ether	111-44-4	X	ND		ND ND	ND	ND		
Chloroform	67-66-3	X	0.08%		0.38%	0.50%	0.40%		
bis(2-Choroisopropyl) Ether	39638-32-9	A	ND		ND	ND	ND		
Chloromethane	74-87-3	Х	0.15%		0.72%	0.11%	0.29%		
4-Chloro-3-methylphenol	59-50-7	A	ND		ND	ND	ND		
2-Chloronaphthalene	91-58-7		ND		ND	ND	ND		
2-Chlorophenol	95-57-8		ND		ND	ND	ND		
1-chloro-4-phenoxybenzene	7005-72-3		ND		ND ND	ND	ND		
Chrysene	218-01-9	х	ND		ND ND	ND	ND		
o-Cresol	95-48-7	X	0.23%		0.12%	ND	ND		
p-Cresol	106-44-5	X	0.23%		0.40%	ND	0.30%		
Crotonaldehyde	4170-30-3	^	4.30%		0.74%	0.41%	ND		
Dibenzofuran	132-64-9	Х	0.23%		0.10%	0.4176 ND	0.13%		
Dibutyl Phthalate	84-74-2	X	0.02%		0.10%	0.35%	0.12%		
1,2-Dichlorobenzene	95-50-1	Α.	0.02% ND		0.07% ND	0.35% ND	0.12% ND		
1.3-Dichlorobenzene	541-73-1		ND		ND ND	ND	ND		
1,4-Dichlorobenzene	106-46-7	Х	ND		ND ND	ND	ND		
3,3'-Dichlorobenzidine	91-94-1	X	ND ND		ND ND	ND	ND		
1.1-Dichloroethane	75-34-3	X	0.08%		ND ND	ND	ND ND		
		X							
1,2-Dichloroethane	107-06-2		0.08%		ND	ND	ND		
1,1-Dichloroethene	75-35-4	Х	0.08%		ND	ND	ND		
cis-1,2-Dicholorethene	156-59-2		0.07%		ND	ND	ND		
trans-1,2-Dichloroethene	156-60-5		0.08%		ND	ND	ND		
2,4-Dichlorophenol	120-83-2	L	ND		ND	ND	ND		
1,2-Dichloropropane	78-87-5	X	0.11%		ND	ND	ND		
cis-1,3-Dichloropropene	10061-01-5		0.08%		0.01%	ND	ND		
trans-1,3-Dichloropropene	10061-02-6		0.08%		0.01%	ND	ND		
Diethyl Phthalate	84-66-2		ND		0.10%	0.84%	1.77%		

					Power Setting		
Compound Name	CAS Number	HAP	Idle	Approach	Intermediate	Military	Afterburner-1
2.4-Dimethylphenol	105-67-9		ND		ND	ND	ND
Dimethyl phthalate	131-11-3	X	ND		ND	ND	ND
4.6-Dinitro-o-cresol	534-52-1	X	ND		ND	ND	ND
2,4-Dinitrophenol	51-28-5	X	ND		ND	ND	ND
2.4-Dinitrotoluene	121-14-2	X	ND		ND	ND	ND
2.6-Dinitrotoluene	606-20-2		ND		ND	ND	ND
Di(2-Ethylhexyl) Phthalate (DEHP)	117-81-7	Х	0.04%		0.25%	0.49%	0.23%
Di-n-Octyl phthalate	117-84-0		ND		ND	ND	ND
Ethylbenzene	100-41-4	X	0.67%		0.67%	0.16%	0.92%
Fluoranthene	206-44-0	X	ND		ND	ND	ND
Fluorene	86-73-7	X	0.07%		0.02%	ND	ND
Formaldehyde	50-00-0	X	39.18%		55.08%	37.89%	41.97%
Hexachlorobenzene	118-74-1	X	ND		ND	ND	ND
Hexachlorobutadiene	87-68-3	X	ND		ND ND	ND	ND
Hexachlorocyclopentadiene	77-47-4	X	ND		ND ND	ND	ND
Hexachloroethane	67-72-1	X	ND		ND ND	ND	ND
Hexacnioroethane Hexanal	66-25-1	Λ	0.90%		0.74%	0.41%	ND ND
Hexanal 2-Hexanone	66-25-1 591-78-6		0.90%		0.74%	0.41%	ND 0.34%
2-Hexanone Indeno(1,2,3-cd)pyrene	193-39-5	Х	0.10% ND		0.44% ND	0.58% ND	0.34% ND
Isophorone	78-59-1	X	ND		ND 0.740	ND	ND ND
Isovaleraldehyde	590-86-3	37	1.13%		0.74%	0.41%	
Methylene Chloride	75-09-2	X	0.82%		4.87%	26.62%	11.29%
2-Methylnaphthalene	91-57-6		3.39%		0.81%	0.40%	2.13%
4-Methyl-2-pentanone (MIBK)	108-10-1	X	0.10%		0.10%	0.58%	ND
Naphthalene	91-20-3	X	2.47%		0.79%	0.52%	1.43%
m-Nitroaniline	99-09-2		ND		ND	ND	ND
o-Nitroaniline	88-74-4		ND		ND	ND	ND
4-Nitrobenzenamine	100-01-6		ND		ND	ND	ND
Nitrobenzene	98-95-3	X	ND		ND	ND	ND
2-Nitrophenol	88-75-5		ND		0.20%	ND	ND
4-Nitrophenol	100-02-7	X	ND		ND	ND	ND
N-Nitrosodiphenylamine	86-30-6		ND		ND	ND	ND
N-Nitrosodi-n-propylamine	621-64-7		ND		ND	ND	ND
Pentachlorophenol	87-86-5	X	ND		ND	ND	ND
Pentanal	110-62-3		3.23%		0.74%	0.41%	ND
Phenanthrene	85-01-8	X	0.02%		0.04%	ND	ND
Phenol	108-95-2	X	1.73%		1.20%	0.79%	1.64%
Propanal	123-38-6	X	2.69%		2.23%	1.22%	
Pyrene	129-00-0	X	ND		0.01%	ND	ND
Styrene	100-42-5	X	0.88%		0.92%	0.21%	0.50%
1,1,2,2-Tetrachloroethane	79-34-5	X	0.08%		ND	ND	ND
Tetrachloroethene	127-18-4	X	0.10%		0.44%	0.58%	ND
m -Toluaklehyde	620-23-5		2.05%		ND	ND	ND
o-Tolualdehyde	529-20-4		1.77%		0.74%	0.41%	ND
Toluene	108-88-3	X	3.52%		3.71%	1.72%	3.04%
1,2,4-Trichlorobenzene	120-82-1	X	ND		ND	ND	ND
1,1,1-Trichloroethane	71-55-6	X	0.08%		ND	ND	ND
1,1,2-Trichloroethane	79-00-5	X	0.08%		ND	ND	ND
Trichloroethene	79-01-6	X	0.11%		ND	ND	ND
2.4.5-Trichlorophenol	95-95-4	X	ND		ND	ND	ND
2,4,6-Trichlorophenol	88-06-2	X	ND		ND	ND	ND
Vinyl Acetate	108-05-4	X	0.08%		ND	ND	ND
Vinyl Chloride	75-01-4	X	0.11%		ND	ND	ND
m,p-Xylene	1330-20-7	X	2.16%		2.11%	0.77%	3.29%
o-Xvlene	95-47-6	X	0.91%		0.97%	0.77%	1.58%

ND indicates compound not detected at detection limit. Compound may be present at a value less than the detection limit

0.00% - Value is less than 0.00005

The average percentage for idle, intermediate, and military are based on the J69-T-25, J85-GE-5A, and J85-GE-5M

No test data was available for the Approach setting for any engine

Afterburner setting based on J85-GE-5A engine only

<sup>&</sup>quot;---" Indicates No Data Available

<sup>&</sup>quot;X" indicates that compound is a HAP

Figure 2-1. Example Data Collection Form for On-Wing Engine Testing

Installation Name: Responsible Organization (Na POC (Name & Phone #):	1	Inventory Year (CY):						
Building Number or Location	Type of Test Facility *	Type of Aircraft & Engine Tested	Number of Engines Tested During the Year (test/yr)	Average Run Time per Test at Each Power Setting (min/test)	Total Run Time per Test at Each Power Setting [if known] (min/yr)	Average Fuel Flow Rate at Each Power Setting (lb/hr)	Total Fuel Burned During the year [if known] (lb/yr)	Total Synthetic Fuel Used (gal)
				Idle:	Idle:	Idle:		
		Aircraft: Engine:		Approach:	Approach:	Approach:		
				Intermediate:	Intermediate:	Intermediate:		
				Military:	Military:	Military:		
				Afterburner:	Afterburner:	Afterburner:		
				Idle:	Idle:	Idle:		
		Aircraft: Engine:		Approach:	Approach:	Approach:		
				Intermediate:	Intermediate:	Intermediate:		
			Military:	Military:	Military:			
				Afterburner:	Afterburner:	Afterburner:		
				Idle:	Idle:	Idle:		
				Approach:	Approach:	Approach:		
		Aircraft: Engine:		Intermediate:	Intermediate:	Intermediate:		
		Ü		Military:	Military:	Military:		
				Afterburner:	Afterburner:	Afterburner:		
				Idle:	Idle:	Idle:		
	Aircraft: Engine:		Approach:	Approach:	Approach:			
			Intermediate:	Intermediate:	Intermediate:			
			Military:	Military:	Military:			
				Afterburner:	Afterburner:	Afterburner:		

\*eg Hush House, Trim Pad, etc.

Figure 2-2. Example Data Collection Form for Aircraft Movements

	Installation <b>N</b>	Name:				Inventor	y Year (CY):
			Responsible	Organization (N	ame & Office S		•
			-	POC (Name &		•	
				•	,		
Aircraft Type	Aircraft Number	Date	Number of Landing and Takeoff Cycles (LTO)	Number of Touch and Go Cycles (TGO)	Low Fly By	Number of Low Altitude Flight Patterns (within base air space)	Number of Low Altitude Flight Patterns (outside base Air Space)*

<sup>\*</sup>Information on Low Altitude Fly Patterns outside Base air space is only required if specifically requested.

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# 3 FLIGHTLINE GROUND SUPPORT EQUIPMENT (AGE)

#### 3.1 Introduction

While the majority of emissions result from Aircraft operations, most Air Force bases operate a variety of Ground Support Equipment (GSE) or Aerospace Ground Equipment (AGE) to support flightline operations and service aircraft. Emissions from AGE or GSE vary by device type, time of operation, and fuel flow rate. For simplicity, both GSE and AGE are generically referred to as GSE in this section. Common examples of military GSE include generators, air conditioners, start carts, heaters, hydraulic test stands, portable light units, air compressors, cargo and bomb lifts, jacking units, aircraft deicers, tractors, tugs, and other service equipment. GSE are designed to be mobile so that they can be used at any number of locations on the flightline, and can be easily transported to support readiness and deployment activities around the world. Depending on whether or not the GSE is designed to be self-propelled, it can be categorized as either vehicular or non-vehicular in nature. Although essentially non-road engines, this section addresses emissions from flightline GSE only while other non-road engines and equipment are addressed separately in this document. Emissions of concern from the operation of GSE include the criteria pollutants and several HAPs that are commonly associated with fuel combustion processes (benzene, 1, 3-butadiene, acetaldehyde, naphthalene, etc.).

Most of the GSE operated on an Air Force installation are powered by internal combustion engines fueled by JP-8. Some equipment, however, may be powered by diesel fuel, motor gasoline (MOGAS), Compressed Natural Gas (CNG), or Liquefied Petroleum Gas (LPG). The manner in which fuel ignition occurs in the engine determines whether AGE is categorized as Compression Ignition (CI) or Spark Ignition (SI) in nature. CI AGE include turbine engines fueled with JP-8, and non-turbine engines fueled with diesel. SI AGE may be fueled with MOGAS, CNG, or LPG. The section titled "NON-ROAD ENGINES AND EQUIPMENT" provides additional detail on the operating principles of CI and SI engines.

Individual pollutant emissions from each type of GSE are usually calculated using operating time and/or fuel consumption information applied across an operational parameter such as an LTO cycle or over an inventory period (typically one year). Military aircraft and GSE combinations and emission factor data are provided in Table 3-3. This information was obtained from a survey developed and distributed by AFIOH/RSEQ to various flight squadrons and AGE shops throughout the Air Force (Wade 2004). These aircraft-GSE combinations are provided as a guideline and should be used only in the absence of available base-specific data. In instances where military GSE information was unavailable, data was obtained from the Federal Aviation Administration's (FAA) Emissions and Dispersion Modeling System (EDMS). Common, non-model specific GSE data from EDMS are provided in Table 3-6.

While most Air Force GSE is intended to be mobile by design, there may be instances where the regular use of the equipment results in it not being moved at least once in a 12-month period. In such instances, the GSE is generally considered stationary in nature by regulators, a determination that has implications from an air permitting perspective. If an air program manager is uncertain whether a piece of GSE should be considered mobile or stationary for regulatory purposes, he/she should coordinate with their MAJCOM for assistance, and also consider consulting with the Air Force Regional Environmental Offices (REOs) to obtain their insight on state-specific requirements as they may apply to GSE.

#### 3.2 Emission Factors

Emission factors for flightline ground support equipment have been developed through testing and measurement and are provided in a variety of sources. Emission factors may be model specific and provided in units of lb/hr (Table 3-4), based on the GSE and fuel type (Table 3-7), or a general emission factor for reciprocating internal combustion engines based on model year and provided in units of lb/10<sup>3</sup> gal or lb/10<sup>3</sup> hp-hr (Table 3-9). Emission factors are selected based on the calculation method as described in the next section.

# 3.3 Emissions Calculation

Information commonly collected and used to calculate emissions from GSE operation include the type and model of the equipment, the operating time, type and volume of fuel consumed, and engine operating load and rated power. A sample data collection form for GSE is provided in Figure 3-1 at the end of the chapter.

# 3.3.1 Sortie/LTO Method (Preferred Method)

<u>The Sortie/LTO Method is the Air Force's default method</u> and should be used for all GSE that are included in Table 3-3 and Table 3-4. This method involves applying an emission factor to the operating time of each GSE during a set period of time (e.g., an aircraft sortie or LTO cycle, annually, or other inventory period). Emissions using this method are calculated as follows:

$$E(Pol) = OT \times EF(Pol) \times N$$

**Equation 3-1** 

Where,

**E(Pol)** = Emissions of each individual pollutant for each piece of GSE (lb/yr)

**EF(Pol)** = Emission factor of each pollutant (lb/hr) **OT** = Operating time of GSE per sortie (hr/sortie)

N = Number of sorties per year (sortie/yr)

The emission factors and operating times for calculating emissions for GSE using the sortie/LTO method may be found in the following tables:

- Operating times per LTO for each GSE and associated aircraft are in Table 3-3.
- Emission factors for each GSE are found in Table 3-4.

## 3.3.2 Horsepower/Load Factor Method

The horsepower/load factor is an alternative method for emissions calculations based on the horsepower (hp) of the engine. This method requires that the GSE engine horsepower, the engine load factor, and operating time for each GSE are known. Emissions from common, non-model specific GSE may be calculated using the data provided in Table 3-6 and Table 3-7. The following general equation is used:

$$E(Pol) = OT \times \frac{LF}{100} \times hp \times \frac{1}{1000} \times EF(Pol) \times N$$

**Equation 3-2** 

Where,

E(Pol) = Emissions of each individual pollutant (lb/yr)

**OT** = Operating time (hr/unit)

**LF** = Load factor (%)

100 = Factor for converting percent to a fraction (%)

**hp** = Average rated horsepower of engine (hp)

**1000** = Factor converting from hp to  $10^3$  hp (hp/ $10^3$  hp) **EF(Pol)** = Emission factor of each pollutant (lb/ $10^3$  hp-hr)

N = Number of ground support equipment used each year (units/yr)

If the average rated horsepower of the engine is unknown, it can be estimated by multiplying the maximum rated horsepower of the engine by a load factor. The following equation is used:

$$hp = hp_{max} \times \frac{LF}{100}$$

**Equation 3-3** 

Where.

**hp** = Average rated horsepower of engine (hp)

 $\mathbf{hp}_{max}$  = Maximum rated horsepower of the engine (hp)

**LF** = Typical load factor (%)

100 = Factor for converting percent to a fraction (%)

The emission factors and operating times for common GSE needed to calculate emissions using the horsepower/load factor method may be found in the following tables:

- The typical commercial GSE assignments are given in Table 3-5.
- Table 3-6 provides the average rated horsepower for each GSE.
- Emission factors for common GSE are provided in a lb/10<sup>3</sup> hp-hr basis in Table 3-7.
- Table 3-9 provides the EPA emission factors for criteria pollutants for uncontrolled diesel reciprocating internal combustion engines.
- Table 3-10 provides emission factors for several speciated HAPs for uncontrolled diesel reciprocating internal combustion engines.

## 3.3.3 Fuel Consumption Method

Another method that can be used to calculate GSE emissions involves multiplying the volume of fuel consumed by an emission factor that is provided in terms of a mass of pollutant emitted per volume of fuel consumed such as lb/hr or g/hr. As with the horsepower/load factor method, the fuel consumption method also requires that the user know the operating time for each GSE. The following equation can be used as an alternative method of calculating GSE HAP emissions based exclusively on fuel consumption data:

$$E(Pol) = FC \times \frac{1}{1000} \times EF(Pol) \times N$$

**Equation 3-4** 

Where,

E(Pol) = Emissions of each individual pollutant (lb/yr)

**FC** = Fuel consumption (gal/unit)

**1000** = Factor converting gal into 10<sup>3</sup> gal (gal/10<sup>3</sup>gal) **EF(Pol)** = Emission factor for each pollutant (lb/10<sup>3</sup>gal)

N = Number of ground support equipment used each year (units/yr)

In cases where fuel consumption data is unknown, fuel consumption may be estimated using the operating time and fuel flow rate as shown:

$$FC = OT \times FFR$$

**Equation 3-5** 

Where,

**FC** = Fuel Consumption (gal/unit)

**OT** = Operating time (hr/unit)

**FFR** = Fuel flow rate. This may be available from the manufacturer (gal/hr)

Alternatively, fuel consumption may also be estimated using engine and operating parameters which include horsepower (if known), hours of operation, brake-specific fuel consumption factor, and the heating value of the fuel. The following equation is used:

$$FC = \frac{(hp \times OT \times BSFC)}{HV}$$

**Equation 3-6** 

Where,

FC = Fuel consumption (gal/unit)
 hp = Engine horsepower (hp)
 OT = Operating time (hr/unit)

**BSFC** = Brake specific fuel consumption (Btu/hp-hr). Given in Table 3-1

**HV** = Heating value of the fuel (Btu/gal). **Given in Table 3-1** 

Table 3-1 provides heating values and brake specific fuel consumption values for several types of fuel that may power GSE operated at Air Force installations.

Table 3-1. Typical Heating Values and BSFC for GSE Fuels

Fuel Type	Heating Value (Btu/unit fuel) <sup>1</sup>	BSFC (Btu/hp-hr) <sup>2</sup>
Diesel	138,000 Btu/gal	8,089
MOGAS	125,000 Btu/gal	7,000
JP-8	124,000 Btu/gal <sup>(3)</sup>	
LPG	92,000 Btu/gal	10,577 <sup>(4)</sup>
CNG	1,026 Btu/ft <sup>3</sup>	7,858

- 1. SOURCE (Unless otherwise noted): Table C-1 to subpart C of 40 CFR 98.
- 2. SOURCE (Unless otherwise noted): Compendium of Greenhouse Gas Emissions Estimation Methodologies for the Oil and Natural Gas Industry, American Petroleum Institute, 2009.
- 3. SOURCE: Defense Logistics Agency, Defense Energy Support Center, *Petroleum Quality Information System Fuels Data* (2005), April 2006.
- 4. SOURCE: Exhaust Emission Factors for Nonroad Engine Modeling: Spark Ignition, EPA420-R-05-019, 2005.

<sup>&</sup>quot;---" - Indicates no data available

For calculating GSE emissions using the fuel consumption method, the following tables may be used:

- Table 3-6 provides typical horsepower for common GSE
- Table 3-8 provides the uncontrolled HAP emission factors for select military GSE.
- Table 3-9 provides the EPA's emission factors for criteria pollutants from uncontrolled diesel reciprocating internal combustion engines.
- Table 3-10 provides the EPA's emission factors for HAPs from uncontrolled diesel reciprocating internal combustion engines.

### 3.3.4 Calculating SO<sub>2</sub> Emissions

An alternative method for estimating SO<sub>2</sub> emissions involves applying fuel consumption data to derive an SO<sub>2</sub> emission factor based on pounds of pollutant emitted per hour of operation (lb/hr), and the conservative assumption that all the sulfur in the fuel is converted to SO<sub>2</sub> during the combustion process. Under this assumption, and with the density and sulfur content values known, an SO<sub>2</sub> emission factor is calculated using the following equation:

$$EF(SO_2) = FFR \times Density \times \frac{S}{100} \times 2$$

**Equation 3-7** 

Where,

 $\mathbf{EF}(\mathbf{SO_2}) = \mathbf{SO_2}$  emission factor (lb/hr)

FFR = Fuel Flow rate (gal/hr)

Density = Density of fuel (lb/gal)

**S** = Weight percent sulfur content of fuel (%)

100 = Factor for converting a percent to a fraction (%)

2 = Conversion factor which is the ratio of the molecular weight of SO<sub>2</sub> to the molecular weight of S

The value for S typically varies from supplier to supplier and the geographic location where the fuel is produced. For enhanced accuracy of the emissions inventory, the sulfur content and density of the fuel should be obtained from the fuel supplier whenever possible. In the absence of such information, the average density and sulfur content is listed in Table 3-2. The sulfur content of JP-8 varies by region, so if the region specific sulfur content is required, then refer to Table 2-3.

Fuel Type	Density (lb/gal)	Sulfur Content (wt. %)
Diesel	7.14	0.025
MOGAS	6.15	0.020
JP-8	6.67 <sup>(1)</sup>	$0.053^{(1)}$
LPG	4.41	Negligible
CNG	0.046	0.001

Table 3-2. Average Fuel Density and Weight Percent Sulfur in Non-Road Fuels

SOURCE (Unless otherwise noted): Department of Energy, Energy Information Administration report DOE/EIA-0464/(2005), Household Vehicles Energy Use: Latest Data & Trends, Appendix C, Table C4

### 3.3.5 Calculating Emissions from Synthetic Aviation Fuel

On-going DOD and Air Force initiatives to reduce dependency on foreign petroleum sources are expected to result in the increased use of non-petroleum fuels in a 50-50 blend with JP-8. Testing and certification of such fuels in aircraft engines indicate the blend reduces PM emissions by an average of 35%, sulfur emissions by 50%, and CO<sub>2</sub> emissions by approximately 2% (USAF Research Laboratory 2007). Accordingly, when collecting information on GSE operations verify whether synthetic fuel was used and the blend percentage. If a 50-50 blend was used, then follow the appropriate emission calculation procedures outlined in previous subsections and apply emission reduction factors of 35%, 50%, and 2%, respectively, for PM, SO<sub>2</sub>, and CO<sub>2</sub>.

#### 3.4 Information Resources

The base AGE shop is responsible for the operation and repair of most pieces of GSE. Therefore, they should be able to provide most, if not all, of the information needed to calculate the emissions from the GSE used on the installation. In the absence of base-specific data, default EPA information can be used. In some cases, it may be necessary to contact the GSE manufacturer to obtain necessary information. An example of a data collection form which can be used to collect data on GSE is provided in Figure 3-1.

# 3.5 Example Calculations

The following section provides examples of how to calculate emissions from GSE operations using the alternative methodologies identified above and their associated equations.

SOURCE: Defense logistics Agency, Defense Energy Support Center, Petroleum Quality Information System Fuels Data (2005), April 2006.

#### 3.5.1 Problem 1 - Sortie/LTO Method

Anytown AFB needs to calculate annual  $NO_X$  and xylene emissions from GSE operations associated with their B-1B aircraft. The following information was obtained from the base:

B-1B Aircraft				
	A/M32A-86D Generator, A/M 32A-95 Start			
GSE Types	Cart, B-1B AC unit, MJ-40 Bomb lift, NF-2			
	Light Cart			
Sorties/year	200			

<u>Step 1</u> – Record the operating times and NO<sub>X</sub> emission factors for each GSE. Since the table above does not provide specific operating times for these GSE, then the typical operating times for these GSE may be used. Table 3-3 lists the operating times for the generator as **2.20hr**, the start cart as **0.50hr**, the AC unit as **2.40hr**, the bomb lift as **2.50hr**, and the light cart as **0.50hr**. Table 3-4 has the NO<sub>X</sub> emission factors as **6.102lb/hr** for the generator, **1.470lb/hr** for the start cart, **7.659lb/hr** for the AC unit, **0.340lb/hr** for the bomb lift, and **0.110lb/hr** for the light cart.

<u>Step 2</u> – Calculate annual NO<sub>X</sub> emissions for each GSE. Using the information in the table above, the data collected in Step 1, and Equation 3-1, the NO<sub>X</sub> emissions for each GSE are calculated as follows:

$$E(Pol) = OT \times EF(Pol) \times N$$

$$E(NO_x)_{A/M32A-86D} = 2.20 \frac{hr}{sortie} \times 6.102 \frac{lb}{hr} \times 200 \frac{sortie}{yr} = 2684.88 \frac{lb}{yr}$$

$$E(NO_x)_{A/M32A-95} = 0.50 \frac{hr}{sortie} \times 1.470 \frac{lb}{hr} \times 200 \frac{sortie}{yr} = 147.00 \frac{lb}{yr}$$

$$E(NO_x)_{B-1B\ AC\ Unit} = 2.40 \frac{hr}{sortie} \times 7.659 \frac{lb}{hr} \times 200 \frac{sortie}{yr} = 3676.32 \frac{lb}{yr}$$

$$E(NO_x)_{MJ-40} = 2.50 \frac{hr}{sortie} \times 0.340 \frac{lb}{hr} \times 200 \frac{sortie}{yr} = 170.00 \frac{lb}{yr}$$

$$E(NO_x)_{NF-2} = 0.50 \frac{hr}{sortie} \times 0.110 \frac{lb}{hr} \times 200 \frac{sortie}{yr} = 11.00 \frac{lb}{yr}$$

<u>Step 3</u> – Calculate total NO<sub>X</sub> emissions. Sum the emissions from each GSE to get the total NO<sub>X</sub> emissions for GSE the B-1B:

$$E(NO_X)_{Total} = (2684.88 + 147 + 3676.32 + 170 + 11)\frac{lb}{yr}$$

$$E(NO_X)_{Total} = 6689.2 \frac{lb}{yr}$$

Next, calculate xylene emissions.

<u>Step 4</u> – **Record the fuel flow rate for each GSE.** Table 3-4 shows that the fuel flow rate is **6.47gal/hr** for the generator and **17.14gal/hr** for the AC unit. Since the fuel flow rate of the start cart, bomb lift, and light cart are not provided in the table, surrogates must be selected. Ideally, the best surrogates will be similar GSE types with similar hp. For this example, the A/M32A-86D was selected as a surrogate for the A/M32A-95, the elevator loader was selected for the MJ-40, and the generator light cart was selected for the NF-2 light cart. The fuel flow rates for the surrogate equipment are listed as **6.47gal/hr** for the A/M32A-86D, **6.29gal/hr** for the elevator loader, and **0.62gal/hr** for the generator light cart.

<u>Step 5</u> – Calculate the fuel consumption for each GSE. Use the operating times and fuel flow rates recorded in Step 1 and Step 4 above respectively and Equation 3-5:

$$FC = OT \times FFR$$

$$FC_{A/M32A-86D} = 2.20 \frac{hr}{unit} \times 6.47 \frac{gal}{hr} = 14.23 \frac{gal}{unit}$$

$$FC_{A/M32A-95} = 0.50 \frac{hr}{unit} \times 6.47 \frac{gal}{hr} = 3.24 \frac{gal}{unit}$$

$$FC_{B-1BACUnit} = 2.40 \frac{hr}{unit} \times 17.14 \frac{gal}{hr} = 41.14 \frac{gal}{unit}$$

$$FC_{MJ-40} = 2.50 \frac{hr}{unit} \times 6.29 \frac{gal}{hr} = 15.73 \frac{gal}{unit}$$

$$FC_{NF-2} = 0.50 \frac{hr}{unit} \times 0.62 \frac{gal}{hr} = 0.31 \frac{gal}{unit}$$

<u>Step 6</u> – Calculate the total fuel flow for GSE. Sum the values calculated in Step 5 as follows:

$$FC_{GSE(Total)} = (14.23 + 3.24 + 41.14 + 15.73 + 0.31) \frac{gal}{unit} = 74.65 \frac{gal}{unit}$$

<u>Step 7</u> – **Record the xylene emission factor.** Table 3-10 lists the total xylenes emission factor as **3.95E-02lb/10<sup>3</sup> gal**.

<u>Step 8</u> – Calculate xylene emissions. With the estimated fuel consumption calculated in Step 6 and the emission factor data from Step 7, use Equation 3-4 to calculate xylene emissions:

$$\begin{split} & E(Pol) = FC \times \frac{1}{1000} \times EF(Pol) \times N \\ & E(Xylenes) = 74.64 \frac{\text{gal}}{unit} \times \frac{1}{1000} \left( \frac{10^3 \, \text{gal}}{\text{gal}} \right) \times 0.039 \frac{lb}{10^3 \, \text{gal}} \times 200 \frac{unit}{yr} \\ & \boxed{E(Xylenes) = 0.582 \frac{lb}{yr}} \end{split}$$

## 3.5.2 Problem 2 - Horsepower/Load Factor Method

Anytown AFB periodically operates two diesel-powered baggage tractors used to transport the luggage of visiting dignitaries. The following information was obtained from the base. Calculate CO and 1,3-butadiene emissions

GSE Type – Baggage tractor			
# of GSE	2		
Operating Time	15 hr/unit		

<u>Step 1</u> – Record the average rated power and average operating load. This information is provided in Table 3-6. The average rate power is given as **83hp** and the operating load is shown as **55%**.

<u>Step 2</u> – Record the emission factors for this GSE for CO and 1,3-Butadiene. Table 3-7 gives the emission factor for CO for diesel baggage tractors as 11.00lb/10<sup>3</sup> hp-hr. Table 3-10 lists the emission factor for 1,3-butadiene as 3.16E-04lb/10<sup>3</sup> hp-hr.

<u>Step 3</u> – Calculate CO and 1,3-Butadiene emissions. Use the data collected in Step 1 and Step 2 with Equation 3-2 to calculate the CO and 1,3-Butadiene emissions:

$$E(Pol) = OT \times \frac{LF}{100} \times hp \times \frac{1}{1000} \times EF(Pol) \times N$$

For CO:

$$E(CO)_{Baggage} = 15 \frac{hr}{unit} \times \frac{55\%}{100\%} \times 83 \frac{hp}{lp} \times \frac{1}{1000} \left( \frac{10^3 hp}{hp} \right) \times 11.00 \frac{lb}{10^3 hp - hr} \times 2 \frac{unit}{yr}$$

$$E(CO)_{Baggage} = 15.06 \frac{lb}{yr}$$

For 1,3-Butadiene:

$$E(1,3 - \text{Butadiene})_{Baggage} = 15 \frac{hr}{unit} \times \frac{55\%}{100\%} \times 83 \frac{hp}{1000} \times \frac{1}{1000} \left(\frac{10^3 hp}{hp}\right) \times 0.000316 \frac{lb}{10^3 hp - hr} \times 2 \frac{unit}{vr}$$

$$E(1, 3 - Butadiene)_{Baggage} = 4.33E - 04\frac{lb}{yr}$$

# 3.5.3 Problem 3 - Fuel Consumption Method

Anytown AFB wants to estimate total Toluene emissions for the previous year resulting from the operation of air start units using JP-8. The following information was obtained from the base.

GSE Type – Air Start Units				
GSE Model	A/M32A-95			
# of GSE	35			
Fuel Consumption	5,000 gal/unit			

<u>Step 1</u> – Record the toluene emission factor. Table 3-8 provides HAP speciation for some HAPs from a few GSE. This table lists the toluene emission factor from the A/M32A-95 GSE as **4.36E-03** lb/10<sup>3</sup>gal.

<u>Step 2</u> – Calculate the toluene emissions. Use the emission factor in Step 1, the data from the table above, and Equation 3-4:

$$E(Pol) = FC \times \frac{1}{1000} \times EF(Pol) \times N$$

$$E(Toluene)_{A/M32A-95} = 5000 \frac{gal}{unit} \times \frac{1}{1000} \left(\frac{10^3 gal}{gal}\right) \times 0.00436 \frac{lb}{10^3 gal} \times 35 \frac{unit}{yr}$$

$$E(Toluene)_{A/M32A-95} = 0.763 \frac{lb}{yr}$$

#### 3.5.4 Problem 4 - Estimating SO<sub>2</sub> Emissions

Anytown AFB has been asked to estimate SO<sub>2</sub> emissions from the operation of its GSE. The following information was obtained from the base:

Equipment Data – GSE				
# of GSE	120			
Fuel	JP-8			
Fuel Flow Rate	1,000 gal/hr			
Operating time	2 hours			

Calculate SO<sub>2</sub> emissions for Anytown AFB which is located in the East Central United States.

<u>Step 1</u> – Record the density and sulfur content of JP-8. Table 3-2 lists the density of JP-8 as **6.67lb/gal**. Though Table 3-2 also provides the sulfur content, since it is known that the AFB is located in the East Central portion of the United States, a more accurate value given in chapter 2 of this document states the sulfur content of JP-8 is **0.08%**.

Step 2 - Calculate the SO<sub>2</sub> emission factor. This is accomplished using Equation 3-7:

$$EF(SO_2) = FFR \times Density \times \frac{S}{100} \times 2$$

$$\mathbf{EF}(SO_2) = 1,000 \frac{gal}{hr} \times 6.67 \frac{lb}{gal} \times \frac{0.08\%}{100\%} \times 2 = 10.67 \frac{lb}{hr}$$

Step 3 – Calculate SO<sub>2</sub> emissions. Use the emission factor calculated in Step 2 and Equation 3-1:

$$E(Pol) = OT \times EF(Pol) \times N$$

$$E(SO_2) = 2 \frac{hr}{unit} \times 10.67 \frac{lb}{hr} \times 120 \frac{units}{vr}$$

$$\mathbf{E}(SO_2) = 2560.8 \frac{lb}{yr}$$

Table 3-3. Military Aircraft and GSE Assignments SEE CORRECTIONS ADDENDUM TO 2014 MOBILE GUIDE

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie/LTO (hr)	
A-3A, -3B	See Generic 2			
A-4, -4C, -4E, -4F, -4L, -4M	See Generic 2			
A-6A, -6B, -6C, -6E, -6F	See Generic 2			
A-7A, -7B, -7C, -7D, -7E, -7K		See Generic 2		
	Generator Set	A/M32A-86D	1.00	
	Start Cart	A/M32A-60A	1.00	
		A/M32A-95	1.00	
	Heater	H1	2.00	
A-10, -10A, -10C	Hydraulic Test Stand	MJ-2A	2.00	
	Light Cart	FL-1D (S)	2.00	
		NF-2	2.00	
	Air Compressor	MC-1A	2.00	
	D 11'C	MC-2A (S)	2.00	
A 07	Bomb Lift	MJ-1B <sup>(1)</sup>	1.00 - 8.00	
A-37		See Generic 2	4.00 11.00	
	Generator Set	A/M32A-86D	4.00 - 11.00	
		Trielectron D20/1 400	3.00	
	G G .	MA-1A (S)	0.25	
	Start Cart	A/M37A-60A	0.25	
		A//32A-95	0.25	
AC-130A, -130H, -130U, -130W	Air Conditioner	Age 802-993 (S)	1.00	
	TT	MA-3D	1.00	
	Heater	H1 (1)	1.00	
	Hydraulic Test Stand	MJ-2A <sup>(1)</sup>	3.00	
	Light Cart	NF-2	2.00 - 10.00	
	Air Compressor	MC-1A	0.50 - 1.00	
AH 1C 1I		MC-2A (S)	0.50 - 1.00	
AH-1G, -1J AH-64A	See Generic 4 See Generic 4			
AII-04A	Generator Set	A/M32A-86D	0.25	
AT-38B	Generator Set	MK1 ( <b>S</b> )	0.23	
A1-36B	Hydraulic Test Stand	MK3A ( <b>S</b> )	0.75	
AU-24	<del>                                     </del>	See Generic 2	0.75	
110-24	Generator Set	A/M32A-86D	2.20	
	Sta Cart	A/M32A-95	0.50	
	Heater Air Conditioner	B-1B Heater/Air Conditioner	2.40	
B-1A, -1B	Heater	H1	4.00	
<i>B</i> 111, 11 <i>B</i>		FL-1D ( <b>S</b> )	0.50	
	Light Cart	NF-2	0.50	
	Bomb Lift	MJ-40	2.50	
	Generator Set	A/M32A-86D	3.00	
		A/M32A-60A	2.00	
	Start Cart	A/M32A-95	2.00	
	1. G	Ace 401	12.00	
	Air Conditioner	PD501	12.00	
	Heater	H1	2.00	
	***************************************	MJ-2/TTU-228	1.00	
P 2A	Hydraulic Test Stand	MJ-2/TTU-229	1.50	
		A/M27T-13	4.00	
	I'l.C.	NF-2	4.00	
	Light Cart	FL-1D (S)	4.00	
		MC-1A	1.50	
	Air Compressor	MC-6 ( <b>S</b> )	5.00	
	·	MC-7	1.50	
	Bomb Lift	MJ-40	2.00	

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time I Sortie/LTO (hr
	Generator Set	A/M32A-86D	4.00
	Start Cart	A/M32A-95	1.00
D 50D 50G 50H	Air Conditioner	MA-3D	1.30
B-52D, -52G, -52H	Light Cart	NF-2	1.00
	Air Compressor	MC-1A	1.00
	Bomb Lift	MJ-1B	2.00
C-1, -1A		See Generic 1	
C-2, -2A		See Generic 1	
2, 2.1	Generator Set	A/M32A-86D	13.00
	Start Cart	A/M32A-95	2.00
	Air Conditioner	MA-3D	3.00 - 12.00
	741 Conditioner	H1	9.00
	Heater	BT400-46	10.00
G.54. 5D. 5G. 5M	H 1 F T 4 G4 1	MJ-1-1 <sup>(1)</sup>	1.00
C-5A, -5B, -5C, -5M	Hydraulic Test Stand	M32T1 (S)	1.00
		MJ-2A	1.00
	Light Cart	NF-2	16.00
		MC-2A (S)	16.00
	Air Compressor	M.C-1A	7.00
		MC-7	2.00
	Pumping Unit	AF/M27M-1 <sup>(1)</sup>	3.00
	Generator Set	A/M32A-86D	6.00
	Start Cart	A/M32A-95	0.50
	Air Conditioner	MA-3D	6.00
	Heater	H1	6.00
C-9, -9A, -9B, -9C	Light Cart	NF-2	12.00
		MC-2A (S)	2.00
	Air Compressor	MC-1A	0.50
	7 th Compressor	MC-7	2.00
C-11A		See Generic 1	2.00
		See Generic 1	
C-12, -12A, -12C, -12D, -12F, -12J, -12L, -12R, -12S, -12T, -12U	Generator Set	A/M32A-86D	0.75
	Generator Set	A/M32A-86D	2.00
	Sta t Cart	A/M32A-95	2.00
	Air Conditioner	MA-3D	1.50
		BT400-46	1.50
	Heater	H1	1.50
C-17A	Light Cart	NF-2	1.50
		MC-1A	0.66
	Air Compressor	MC-2A (S)	0.66
	All Compressor	MC-2A (S) MC-7	0.66
	Dumning Linit		
	Pumping Unit	AF/M27M-1	0.50
G 10B	Bomb Lift	MJ-1B	1.50
C-18B		See Generic 1	
	Generator Set	A/M32A-86D	5.50
	Air Conditioner	Ace 802-329S <sup>(1)</sup> MA-3D	1.00 1.00
	Hantar		
C-20A, -20B, -20C, -20D, -20E,	Heater	1H1	3.00
-20 <b>F</b> , -20 <b>G</b> , -20 <b>H</b> , -20 <b>J</b>	Light Cart	FL-1D (S)	6.00
		MC-2A (S)	0.50
	Air Compressor	MC-5	0.50
		MC-7	2.00
		MC-8	3.00
C-21A	1	See Generic 1	

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Pe Sortie/LTO (hr
	Generator Set	A/M32A-86D	1.50
	Start Cart	A/M32A-60A <sup>(1)</sup>	0.25
	Heater	H1	0.25
C-22A, -22B	Light Cart	NF-2	0.25
	Air Compressor	MC-1A MC-7	0.25 0.25
	Pumping Unit	AF/M27M-1	0.25
C-23A, -23B, -23C	r uniping Clin	See Generic 1	0.23
C-26A, -26B, -26C		See Generic 1	
C-27J		See Generic 1	
C-28A		See Generic 1	
C-32A	Generator Set	A/M32A-86D	6.00
C-37A		See Generic 1	0.00
C-38		See Generic 1	
C-40A, -40B, -40C		See Generic 1	
C-123K		See Generic 1	
V -20-3		A/M32A_66D	4.00 - 11.00
	Generator Set	Trielectron 2200T 400	3.00
		M/2-1A (S)	0.25
	Start Cart	A M32A-60A	0.25
		A/M32A-95	0.25
C-130A, -130B, -130D, -130E,		Ace 802-993 ( <b>S</b> )	1.00
-130F, -130H, -130J, -130T	Air Conditioner	MA-3D	1.00
,,,	Heater	H1	1.00
	Hydraulic Test Stand	MJ-2A <sup>(1)</sup>	3.00
	Light Cart	NF-2	2.00 - 10.00
		MC-1A	0.50 - 1.00
	Air Compressor	MC-2A ( <b>S</b> )	0.50 - 1.00
	Generator Set	A/M32A-86D	10.00
		A/M32A-60A	1.00
	Start Cart	A/M32A-95	0.10
		Ace 802-993 ( <b>S</b> )	10.00
C-135A, -135B, -135C, -135E	Air Conditioner	MA-3C ( <b>S</b> )	2.00
		H1	5.00
	leater	1H1	4.00
	Light Cart	NF-2	2.00
	Air Compressor	MC-1A	0.33
C-137B, -137C	The Compressor	See Generic 1	0.00
C-140A, -140B	/	See Generic 1	
2 2 102 1, 1 102	Generator Set	A/M32A-86D	0.50
		MD-3 ( <b>S</b> )	0.10
	Start Cart	A/M32A-60A	0.50
	Heater	H1	0.40
C-141, -141A, -1417, -141C		TTU-228E ( <b>S</b> )	0.10
, , , , , , , , , , , , , , , , , , , ,	Hydraulic Test Stand	M32T1 (S)	0.10
	Light Cart	NF-2	0.50
		MC-1A	0.10
	Air Compressor	MC-2A (S)	0.10
CH-3B, -3E		See Generic 4	0.10
CH-46, -46A, -46E		See Generic 4	
CH-53A, -53D		See Generic 4	
CT-1B		See Generic 1	
CT-39A, -39E, -39G		See Generic 1	

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie/LTO (hr)
	Generator Set	A/M32A-86D	2.00
		Essex B8098 (S)	2.00
CT-43A	Air Conditioner	MA-3D	12.00
	Hydraulic Test Stand	HPE-45 (S)	2.00
	Light Cart	FL-1D (S)	2.00
CIT. 40 A	Air Compressor	MC-1A	1.00
CT-49A CV-22, -22A		See Generic 1	
C V - 22, - 22A		See Generic 1 A/M32A-86D	4.00 - 11.00
	Generator Set	Trielectron D200T 400	3.00
		MA-1A (S)	0.25
	Start Cart	A/M32A-60A	0.25
	Start Cart	A/M32A-00A A/M32A-95	0.25
		Ace 802-993 (S)	1.00
DC-130A	Air Conditioner	MA-3D	1.00
	Heater	H1	1.00
	Hydraulic Test Stand	MJ-2A <sup>(1)</sup>	3.00
	Light Cart	NF-2	2.00 - 10.00
	Eight Cart	MC-1	0.50 - 1.00
	Air Compressor	MC-7A (S)	0.50 - 1.00
E-1B		See Seneric 1	0.50 1.00
E-2, -2B, -2C, -2D		See Generic 1	
E-3A, -3B, -3C		see Generic 1	
E-4A, -4B		See Generic 1	
E-6B		See Generic 1	
E-8C		See Generic 1	
EA-3B		See Generic 1	
EA-4F		See Generic 1	
EA-6A, -6B		See Generic 1	
EA-7L		See Generic 1	
EB-57B		See Generic 1	
EC-18B, -18D			
EC-24A		See Generic 1	
	0 101	A/M32A-86D	4.00 - 11.00
	Generator Set	Trielectron D200T 400	3.00
		MA-1A (S)	0.25
	start Cart	A/M32A-60A	0.25
		A/M32A-95	0.25
EG 120E 120H 120H 120H 120H	A. C. IV	Ace 802-993 (S)	1.00
EC-130E, -130H, -130J, -130SJ, -130V	Air Conditioner	MA-3D	1.00
	Heater	H1	1.00
	Hydraulic Test Stand	MJ-2A <sup>(1)</sup>	3.00
	Light Cart	NF-2	2.00 - 10.00
	A: G	MC-1A	0.50 - 1.00
	Air Compressor	MC-2A (S)	0.50 - 1.00
	Generator Set	A/M32A-86D	10.00
	Start Cont	A/M32A-60A	1.00
	Start Cart	A/M32A-95	0.10
EC-135A, -175B, -135C, -135E,	Air Conditioner	Ace 802-993 (S)	10.00
-135G, - 35H, -135J, -135K,	All Colluidollel	MA-3C ( <b>S</b> )	2.00
-135L -135N, -135P, -135Y	Heater	H1	5.00
	1100101	1H1	4.00
	Light Cart	NF-2	2.00
	Air Compressor	MC-1A	0.33
EC-137D		See Generic 1	
EF-4J		See Generic 2	

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Pe Sortie/LTO (hr)	
EF-111A	See Generic 2			
EH-1H, -1X		See Generic 4		
EH-60A	See Generic 4			
EKA-3B	See Generic 1			
EP-3B, -3J	See Generic 1			
ERA-3B		See Generic 2		
ES-2D		See Generic 1		
F-4, -4B, -4C, -4D, -4E, -4G, -4J, -4N, -4S		See Generic 2		
F-5A, -5B, -5E, -5F		See Generic 2		
F-8, -8J		See Generic 2		
F-14A, -14B, -14C, -14D		See Generic 2		
	Generator Set	A/M32A-86D	0.33	
	G G .	A/M32A-60A	0.33	
	Start Cart	A/M32A-95	0.33	
	Heater	H1	0.50	
		MJ-1-	0.50	
F-15A, -15B, -15C, -15D, -15E	Hydraulic Test Stand	MJ-2/T, U-228	0.50	
1 1311, 132, 130, 132, 132	Light Cart	NF-2	1.00 - 8.00	
	Light Cart	MC-1A	0.33	
	Air Communescen			
	Air Compressor	MC-2A (S)	0.25	
		MC-11	2.00	
	Bomb Lift	MJ-1B	1.00	
	Generator Set	A/M32A-86D	0.33	
	Start Cart	A/M32A-60A	0.33	
	Start Cart	A/M32A-95	0.33	
	Heater	H1	0.50	
	Hydraulic Test Stand	MJ-1-1	0.50	
F-16, -16A, -16B, -16C, -16D, -16N	Trydraulic Test Stand	MJ-2/TTU-228	0.50	
	Light Cart	NF-2	1.00 - 8.00	
		MC-1A	0.33	
	Air Compressor	MC-2A (S)	0.25	
	·/	MC-11	2.00	
	Bo ab Lift	MJ-1B	1.00	
F-22A, -22B	Della Zav	See Generic 2	1100	
F-35A, -35B, -35C	<del>                                     </del>	See Generic 2		
F-100	See Generic 2  See Generic 2			
F-106A, -106B	See Generic 2 See Generic 2			
· · · · · · · · · · · · · · · · · · ·		See Generic 2		
F-111, -111A, -111D, -111E, -111F	Generator Set	A/M32A-86D	2.00	
		A/M32A-60A	2.00	
	Start Cart	A/M32A-95	0.50	
	Air Conditioner	Ace 802-329S <sup>(1)</sup>	2.00	
	Heater	Ace 802-3298	1.00	
F-117A	Hydraulic Test Stand	MJ-1-1	1.00	
		NF-2		
	Light Cart	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1.00	
	Air Compressor	MC-1A	0.33	
	•	MC-2A (S)	0.33	
	Bomb Lift	MJ-1B	1.00 <sup>(2)</sup>	
F/A-18A 18B, -18C, -18D, -18E, -18F		See Generic 2		
FA-22A		See Generic 2		
FB-22A		See Generic 2		
FB-111A		See Generic 2		

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie/LTO (hr)		
	Generator Set	A/M32A-86D	4.00 - 11.60		
	Generator Set	Trielectron D200T 400	3.0		
		MA-1A (S)	<b>1.25</b>		
	Start Cart	A/M32A-60A	0.25		
		A/M32A-95	0.25		
HC-130H, -130J, -130N, -130P	Air Conditioner	Ace 802-993 (S)	1.00		
110-13011, -1303, -13011, -1301	All Collationer	MA-3D	1.00		
	Heater	H1	1.00		
	Hydraulic Test Stand	MJ-2A <sup>(1)</sup>	3.00		
	Light Cart	NF-2	2.00 - 10.00		
	Air Compressor	MC-1A	0.50 - 1.00		
	All Compressor	MC-2A (S)	0.50 - 1.00		
	Generator Set	A/M32A-86D	1.00 - 16.00		
	Start Cart	M24A-9 ( <b>S</b> )	0.25		
	Heater	H1	8.00		
IIII III IV IN	Hydraulic Test Stand	MJ-2/TTV-229	1.00		
HH-1H, -1K, -1N	Ti-la C- a	NF- <b>7</b> D ( <b>S</b> )	2.00		
	Light Cart	ΓF-1	2.00		
	A: C	MC-1A	1.00		
	Air Compressor	MC-2A ( <b>S</b> )	1.00		
HH-2D	•	See Generic 4	•		
HH-3A, -3E, -3F	See Generic 4				
HH-43	See Generic 4				
HH-46A	See Generic 4				
HH-52, -52A		See Generic 4			
HH-53		See Generic 4			
HH-60G		See Generic 4			
HV-22A, -22B		See Generic 1			
JA-6A	See Generic 2				
KA-3B		See Generic 2			
KA-6D	See Generic 2				
	G . G .	A/M32A-86D	12.00		
	Gesterator Set	90CU24P5 (S)	12.00		
TT 10 101		9780-0023D ( <b>S</b> )	2.00		
KC-10, -10A	Lydraulic Test Stand	05-7056-3600 ( <b>S</b> )	2.00		
	Generator Light Cart	Generator Light Cart	6.00		
	Air Compressor	MODP160WJDACJF ( <b>S</b> )	6.00		
KC-46A	•	See Generic 1	<u> </u>		
	0 1 2	A/M32A-86D	4.00 - 11.00		
	Generator Set	Trielectron D200T 400	3.00		
		MA-1A (S)	0.25		
	Start Cart	A/M32A-60A	0.25		
		A/M32A-95	0.25		
		Ace 802-993 ( <b>S</b> )	1.00		
KC-1307, -130R, -130T	Air Conditioner	MA-3D	1.00		
	Heater	H1	1.00		
	Hydraulic Test Stand	MJ-2A <sup>(1)</sup>	3.00		
	Light Cart	NF-2	2.00 - 10.00		
	Light Cart	MC-1A	0.50 - 1.00		
	Air Compressor	MC-2A (S)	0.50 - 1.00		

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Por Sortie/LTO (b)
	Generator Set	A/M32A-86D	10.00
	Start Cart	A/M32A-60A	1.00
	Start Cart	A/M32A-95	010
KC-135, -135A, -135D, -135E, -135Q, -	Air Conditioner	Ace 802-993 (S)	10.00
135R, -135T	7 III CONGRESSION	MA-3C (S)	2.00
1551, 1551	Heater	H1	5.00
		1H1	4.00
	Light Cart	NF-2	2.00
	Air Compressor	MC-1A	0.33
KC-767A		See Generic 1	ı
	Generator Set	A/M32A-86D	4.00 - 11.00
		Trielectron D200T 400	3.00
		MA-1A (S)	0.25
	Start Cart	A/M32A-60A	0.25
		A/M32A-95	0.25
LC-130F, -130H, -130R	Air Conditioner	Ace 802-993 (S)	1.00
,		MA-375	1.00
	Heater		1.00
	Hydraulic Test Stand	MJ-2A <sup>(1)</sup>	3.00
	Light Cart	NF-2	2.00 - 10.00
	Air Compressor	MC-1A	0.50 - 1.00
	1	MC-2A (S)	0.50 - 1.00
MC-12W	Generator Set	A/M32A-86D	0.75
	Generator Set	A/M32A-86D	4.00 - 11.00
		Trielectron D200T 400	3.00
		MA-1A (S)	0.25
	Start Cart	A/M32A-60A	0.25
		A/M32A-95	0.25
MC-130E, -130H, -130J, -130P, -130W	Air Conditioner	Ace 802-993 (S)	1.00
WE 130E, 130H, 130F, 130F, 130F	7 III Conditioner	MA-3D	1.00
	Heater	H1	1.00
	Hydraulic Tes Stand	MJ-2A <sup>(1)</sup>	3.00
	Light Cart	NF-2	2.00 - 10.00
	Air Compressor	MC-1A	0.50 - 1.00
	7 II Tompressor	MC-2A (S)	0.50 - 1.00
	Generator Set	A/M32A-86D	3.00
	Heater	H1	8.00
MH-53J, -53M	Hydraulic Test Stand	MJ-2/TTU-228	2.00
WII 555, 55W	Light Cart	NF-2D ( <b>S</b> )	2.00
	Eight Curt	FL-1D ( <b>S</b> )	2.00
	Air Compressor	MC-2A (S)	4.00
MH-60A, -60G	See Generic 4		
MV-22A, -22B	See Generic 1		
NA-3B		See Generic 2	
NA-4E, -4F,-4M		See Generic 2	
NA-62, -6E		See Generic 2	
NA-7 , -7C, -7E		See Generic 2	
	Generator Set	A/M32A-86D	4.00
	Start Cart	A/M32A-95	1.00
NB-52B	Air Conditioner	MA-3D	1.00
14D-32D	Light Cart	NF-2	1.00
	Air Compressor	MC-1A	1.00
	Bomb Lift	MJ-1B	2.00
NC-12B	Generator Set	A/M32A-86D	0.75
NC-21A		See Generic 1	-

Table 3-3. Military Aircraft and GSE Assignments (continued)

NC-130A, -130B, -130E, -130H  Air of Hydrau L Air of Ger S  NC-135A, -135W  L Air of Ger S  NC-141A  Hydrau L Air of Ger S  NC-141A  Hydrau L Air of Ger S  NC-141A  Hydrau L Air of Ger S  NC-141A  NF-4D  Ger S  NF-16A, -16D  L	tart Cart  Conditioner  Heater lic Test Stand light Cart  Compressor herator Set tart Cart  Conditioner  Heater light Cart  Conditioner  Heater light Cart  Compressor herator Set tart Cart  Heater light Cart  Lompressor herator Set tart Cart  Heater light Cart  Lompressor herator Set tart Cart  Heater	A/M32A-86D Trielectron D200T 400  MA-1A (S)  A/M32A-60A  A/M32A-95  Ace 802-993 (S)  MA-3D  H1  MJ-2A <sup>(1)</sup> NF-2  MC-1A  MC-2A (S)  A/M32A-86D  A/M32A-95  Ace 802-993 (S)  MA-3C (S)  H1  11H  11H  11F  16F-2  MC-1A  A/M32A-86D  MD-3 (S)  A/M32A-60A  H1  TTU-228E (S)	4.00 - 11.00 3.00 0.25 0.25 0.25 1.00 1.00 1.00 3.00 2.00 - 10.00 0.50 - 1.00 0.10 10.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
NC-130A, -130B, -130E, -130H  Air of Hydrau L Air of Ger S  NC-135A, -135W  L Air of Ger S  NC-141A  Hydrau L Air of Ger S  NC-141A  Hydrau L Air of Ger S  NC-141A  Hydrau L Air of Ger S  NC-141A  NF-4D  Ger S  NF-16A, -16D  L	Conditioner  Heater  lic Test Stand  ight Cart  Compressor  herator Set  tart Cart  Conditioner  Heater  ight Cart  Compressor  herator Set  tart Cart  Heater  ight Cart  Compressor  herator Set  tart Cart  Heater  ight Cart  Compressor  herator Set  tart Cart  Heater  ight Cart  Compressor	MA-1A (S) A/M32A-60A A/M32A-95 Ace 802-993 (S) MA-3D H1 MJ-2A <sup>(1)</sup> NF-2 MC-1A MC-2A (S) A/M32A-86D A/M32A-60A A/M32A-95 Ace 802-993 (S) MA-3C (S) H1 11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	0.25 0.25 1.00 1.00 1.00 3.00 2.00 - 10.00 0.50 - 1.00 10.00 1.00 0.10 10.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
NC-130A, -130B, -130E, -130H  Air of Hydrau L Air of Ger S  NC-135A, -135W  L Air of Ger S  NC-141A  Hydrau L Air of Ger S  NC-141A  Hydrau L Air of Ger S  NC-141A  Hydrau L Air of Ger S  NC-141A  NF-4D  Ger S  NF-16A, -16D  L	Conditioner  Heater  Ilic Test Stand  Ight Cart  Compressor  Iderator Set  Itart Cart  Conditioner  Heater  Ight Cart  Compressor  Iderator Set  Itart Cart  Heater  Iderator Set  Itart Cart  Iderator Set  Itart Cart  Iderator Set  Itart Cart  Iderator Set  Itart Cart  Iderator Set  Iderator	A/M32A-60A A/M32A-95 Ace 802-993 (S) MA-3D H1 MJ-2A <sup>(1)</sup> NF-2 MC-1A MC-2A (S) A/M32A-86D A/M32A-60A A/M32A-95 Ace 802-993 (S) MA-3C (S) H1 11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	0.55 0.25 1.00 1.00 1.00 3.00 2.00 - 10.00 0.50 - 1.00 10.00 10.00 0.10 10.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
NC-130A, -130B, -130E, -130H  Air of Hydrau L Air of Ger S  NC-135A, -135W  L Air of Ger S  NC-141A  Hydrau L Air of Ger S  NC-141A  Hydrau L Air of Ger S  NC-141A  Hydrau L Air of Ger S  NC-141A  NF-4D  Ger S  NF-16A, -16D  L	Conditioner  Heater  Ilic Test Stand  Ight Cart  Compressor  Iderator Set  Itart Cart  Conditioner  Heater  Ight Cart  Compressor  Iderator Set  Itart Cart  Heater  Iderator Set  Itart Cart  Iderator Set  Itart Cart  Iderator Set  Itart Cart  Iderator Set  Itart Cart  Iderator Set  Iderator	A/M32A-95 Ace 802-993 (S) MA-3D H1 MJ-2A <sup>(1)</sup> NF-2 MC-1A MC-2A (S) A/M32A-86D A/M32A-60A A/M32A-95 Ace 802-993 (S) MA-3C (S) H1 11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	1.00 1.00 1.00 1.00 3.00 2.00 - 10.00 0.50 - 1.00 10.00 1.00 0.10 10.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
Hydrat L Air 0  Ger S  NC-135A, -135W  L Air 0  Ger S  NC-141A  Hydrat L Air 0  NCH-46A NF-4D  Ger S  NF-16A, -16D  Hydrat L L L L L L L L L L L L L L L L L L L	Heater  lic Test Stand  light Cart  Compressor  herator Set  tart Cart  Conditioner  Heater  light Cart  Compressor  herator Set  tart Cart  Heater  herator Set  tart Cart  Heater  herator Set	Ace 802-993 (S)  MA-3D  H1  MJ-2A <sup>(1)</sup> NF-2  MC-1A  MC-2A (S)  A/M32A-86D  A/M32A-60A  A/M32A-95  Ace 802-993 (S)  MA-3C (S)  H1  11-1  11-1  1F-2  MC-1A  A/M32A-86D  MD-3 (S)  A/M32A-60A  H1	1.00 1.00 1.00 3.00 2.00 - 10.00 0.50 - 1.00 10.00 10.00 10.00 2.00 5.00 4.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
Hydrat L Air 0  Ger S  NC-135A, -135W  L Air 0  Ger S  NC-141A  Hydrat L Air 0  NCH-46A NF-4D  Ger S  NF-16A, -16D  Hydrat L L L L L L L L L L L L L L L L L L L	Heater  lic Test Stand  light Cart  Compressor  herator Set  tart Cart  Conditioner  Heater  light Cart  Compressor  herator Set  tart Cart  Heater  herator Set  tart Cart  Heater  herator Set	MA-3D H1 MJ-2A <sup>(1)</sup> NF-2 MC-1A MC-1A MC-2A (S) A/M32A-86D A/M32A-60A A/M32A-95 Ace 802-993 (S) MA-3C (S) H1 1H1 1F1 AF-2 MC-1A A/M32A-86D MD-3 (S) A/M32A-60A H1	1.00 1.00 3.00 2.00 - 10.00 0.50 - 1.00 10.00 10.00 10.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
Hydrau L Air 0 Get S NC-135A, -135W  L Air 0 Get S NC-141A  Hydrau L Air 0 NCH-46A NF-4D  Get S NF-16A, -16D  Hydrau L L Air 0 L	lic Test Stand light Cart  Compressor herator Set tart Cart  Conditioner  Heater light Cart  Compressor herator Set tart Cart  Heater light Cart  Lompressor herator Set tart Cart  Heater lic Test Stand	H1  MJ-2A <sup>(1)</sup> NF-2  MC-1A  MC-2A (S)  A/M32A-86D  A/M32A-60A  A/M32A-95  Ace 802-993 (S)  MA-3C (S)  H1  11-1  11-1  AF-2  MC-1A  A/M32A-86D  MD-3 (S)  A/M32A-60A  H1	1.00 3.00 2.00 - 10.00 0.50 - 1.00 0.50 - 1.00 10.00 1.00 0.10 10.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
Hydrau L Air 0 Get S NC-135A, -135W  L Air 0 Get S NC-141A  Hydrau L Air 0 NCH-46A NF-4D  Get S NF-16A, -16D  Hydrau L L Air 0 L	lic Test Stand light Cart  Compressor herator Set tart Cart  Conditioner  Heater light Cart  Compressor herator Set tart Cart  Heater light Cart  Lompressor herator Set tart Cart  Heater lic Test Stand	MJ-2A <sup>(1)</sup> NF-2 MC-1A MC-2A (S) A/M32A-86D A/M32A-60A A/M32A-95 Ace 802-993 (S) MA-3C (S) H1 1H1 1F1 AF-2 MC-1A A/M32A-86D MD-3 (S) A/M32A-60A H1	3.00 2.00 - 10.00 0.50 - 1.00 0.50 - 1.00 10.00 1.00 0.10 10.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
C	ight Cart Compressor herator Set tart Cart Conditioner Heater light Cart Compressor herator Set tart Cart Heater dictioner	NF-2 MC-1A MC-2A (S)  A/M32A-86D A/M32A-60A A/M32A-95 Ace 802-993 (S) MA-3C (S) H1 1H1 1F-2 MC-1A A/M32A-86D MD-3 (S) A/M32A-60A H1	2.00 - 10.00 0.50 - 1.00 0.50 - 1.00 10.00 1.00 0.10 10.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
Air G   Get   S     NC-135A, -135W   L     Air G     Get   S     NC-141A   Hydrau     L     Air G     NCH-46A     NF-4D   Get     S     NF-16A, -16D   Hydrau     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L     L	Compressor lerator Set lart Cart  Conditioner  Heater light Cart Compressor lerator Set lart Cart  Heater light Cart lerator Set lart Cart  Heater light Cart lerator Set	MC-1A MC-2A (S) A/M32A-86D A/M32A-60A A/M32A-95 Ace 802-993 (S) MA-3C (S) H1 1H1 1F- AF-2 MC-1A A/M32A-86D MD-3 (S) A/M32A-60A H1	0.50 - 1.00 0.50 - 1.00 10.00 1.00 0.10 10.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
NC-135A, -135W   Air     L   Air     Ger     S     NC-135A, -135W     L   Air     Ger     S     NC-141A   Hydrat     L   Air     Air     NCH-46A     NF-4D   Ger     S     NF-16A, -16D   Hydrat     L   L     L   L     L   L     L   L	recator Set  tart Cart  Conditioner  Heater  light Cart  Compressor  learator Set  tart Cart  Heater  Heater  Light Cart  Ligh	MC-2A (S)  A/M32A-86D  A/M32A-60A  A/M32A-95  Ace 802-993 (S)  MA-3C (S)  H1  1H1  AF-2  MC-1A  A/M32A-86D  MD-3 (S)  A/M32A-60A  H1	0.50 - 1.00  10.00  1.00  0.10  10.00  2.00  5.00  4.00  2.00  0.33  0.50  0.10  0.50	
NC-135A, -135W  L Air (  Ger S  NC-141A  Hydrau L Air (  NCH-46A NF-4D  Ger S  NF-16A, -16D  Hydrau L	tart Cart  Conditioner  Heater ight Cart  Compressor ierator Set tart Cart  Heater dic Test Stand	A/M32A-86D A/M32A-60A A/M32A-95 Ace 802-993 (S) MA-3C (S) H1 1HA JF-2 MC-1A A/M32A-86D MD-3 (S) A/M32A-60A H1	10.00 1.00 0.10 10.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
NC-135A, -135W  L Air G Ger S  NC-141A  Hydrau L Air G  NCH-46A NF-4D  Ger S  NF-16A, -16D  Hydrau L	Conditioner  Heater ight Cart Compressor ierator Set tart Cart Heater dic Test Stand	A/M32A-95 Ace 802-993 (S) MA-3C (S) H1 IIII IIII AF-2 MC-1A A/M32A-86D MD-3 (S) A/M32A-60A H1	0.10 10.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
NC-135A, -135W  L Air G Ger S  NC-141A  Hydrau L Air G  NCH-46A NF-4D  Ger S  NF-16A, -16D  Hydrau L	Conditioner  Heater ight Cart Compressor ierator Set tart Cart Heater dic Test Stand	A/M32A-95 Ace 802-993 (S) MA-3C (S) H1 IIII IIII AF-2 MC-1A A/M32A-86D MD-3 (S) A/M32A-60A H1	0.10 10.00 2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
NC-135A, -135W  L Air 0  Ger S  NC-141A  Hydrau L Air 0  NCH-46A NF-4D  Ger S  NF-16A, -16D  Hydrau L	Heater ight Cart Compressor ierator Set tart Cart Heater lic Test Stand	MA-3C (S) H1 H1 HF-2 MC-1A A/M32A-86D MD-3 (S) A/M32A-60A H1	2.00 5.00 4.00 2.00 0.33 0.50 0.10 0.50	
NC-135A, -135W  L Air 0  Ger S  NC-141A  Hydrau L Air 0  NCH-46A NF-4D  Ger S  NF-16A, -16D  Hydrau L	Heater ight Cart Compressor ierator Set tart Cart Heater	H1 11-1 11-1 11-2 MC-1A A/M32A-86D MD-3 (S) A/M32A-60A H1	5.00 4.00 2.00 0.33 0.50 0.10 0.50	
L   Air G   Ger   S     NC-141A   Hydrau   L   Air G     NCH-46A   NF-4D   Ger   S     NF-16A, -16D   Hydrau   L   L   C   C   C     L   C   C   C   C   C   C   C   C   C	ight Cart Compressor lerator Set tart Cart Heater	116 MF-2 MC-1A A/M32A-86D MD-3 (S) A/M32A-60A H1	4.00 2.00 0.33 0.50 0.10 0.50	
L   Air G   Ger   S     NC-141A   Hydrau   L   Air G     NCH-46A   NF-4D   Ger   S     NF-16A, -16D   Hydrau   L   L   C   C   C     L   C   C   C   C   C   C   C   C   C	ight Cart Compressor lerator Set tart Cart Heater	MC-1A A/M32A-86D MD-3 (S) A/M32A-60A H1	2.00 0.33 0.50 0.10 0.50	
Air 0   Get   S     NC-141A   Hydrau   L     Air 0     NCH-46A       NF-4D   Get   S     NF-16A, -16D   Hydrau   L     L   L   L     L   L   L     L   L	Compressor herator Set tart Cart Heater lic Test Stand	MC-1A A/M32A-86D MD-3 (S) A/M32A-60A H1	0.33 0.50 0.10 0.50	
Get   S   NC-141A   Hydrau   L   Air 0     S   NCH-46A   NF-4D   Get   S   S   NF-16A, -16D   Hydrau   L   L   L   C   C   C   C   C   C   C	terator Set tart Cart Heater lic Test Stand	A/M32A-86D MD-3 ( <b>S</b> ) A/M32A-60A H1	0.50 0.10 0.50	
NC-141A  Hydrau  L Air 0  NCH-46A  NF-4D  Get  S  NF-16A, -16D  L	tart Cart  Heater  lic Test Stand	MD-3 ( <b>S</b> ) A/M32A-60A H1	0.10 0.50	
NC-141A Hydrau  L Air 0  NCH-46A NF-4D  Gen S  NF-16A, -16D  L	Heater lic Test Stand	A/M32A-60A H1	0.50	
NC-141A Hydrau  L Air 0  NCH-46A NF-4D  Gen S  NF-16A, -16D  L	Heater lic Test Stand	H1		
NC-141A Hydrau L Air 0  NCH-46A NF-4D  Ger S  NF-16A, -16D L	lic Test Stand	<u>/</u>		
NCH-46A NF-4D  Ger S  NF-16A, -16D  L			0.40	
NCH-46A NF-4D  Ger S  NF-16A, -16D  L			0.10	
NCH-46A NF-4D  Ger S  NF-16A, -16D  L		M32T1 (S)	0.10	
NCH-46A NF-4D Get S NF-16A, -16D L	ight Cart	NF-2	0.50	
NF-4D Get S NF-16A, -16D Hydrau L	Compressor	MC-1A MC-2A ( <b>S</b> )	0.10 0.10	
NF-4D Get S NF-16A, -16D Hydrau L		See Generic 4	0.10	
S  NF-16A, -16D  Hydrau  L	See Generic 4 See Generic 2			
NF-16A, -16D Hydrau	nerator set	A/M32A-86D	0.33	
NF-16A, -16D Hydrau		A/M32A-60A	0.33	
NF-16A, -16D	tart Cart	A/M32A-95	0.33	
NF-16A, -16D	Heater	H1	0.50	
NF-16A, -16D		MJ-1-1	0.50	
	lic Test Stand	MJ-2/TTU-228	0.50	
Air 0	ight Cart	NF-2	1.00 - 8.00	
Air (		MC-1A	0.33	
	Compressor	MC-2A ( <b>S</b> )	0.25	
		MC-11	2.00	
В	omb Lift	MJ-1B	1.00	
NF-106B		See Generic 2		
NF/A-18A, -18B		See Generic 2		
Ger	nerator Set	A/M32A-86D	10.00	
s	tart Cart	A/M32A-60A	1.00	
		A/M32A-95	0.10	
Air	Conditioner	Ace 802-993 ( <b>S</b> )	10.00	
NJ.C-135A, -135E		MA-3C ( <b>S</b> )	2.00	
	[	H1	5.00	
	Heater	1H1	4.00	
			2.00	
	ight Cart	NF-2		
NPC-3C, -3D NRA-3B		NF-2 MC-1A See Generic 1	0.33	

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie/LTO (hr)	
NRH-53D	See Generic 4			
NSH-3A		See Generic 4		
NT-33A	See Generic 1			
NT-39A	See Generic 1			
NTA-4F, -4J	See Generic 1			
NUH-1E, -1N	See Generic 4			
NUP-3A	See Generic 1			
NVH-3A		See Generic 4		
O-1		See Generic 1		
O-2A, -2B		See Generic 1		
OA-4M		See Generic 2		
	Generator Set	A/M32A-86D	1.00	
		A/M32A-60A	1.00	
	Start Cart	A/M32A-95	1.00	
	Heater	H1	2.00	
	Hydraulic Test Stand	MJ-2A	2.00	
OA-10A	Trydraulic Test Stand	FL-1D (S)	2.00	
	Light Cart	· · · · · · · · · · · · · · · · · · ·		
		NF-2	2.00	
	Air Compressor	MC/IA	2.00	
		MC-2A (S)	2.00	
	Bomb Lift	MJ-1B <sup>(1)</sup>	1.00 - 8.00	
OA-37B	<u> </u>	See Generic 2		
	Generator Set	A/M32A-86D	10.00	
	Start Cart	A/M32A-60A	1.00	
	Start Cart	A/M32A-95	0.10	
	A in Constitution	Ace 802-993 (S)	10.00	
OC-135B	Air Conditioner	MA-3C ( <b>S</b> )	2.00	
		H1	5.00	
	Heater	1H1	4.00	
	Light Cart	NF-2	2.00	
	Air Compressor	MC-1A	0.33	
OH-6A	All Compressor	See Generic 4	0.33	
OH-58A	See Generic 4			
OT-47B	See Generic 1			
OV-10A	See Generic 1			
P-3B, -3C		See Generic 1		
QF-4B, -4E, -4G		See Generic 2		
QF-106A, -106B		See Generic 2		
QRF-4C		See Generic 2		
QT-33A		See Generic 1		
RA-3B		See Generic 2		
RA-5C		See Generic 2		
RC-12D, -12G, -12H	Generator Set	A/M32A-86D	0.75	
	Generator Set	A/M32A-86D	10.00	
		A/M32A-60A	1.00	
	Start Cart	A/M32A-95	0.10	
		Ace 802-993 (S)	10.00	
RC-135M, -1355, -135T, -135U,	Air Conditioner	MA-3C (S)	2.00	
-135V, 135W, -135X		H1	5.00	
	Heater	1H1	4.00	
	Light Cort			
	Light Cart	NF-2	2.00	
DT 15 15	Air Compressor	MC-1A	0.33	
RF-4B, -4C	1	See Generic 2		
RF-8G		See Generic 2		
RF/A-18A		See Generic 2		
RH-53D		See Generic 4		

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie/LTO (b)	
RP-3D	See Generic 1			
	Generator Set	805 ( <b>S</b> )	24.00	
	Generator Set	806 ( <b>S</b> )	2 00	
RQ-4, -4A, -4B	Air Conditioner	MA-3D	2.00	
	Heater	H1	4.00	
	Light Cart	FL-1D ( <b>S</b> )	6.00	
RU-21J	See Generic 1			
S-2, -2D, -2E, -2G		See Generic 1		
S-3A		See Generic 2		
SH-2D, -2F		See Generic 4		
SH-3A, -3G		See Generic 4		
SH-60	See Generic 4			
SV-22A	See Generic 1			
T 14	Generator Set	Jetex (S)	0.33	
T-1A	Hydraulic Test Stand	Airton (S)	0.10	
T-2		See Generic 3	•	
	Generator Set	Jettex 40 (S)	0.50	
	G G	Jet Series 703D (S)	0.50	
	Start Cart	MA-1A (S)	0.50	
T-6A	Air Conditioner	MA-3D	0.75	
	Hydraulic Test Stand	6X620-RDF ( <b>S</b> )	1.00	
	Light Cart	FL-2D ( <b>S</b> )	1.00	
	Tug	(See "Tyg" in Table 3-4 and select appropriate size)	0.33	
T-28	- V	See Generic 3		
T-33A	See Generic 3			
T-34, -34C	See Generic 3			
	Generator Set	A/M32A-86D	0.17	
	Heater	H1	0.17	
	Hydraulic Test Stand	MJ-1-1	0.50	
T-37, -37B	Light Care	TL-1D ( <b>S</b> )	1.00	
		MC-1A	0.50	
	Air Cortpressor	MC-2A (S)	0.50	
	Tug	(See "Tug" in Table 3-4 and select appropriate size)	0.33	
	Generator Set	A/M32A-86D	0.25	
T-38, -38A, -38C, -38N		MK1 ( <b>S</b> )	0.75	
, , ,, ·	Hydraulic Test Stand	MK3A ( <b>S</b> )	0.75	
T-39A, -39B, -39D	See Generic 3			
T-41, -41B, -41C, -41D	See Generic 3			
	G .	A/M32A-86D	2.00	
	Generator Set	Essex B8098 (S)	2.00	
	Air Conditioner	MA-3D	12.00	
T-43A	Hydraulic Test Stand	HPE-45 ( <b>S</b> )	2.00	
	Light Cart	FL-1D ( <b>S</b> )	2.00	
	Air Compressor	MC-1A	1.00	
T-44		See Generic 3		
T-47A		See Generic 3		
TA-3B		See Generic 2		
TA-4B, -4F		See Generic 2		
TA-7C				
/ I A - /L	See Generic 2 See Generic 1			

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Pe Sortie/LTO (hr)	
	Generator Set	A/M32A-86D	4.00 - 11.00	
	Generator Set	Trielectron D200T 400	3.00	
		MA-1A (S)	9.25	
	Start Cart	A/M32A-60A	0.25	
		A/M32A-95	0.25	
TC-130H	Air Conditioner	Ace 802-993 (S)	1.00	
TC-130H	All Collaborer	MA-3D	1.00	
	Heater	H1	1.00	
	Hydraulic Test Stand	MJ-2A <sup>(1)</sup>	3.00	
	Light Cart	NF-2	2.00 - 10.00	
	A: G	MC-1A	0.50 - 1.00	
	Air Compressor	MC-2A (S)	0.50 - 1.00	
	Generator Set	A/M32A-86D	10.00	
		A/M32A-60A	1.00	
	Start Cart	A/M32A-95	0.10	
		Ace 802-995 (S)	10.00	
TC-135S, -135W	Air Conditioner	MA-3 C (S)	2.00	
10 1505, 150 11	***************************************	H1	5.00	
	Heater	1H1	4.00	
	Light Cart	NF-2	2.00	
	Air Compressor	MC-1A	0.33	
TE-2A, -2C	All Complessor	See Generic 1	0.55	
TE-8A	See Generic 1			
IL-0A	Generator Set	A/M32A-86D	0.33	
	Generator Set	A/M32A-60A	0.33	
	Start Cart	A/M32A-00A A/M32A-95	0.33	
	Heater		0.50	
	Heater	H1 MJ-1-1	0.50	
TF-16N	Hydraulic Test Start			
11-10N	Til. C	MJ-2/TTU-228 NF-2	0.50	
	Light Car		1.00 - 8.00	
	Air Compressor	MC-1A	0.33	
		MC-2A (S)	0.25	
		MC-11	2.00	
	Bomb Lift	MJ-1B	1.00	
TF-18A	See Generic 2			
TF/A-18A		See Generic 2		
TH-1L		See Generic 4		
TH-53A	See Generic 4			
TS-2A	See Generic 2			
TU-2S	See Generic 2			
U-2S	See Generic 2			
U-21, -21J		See Generic 1		
U-28A		See Generic 1		
UA 3B		See Generic 2		
U.€-12B	Generator Set	A/M32A-86D	0.75	
UZ-35A, -35C		See Generic 1		
UC-123K		See Generic 1		
UV-1E, -1H, -1L, -1N, -1V		See Generic 4		
UH-2C		See Generic 4		
UH-3A		See Generic 4		
UH-46A		See Generic 4		

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie/LTO (hr
	Generator Set	A/M32A-86D	1.00 - 5.00
	Start Cart	A/M32A-95	0.50
	Air Conditioner	MA-3D	2,50
	Heater	H1	2.00
UH-60A, -60C, -60Q	Hydraulic Test Stand	MJ-1-1	2.50
	Trydraulic Test Stand	MJ-2/TTU-228	1.00
	Light Cart	FL-1D (S)	0.50 - 4.00
	Air Compressor	MC-1A	1.00
	All Compressor	MC-2A (S)	2.50
UP-3B		See Generic 1	
US-2A, -2B, -2C, -2D		See Generic 1	
UV-18B		See Generic 1	
UV-20A		See Generic 1	
	Generator Set	A/M32A-86D	13.00
	Start Cart	A/M32A-95	2.00
	Air Conditioner	MA-3D	3.00 - 12.00
	**	H1	9.00
	Heater	BT400 46	10.00
		MJ 1-1 <sup>(1)</sup>	1.00
VC-25A	Hydraulic Test Stand	M 2T1 (S)	1.00
		MJ-2A	1.00
	Light Cart	NF-2	16.00
	8	MC-2A (S)	16.00
	Air Compressor	MC-1A	7.00
		MC-7	2.00
	Pumping Unit	AF/M27M-1 <sup>(1)</sup>	3.00
VC-137B, -137C	Tumping Cini	See Generic 1	5.00
VC-140B		See Generic 1	
		A/M32A-86D	4.00 - 11.00
	Generator Set	Trielectron D200T 400	3.00
		MA-1A (S)	0.25
	Start Cart	A/M32A-60A	0.25
	Built Cuit	A/M32A-95	0.25
		Ace 802-993 ( <b>S</b> )	1.00
WC-130E, -130H, -130J	Air Condtioner	MA-3D	1.00
	leater	H1	1.00
	Hydraulic Test Stand		3.00
	Light Cart	MJ-2A <sup>(1)</sup> NF-2	2.00 - 10.00
	Light Cart	MC-1A	0.50 - 1.00
	Air Compressor		
	Canamatan Sat	MC-2A (S)	0.50 - 1.00
_	Generator Set	A/M32A-86D	10.00
	Start Cart	A/M32A-60A	1.00
		A/M32A-95	0.10
WC 125D 125C 15W	Air Conditioner	Ace 802-993 (S)	10.00
WC-135B, -135C, -135W	***************************************	MA-3C (S)	2.00
	Heater	H1	5.00
		1H1	4.00
	Light Cart	NF-2	2.00
	Air Compressor	MC-1A	0.33
X-29A		See Generic 2	
X-31A		See Generic 2	
X-44A		See Generic 2	
YA-7D		See Generic 2	
YC-14A	See Generic 1		
YE-2C		See Generic 1 See Generic 2	

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie/LTO (hr)			
	Generator Set	A/M32A-86D	0.33			
	Start Cart	A/M32A-60A	0.33			
	Start Cart	A/M32A-95	0.33			
	Heater	H1	0,0			
	Hydraulic Test Stand	MJ-1-1	0.50			
YF-15A, -15B		MJ-2/TTU-228	0.50			
	Light Cart	NF-2	1.00 - 8.00			
		MC-1A	0.33			
	Air Compressor	MC-2A (S)	0.25			
	D 1 I C	MC-11	2.00			
	Bomb Lift	MJ-1B	1.00			
	Generator Set	A/M32A-86D	0.33			
	Start Cart	A/M32A-60A	0.33			
YF-16A, -16B	YY 4	A/M32A-95	0.33			
	Heater	H1 MJ-1-1	0.50			
	Hydraulic Test Stand		0.50			
	Light Cont	MJ-2/TTU-2/8 NF-2	0.50			
	Light Cart	MC AA	1.00 - 8.00			
	A : C	The state of the s	0.33			
	Air Compressor	MO 2A (S)	0.25			
	Bomb Lift	MC-11	2.00			
VOV 10D	Bomb Lift	MJ-1B	1.00			
YOV-10D		See Generic 2				
YP-3C		See Generic 1				
YS-2G		See Generic 2 See Generic 4				
YSH-2E	The state of the s	A/M32A-86D	4.00 - 11.00			
	Generator Set					
		Trielectron D200T 400	3.00 0.25			
	Start Cart	MA-1A ( <b>S</b> ) A/M32A-60A	0.25			
	Start Cart	A/M32A-00A A/M32A-95	0.25			
Generic 1		A/M32A-93 Ace 802-993 ( <b>S</b> )	1.00			
Cargo/Bomber (C-130)	Air Condition er	• •				
Cargo/Bomber (C-130)	Heater	MA-3D H1	1.00			
	Hydraulig Test Stand		3.00			
	Light Cart	MJ-2A <sup>(1)</sup> NF-2	2.00 - 10.00			
	right Cart	MC-1A	0.50 - 10.00			
	Air Compressor	MC-1A MC-2A (S)	0.50 - 10.00			
	Generator Set	A/M32A-86D	0.33			
	Generator Set	A/M32A-86D A/M32A-60A	0.33			
	Start Cart	A/M32A-00A A/M32A-95	0.33			
	Heater	H1	0.50			
	Heater	MJ-1-1	0.50			
Generic 2	Hydraulic Test Stand	MJ-2/TTU-228	0.50			
Fighter/Fighter Bombe (F-15)	Light Cart	NF-2	1.00 - 8.00			
	Light Cart	MC-1A	0.33			
	Air Compressor	MC-1A MC-2A ( <b>S</b> )	0.33			
	All Complessor	MC-2A (S) MC-11	2.00			
	Bomb Lift	MJ-1B	1.00			
	Generator Set	A/M32A-86D	0.17			
	Heater	H1	0.17			
	***************************************	MJ-1-1	0.17			
Generic 3	Hydraulic Test Stand					
Small Trainers (T-37, -37B)	Light Cart	TL-1D (S)	1.00			
	Air Compressor	MC-1A	0.50			
	- T	MC-2A (S)	0.50			
	Tug	(See "Tug" in Table 3-4 and select appropriate size)	0.33			

Operating Time Fer Aircraft **GSE Type** GSE Model Sortio 210 (hr) Generator Set A/M32A-86D 1.00 - 5.00 Start Cart A/M32A-95 0.50 MA-3D 2.00 Air Conditioner Heater 2.00 Generic 4 MJ-1-1 2.50 Helicopter (UH-60A) Hydraulic Test Stand 1.00 MJ-2/TTU-228 Light Cart 0.50 - 4.00 FL-1D (S) MC-1A 1.00 Air Compressor 2.50 MC-2A (S) Aircraft Tug (See "Tug" in Table 3-4 and select appropriate size) 0.10 1.30 Package Tug (See "Tug" in Table 3-4 and select appropriate size) Generic (Not otherwise specified) Cargo Loader Cargo Loader 1.50 Fuel Truck Fuel Truck 0.60 Deicer Truck 0.15 Deicer Truck<sup>3</sup>

Table 3-3. Military Aircraft and GSE Assignments (continued)

SOURCE (unless otherwise noted): data obtained from USAF, IERA-RS-BR-SR-2005-0001, *Flightline Emission Factors – Aircraft/Auxiliary Power Units/Aerospace Ground Support Equipment December 2004*. Data provided by USAF flight squadrons and associated AGE shops. When calculating GSE emissions, use the data available at the installation. These aircraft/GSE combinations should be used only in the absence of current, more accurate, data.

- 1. Operating time estimated based on operating time of GSE on similar aircraft.
- 2. GSE model changed from what was stated in the source document because of suspected error in source.
- 3. Cold weather months only.

"(S)" – Indicates that emission factors for this GSE are not found in this document. In the absence of available data, it is recommended that a similar GSE and its associated emission factors are used as a surrogate.

**Table 3-4. Military Aircraft GSE Emission Factors** 

oon m	Source of E		Ra Ra	Rated	Rated		Fuel Flow	Emission Factors (lb/hr)						
GSE Type	Data <sup>1</sup>	Engine Manufacturer	Model Number	Нр	Fuel	Operational Mode	Rate (gal/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>2</sup>	co	VOC <sup>3</sup>	$PM_{10}$	PM <sub>2.5</sub> <sup>(4)</sup>	GHG <sup>5</sup>
Heater	e			6.5	Diesel/JP-8	All Loads	0.39	0.160	0.011( <b>C</b> )	0.180	0.100	0.006	0.006	8.86
Hydraulic Test Stand	e			30	Diesel/JP-8	All Loads		0.180	0.051( <b>C</b> )	12.250	0.280	0.109(4)	0.105	36.84
Start Cart	e	Garrett		180	Diesel/JP-8	All Loads		1.820	0.306( <b>C</b> )	5.480	0.270	0.211	0.205	221.06
Generator Set	b	Detroit Diesel	4-71N	148	Diesel/JP-8	All Loads	6.47	6.102	0.046	0.457	0.294	0.091	0.089	146.95
Start Cart	e	Garrett		155	Diesel/JP-8	All Loads		1.470	0.264( <b>C</b> )	5.860	0.070	0.110	0.107	190.36
Air Compressor	a	Detroit Diesel	6V71T	290	Diesel/JP-8	100% Load	16.57	7.973	0.117	1.522	0.205	0.211	0.205	376.34
Air Conditioner	e	Detroit Diesel			Diesel/JP-8	All Loads		7.970	0.408( <b>C</b> )	1.520	0.200	0.211	0.205	313.19( <b>C</b> )
Air Conditioner	c	Detroit Diesel	6V71N	272	Diesel/JP-8	All Loads	6.8	2.938	0.048	0.150	0.204	0.198	0.192	154.44
Pumping Unit	a	Wisconsin	VH4D	30	Gasoline	100% Load	1.78	0.177	0.004	12.262	0.276	0.109(4)	0.100	34.76
Heater/Air Conditioner	a	Detroit Diesel	6V-92TA	300	Diesel/JP-8	100% Load	17.14	7.659	0.121	1.409	0.258	0.152	0.148	389.28
Arresting Barrier	a	Wisconsin	MV-465D	64	Gasoline	100% Load	3.9	0.377	0.009	29.207	0.319	0.109(4)	0.100	76.16
Heater	a	Lister-Petter	AC1-389548	6.5	Diesel/JP-8	All Loads	0.39	0.158	0.003	0.181	0.100	0.109(4)	0.105	8.86
Cargo Loader	f			133	Diesel/JP-8	All Loads	7.28	2.554	0.253	1.862	0.399	0.279	0.271	165.34
Deicer Truck	f			270	Gasoline	All Loads	14.78	5.940	0.108	73.170	2.700	0.027	0.243	288.63
Elevator Loader	a	Detroit Diesel	3-53 Series	110	Diesel/JP-8	100% Load	6.29	3.128	0.044	1.048	0.129	0.063	0.061	142.86
Generator Set	a	Detroit Diesel	3-71	100	Diesel/JP-8	100% Load	5.71	3.505	0.040	4.905	0.095	0.115	0.111	129.69
Generator Set	a	Detroit Diesel	12V-71N	300	Diesel/JP-8	100% Load	17.14	8.863	0.121	11.078	0.337	0.185	0.180	389.28
Generator Set	a	Lister	ST-3	30	Diesel/JP-8	All Loads	1.78	0.743	0.013	0.351	0.266	0.109(4)	0.105	40.43
Fuel Truck	f			300	Diesel/JP-8	All Loads	16.42	3.300	0.480	0.900	0.300	0.210	0.204	372.93
Generator Light Cart	d	Onan	P218G-I/10876C	10.5	Diesel/JP-8	All Loads	0.62	0.181	0.004	0.139	0.174	0.109(4)	0.105	14.08
Generator Set	a	Caterpillar	D3333T	214	Diesel/JP-8	100% Load	17.5	3.170	0.124	0.689	0.547	0.071	0.069	397.46
Generator Set	a	Сатегрина	D33331	214	Diesel/JP-8	62% Load	10.46	1.901	0.074	0.383	0.462	0.050	0.048	262.82
Ground Mobile Terminal Generator Set	a	Detroit Diesel	4-71-T	150	Diesel/JP-8	100% Load	8.57	6.855	0.061	1.114	0.155	0.109	0.106	194.64
Heater	e			6.5	Diesel/JP-8	All Loads	0.39	0.160	0.011(C)	0.180	0.100	0.006	0.006	8.86
Air Conditioner	a	Onan	L643T*I/1C178-C	65	Diesel/JP-8	All Loads	3.79	0.497	0.027	0.133	0.011	0.109 <sup>(4)</sup>	0.105	86.08
Air Conditioner	a	John Deere	4045T	120	Diesel/JP-8	All Loads	7.12	4.167	0.050	0.317	0.053	0.109 <sup>(4)</sup>	0.105	161.71
Air Conditioner	с	John Deere	4039T	110	Diesel/JP-8	All Loads	4.57	0.640	0.032	0.058	0.284	0.063	0.061	103.79

**Table 3-4. Military Aircraft GSE Emission Factors (continued)** 

com m	Source of		Model Number	Rated Hp	Fuel	Operational Mode	Fuel Flow	Emission Factors (lb/hr)							
GSE Type	Data <sup>1</sup>	Engine Manufacturer					Rate (gal/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>2</sup>	со	VOC <sup>3</sup>	PM <sub>10</sub>	PM <sub>2.5</sub> <sup>(4)</sup>	GHG <sup>5</sup>	
Air Compressor	a	Hatz	Z790-193	18.4	Diesel/JP-8	All Loads	1.09	0.419	0.008	0.267	0.267	0.071	0.068	24.76	
Air Compressor	a	Lister Engineering Co.	ST2A/MC1A	20	Diesel/JP-8	All Loads	1.19	0.496	0.008	0.234	0.177	0.109 <sup>(4)</sup>	0.105	27.03	
Air Compressor	с	Deutz	F4L912 4CYL	100	Diesel/JP-8	All Loads	2.38	0.547	0.017	0.333	0.110	0.109(4)	0.105	54.05	
Air Compressor	a	GMC	Series 4-53	130	Diesel/JP-8	100% Load	7.43	3.396	0.053	0.794	0.195	0.089	0.086	168.75	
Air Compressor	a	John Deere	4039	110	Diesel/JP-8	All Loads	6.52	2.425	0.046	0.485	0.073	0.109 <sup>(4)</sup>	0.105	148.08	
Air Compressor	a	John Deere	3164D	52	Diesel/JP-8	100% Load	3.3	1.285	0.023	0.642	0.057	0.109(4)	0.105	74.95	
Air Compressor	с	John Deere	3179 SPEC FD16694J	48	Diesel/JP-8	All Loads	1.8	0.414	0.013	0.018	0.053	0.109 <sup>(4)</sup>	0.105	40.88	
Air Compressor	a	Deutz	F6L912	110	Diesel/JP-8	All Loads	6.52	2.983	0.046	0.752	0.121	0.109 <sup>(4)</sup>	0.105	148.08	
Air Compressor	a	Wisconsin	MVH4D	30	Gasoline	100% Load	1.78	0.177	0.004	12.262	0.276	0.109 <sup>(4)</sup>	0.100	34.76	
Miller Concrete Cutter	a	Deutz	BF4D-1011T	75	Diesel/JP-8	All Loads	4.45	1.042	0.031	0.198	0.083	0.109 <sup>(4)</sup>	0.105	101.07	
Hydraulic Test Stand	a	Detroit Diesel	3-53 N	97	Diesel/JP-8	All Loads	2.52	0.757	0.018	0.043	0.026	0.109 <sup>(4)</sup>	0.105	57.23	
Bomb Lift	e	Detroit Diesel			Diesel/JP-8	All Loads		4.780	0.219(C)	3.040	3.040	0.800	0.776	141.24	
Hydraulic Test Stand	с	Detroit Diesel	6V-53N	125	Diesel/JP-8	All Loads	4.92	0.937	0.035	0.083	0.292	0.083	0.080	111.74	
Hydraulic Test Stand	a	Detroit Diesel	4-53	130	Diesel/JP-8	100% Load	7.43	3.396	0.053	0.794	0.195	0.089	0.086	168.75	
Hydraulic Test Stand	a	Detroit Diesel	6V-53N	125	Diesel/JP-8	100% Load	10.86	3.858	0.077	2.466	0.193	0.083	0.080	246.65	
Hydraulic Test Stand	e	Detroit Diesel			Diesel/JP-8	All Loads		3.850	0.238(C)	2.460	0.190	0.083	0.076	171.95( <b>C</b> )	
Bomb Lift	e	Detroit Diesel			Diesel/JP-8	All Loads		0.340	0.219( <b>C</b> )	0.210	0.210	0.060	0.055	141.24( <b>C</b> )	
Light Cart	e			18	Diesel/JP-8	All Loads		0.110	0.043( <b>C</b> )	0.080	0.010	0.010	0.010	22.11	
Air Conditioner	e				Diesel/JP-8	All Loads		7.650	0.408( <b>C</b> )	1.410	0.260	0.109 <sup>(4)</sup>	0.105	313.19( <b>C</b> )	
Pumping Unit	a	Petter Diesel Engine	AC-1	6.5	Diesel/JP-8	All Loads	0.39	0.158	0.003	0.181	0.100	0.109 <sup>(4)</sup>	0.105	8.86	
Pumping Unit	a	Detroit Diesel	3-53 Series	110	Diesel/JP-8	100% Load	6.29	3.128	0.044	1.048	0.129	0.063	0.061	142.86	
Light Cart	e				Diesel/JP-8	All Loads		0.170	0.043( <b>C</b> )	0.130	0.025( <b>C</b> )	0.160	0.155	30.71( <b>C</b> )	
Generator Set	с	Detroit Diesel	8V-71T	236	Diesel/JP-8	All Loads	10.9	8.621	0.077	0.219	0.271	0.208	0.202	247.56	
Tug	f			617	Diesel/JP-8	All Loads	33.4	0.617	1.049	4.936	0.617	0.864	0.839	758.58	
Tug	f			475	Diesel/JP-8	All Loads	25.7	0.475	0.808	3.800	0.475	0.665	0.686	583.70	
Tug	f			190	Diesel/JP-8	All Loads	10.3	3.230	0.323	1.520	0.190	0.266	0.258	233.93	

Notes for Table 3-4 are provided on the following page.

- 1. Sources of data include the following:
  - a. Emission factors were obtained from the manufacturer. Fuel usage rates were based on 7,500 Btu/hp-hr.
  - b. Emission factors were obtained from the Southwest Research Institute report titled Exhaust Emissions from a USAF A/M32-86D Generator.
  - c. Emission factors were obtained from the Pacific Environmental Services report titled Aerospace Ground Support Equipment Emissions Characterization for Edwards AFB, California.
  - Emission factors are EPA tier I Non-road engine factors.
  - e. Emission factors were obtained from Air Emissions Factor Guide to Air Force Mobile Sources December 2009.
  - f. Emission factors calculated using the emission factors in Table 3-7 using the hp stated in the table above. If no hp was given, then the average hp for that equipment type was used (Table 3-6). Fuel usage rates were based on 7,500 Btu/hp-hr.
- 2. SO<sub>X</sub> as SO<sub>2</sub>; assumes all sulfur in the fuel reacts to form SO<sub>2</sub> and the national average sulfur content for JP-8 is 0.053 wt.% (density is 6.67 lb/gal) and for gasoline is 0.018 wt.% (density is 6.15 lb/gal). See Section 3.5.5 of this document for reference. Emission factor calculated using Equation 3-7.
- 3. Emission factors are based on values for total hydrocarbons.
- 4. PM<sub>2.5</sub> conservatively estimated at 97% of PM<sub>10</sub> for JP-8 or diesel and 92% of PM<sub>10</sub> for gasoline (per *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling-Compression-Ignition*, EPA420-P-04-009, April 2004). For PM<sub>10</sub> emission factors that were not available, an average value for all other GSE of 0.109 lb/hr was used.
- 5. Greenhouse gas emission factors in the form of equivalent CO<sub>2</sub> (CO<sub>2</sub>e). This is accomplished by taking the sum of the CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O and their respective global warming potentials (GWP). The GWP for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O are 1, 25, 298 respectively as given by table A-1 of 40 CFR 98.
- "(C)" Indicates that this value was not provided from test data, but was calculated using the stated hp (or hp from Table 3-6) and the appropriate emission factor from Table 3-7.
  "---" Indicates No Data Available.

**Table 3-5. Typical Commercial Aircraft GSE Assignments** 

Long Haul Turbine Powered Aircraft	Short Haul/Regional Turbine Powered Aircraft	Turbo-prop Powered Aircraft	Piston Powered Aircraft
Air Conditioner (Diesel/Electric)	Aircraft Tractor (Diesel)	Aircraft Tractor (Diesel)	Fuel Truck (Diesel)
Air Start (Diesel)	Baggage Tractor (Gasoline)	Baggage Tractor (Gasoline)	
Aircraft Tractor/Tug (Diesel)	Belt Loader (Gasoline)	Belt Loader (Gasoline)	
Baggage Tractor (Gasoline)	Catering Truck (Diesel)	Catering Truck (Diesel)	
Belt Loader (Gasoline)	Fuel Truck (Diesel)	Cabin Service Truck (Diesel)	
Cabin Service Truck (Diesel)	Lavatory Truck (Diesel)	Fuel Truck (Diesel)	
Catering Truck (Diesel)	Service Truck (Diesel)	Service Truck (Diesel)	
Hydrant Truck (Diesel)		Cabin Service Truck (Diesel)	
Lavatory Truck (Diesel)			
Service Truck (Diesel)		$\mid  \times  \mid$	/
Water Service Truck (Diesel)			

SOURCE: FAA Emissions and Dispersion Modeling System, Version 5.02

**Table 3-6. Common GSE Operating Parameters** 

GSE Type	Fuel Type	Average Rated Power (hp)	Average Operating Load (% Max Power)	Operating Time Per LTO (hr)
Air Conditioner	Diesel	255	75	0.50
A: G: .	Diesel	613	90	0.12
Air Start	Gasoline			0.12
	Diesel	617	80	0.13
	Diesel	475	80	0.13
A 6. The sale of The sale	Diesel	190	80	0.13
Aircraft Tractor/Tug	Diesel	88	80	0.13
	Gasoline	110	80	0.13
	CNG/LPG	124	80	0.13
	Diesel	83	55	1.20
D	Gasoline	107	55	1.20
Baggage Tractor	CNG	83	55	1.20
	LPG	107	55	1.20
	Diesel	71	50	0.80
D to I	Gasoline	107	50	0.80
Belt Loader	CNG	83	50	0.80
	LPG	107	50	0.80
	Diesel	225	55	
D 1. "	Gasoline	124	55	
Bobtail	CNG	110	55	
	LPG	124	55	
	Diesel	210	53	0.33
	Diesel	71	53	0.33
	Gasoline	260	53	0.33
Calda Camaia a Tanada	Gasoline	107	53	0.33
Cabin Service Truck	CNG	360	53	0.33
	CNG	83	53	0.33
	LPG	260	53	0.33
	LPG	107	53	0.33
	Diesel	133	50	1.33
	Diesel	80	50	1.33
Cargo Loader	Gasoline	107	50	1.33
	CNG	83	50	1.33
	LPG	107	50	1.33
	Diesel	88	54	
Carron Transfer	Gasoline	107	54	
Cargo Tractor	CNG	83	54	
	LPG	88	54	

Table 3-6. Common GSE Operating Parameters (continued)

GSE Type	Fuel Type	Average Rated Power (hp)	Average Operating Load (% Max Power)	Operating Time Per LTO (hr)
	Diesel	25	50	0.17
Cart (Light Cart)	Gasoline	25	50	0.17
	CNG/LPG	25	50	0.17
	Diesel	210	53	25.00
	Diesel	71	53	0.25
	Gasoline	260	53	0.25
Carrier Tarrella	Gasoline	107	53	0.25
Catering Truck	CNG	360	53	25.00
	CNG	83	53	0.25
	LPG	260	53	0.25
	LPG	107	53	0.25
	Diesel	263	95	
	Diesel	165	95	
	Gasoline	270	95	
Б.	Gasoline	107	95	
Deicer	CNG	83	95	
	CNG	54	95	
	LPG	270	95	
	LPG	107	95	
	Diesel	55	30	
Forklift	Gasoline	54	30	
	CNG/LPG	54	30	
	Diesel	300	25	0.75
	Diesel	235	25	0.54
	Diesel	175	25	0.33
	Gasoline	420	25	0.75
Fuel Truck	Gasoline	260	25	0.54
	CNG	420	25	0.75
	CNG	360	25	0.54
	LPG	420	25	0.75
	LPG	260	25	0.54
	Diesel	158	82	2.00
Generator Sets	Gasoline	107	82	2.00
	CNG/LPG	107	82	2.00
	Diesel	194	75	0.67
	Diesel	71	75	0.67
Ground Power Unit	Gasoline	107	75	0.67
	CNG	83	75	0.67
	LPG	107	75	0.67

**Table 3-6. Common GSE Operating Parameters (continued)** 

GSE Type	Fuel Type	Average Rated Power (hp)	Average Operating Load (% Max Power)	Operating Time Per LTO (hr)
	Diesel	235	70	0.20
Hydront Taylor	Gasoline	260	70	0.20
Hydrant Truck	CNG	360	70	0.20
	LPG	260	70	0.20
	Diesel	235	25	25.00
	Diesel	56	25	0.25
	Gasoline	260	25	0.25
T	Gasoline	97	25	0.25
Lavatory Truck	CNG	360	25	25.00
	CNG	82	25	0.25
	LPG	260	25	0.25
	LPG	89	25	0.25
	Diesel	115	50	0.17
Lift	Gasoline	105	50	0.17
	CNG/LPG	132	50	0.17
	Diesel	65	57	
D C	Gasoline	107	57	
Passenger Stand	CNG	107	57	
	LPG	83	57	
	Diesel	235	20	25.00
C Tr 1	Gasoline	260	20	0.25
Service Truck	CNG	360	20	0.25
	LPG	260	20	0.25
	Diesel	53	51	
Sweeper	Gasoline	53	51	
	CNG/LPG	45	51	
	Diesel	235	20	0.20
Water Comi	Gasoline	260	20	0.20
Water Service	CNG	360	20	0.20
	LPG	260	20	0.20
	Diesel	140	50	
Other	Gasoline	126	50	
	CNG/LPG	173	50	

SOURCE: FAA Emissions and Dispersion Modeling System, Version 5.02

<sup>&</sup>quot;---" Indicates No Data Available

**Table 3-7. Common GSE Emission Factors** 

			Eı	mission Fa	actors (lb.	etors (lb/1000hp-hr)			
GSE Type	Fuel Type	СО	VOC1	NO <sub>X</sub>	SO <sub>X</sub>	PM <sub>10</sub> <sup>(2)</sup>	PM <sub>2.5</sub> <sup>(3)</sup>	GHG <sup>4</sup>	
Air Conditioner	Diesel	5.00	1.00	16.40	1.60	1.00	0.97	1330.83	
A * G.	Diesel	6.00	1.00	19.30	1.60	1.20	1.16	1330.83	
Air Start	Gasoline	271.00	10.00	22.00	0.40	0.10	0.09	1093.30	
	Diesel	8.00	1.00	17.00	1.70	1.40	1.36	1330.83	
Aircraft Tractor/Tug	Gasoline	393.00	13.00	23.20	0.40	0.10	0.09	1093.30	
_	CNG/LPG							1458.76	
	Diesel	11.00	2.00	13.70	1.80	2.10	2.04	1330.83	
Baggage Tractor	Gasoline	395.00	13.00	22.30	0.40	0.20	0.18	1093.30	
	CNG/LPG	107.00	6.00	26.90	0.00	0.10	0.10	1458.76	
	Diesel	8.00	2.00	14.80	1.80	1.70	1.65	1330.83	
D k I I	Gasoline	275.00	10.00	22.30	0.40	0.20	0.18	1093.30	
Belt Loader	CNG	275.00	10.00	22.30	0.00	0.10	0.10	2229.82	
	LPG	74.00	4.00	26.90	0.00	0.00	0.00	1453.67	
	Diesel	8.00	1.00	16.70	1.70	1.30	1.26	1330.83	
Bobtail	Gasoline	398.00	13.00	22.30	0.40	0.20	0.18	1093.30	
	CNG/LPG							1458.76	
	Diesel	2.00	1.00	10.30	1.60	0.30	0.29	1330.83	
Cabin Service Truck	Gasoline	24.00	4.00	10.70	0.30	0.10	0.09	1093.30	
	CNG/LPG	107.00	6.00	26.90	0.00	0.10	0.10	1062.84	
	Diesel	14.00	3.00	19.20	1.90	2.10	2.04	1330.83	
Cargo Loader	Gasoline	400.00	13.00	22.30	0.40	0.20	0.18	1093.30	
	CNG/LPG	106.00	5.00	26.80	0.00	0.10	0.10	1062.84	
	Diesel	12.00	2.00	17.00	1.80	2.40	2.33	1330.83	
Cargo Tractor	Gasoline	404.00	13.00	22.40	0.40	0.20	0.18	1093.30	
	CNG/LPG	107.00	6.00	26.90	0.00	0.10	0.10	1062.84	
	Diesel							1330.83	
Cart (Light Cart)	Gasoline	392.00	13.00	22.30	0.40	0.10	0.09	1093.30	
, ,	CNG/LPG							1458.76	
	Diesel	2.00	1.00	10.30	1.60	0.30	0.29	1330.83	
Catering Truck	Gasoline	24.00	4.00	10.70	0.30	0.10	0.09	1093.30	
	CNG/LPG	107.00	6.00	27.00	0.00	0.10	0.10	1062.84	
	Diesel							1330.83	
Deicer	Gasoline	271.00	10.00	22.00	0.40	0.10	0.09	1093.30	
	CNG/LPG							1458.76	
	Diesel	15.00	4.00	22.00	1.90	2.70	2.62	1330.83	
Forklift	Gasoline	392.00	13.00	22.00	0.40	0.10	0.09	1093.30	
	CNG/LPG	108.00	6.00	27.00	0.00	0.10	0.10	1062.84	

Emission Factors (lb/1000hp-hr) **GSE Type Fuel Type**  $PM_{2.5}^{(3)}$  $VOC^1$  $PM_{10}^{(2)}$ CO  $NO_{x}$  $SO_{x}$ GHG<sup>4</sup> Diesel 3.00 1.00 11.00 1.60 0.70 0.68 1330.83 Fuel Truck 5.00 0.30 0.10 0.09 Gasoline 37.00 11.00 1093.30 1062.84 CNG/LPG 106.00 5.00 27.00 0.00 0.10 0.10 Diesel 6.00 2.00 20.00 1.60 1.40 1.36 1330.83 0.09 1093.30 Generator Gasoline 271.00 10.00 22.00 0.40 0.10 CNG/LPG ------------------1458.76 Diesel 5.00 1.00 17.00 1.60 1.00 0.97 1330.83 Ground Power Unit Gasoline 271.00 10.00 22.00 0.40 0.10 0.09 1093.30 CNG/LPG ---------------------Diesel 1330.83 4.00 1.00 12.00 1.60 1.60 1.55 Hydrant Truck Gasoline 26.00 4.00 11.00 0.30 0.10 0.09 1093.30 CNG/LPG ------\_\_\_ ---1458.76 ------Diesel 4.00 1.00 12.00 1.60 1.30 1.26 1330.83 Lavatory Truck 1093.30 Gasoline 18.00 4.00 11.00 0.30 0.10 0.09 CNG/LPG 106.00 5.00 27.00 0.00 0.10 0.10 1062.84 Diesel 15.00 4.00 22.00 1.90 2.70 2.62 1330.83 Lift Gasoline 397.00 13.00 22.00 0.40 0.20 0.18 1093.30 CNG/LPG 0.00 0.10 1062.84 106.00 5.00 27.00 0.10 Diesel 4.00 1.00 1.60 1.60 1.55 1330.83 12.00 Passenger Stand 0.30 0.09 1093.30 Gasoline 46.00 5.00 11.00 0.10 CNG/LPG 5.00 0.00 0.10 1062.84 106.00 27.00 0.10 Diesel 3.00 1.00 11.00 1.60 0.90 0.87 1330.83 Service Truck 46.00 5.00 0.30 0.10 0.09 1093.30 Gasoline 11.00 Diesel 12.00 2.00 17.00 1.80 2.40 2.33 1330.83 Sweeper 393.00 13.00 22.00 0.40 1093.30 Gasoline 0.10 0.09 CNG/LPG 108.00 0.00 6.00 27.00 0.10 0.10 1062.84 Diesel ------------------1330.83 Water Service 0.09 1093.30 Gasoline 46.00 5.00 11.00 0.30 0.10 CNG/LPG ---------------1458.76 Diesel 8.00 1.00 17.00 1.70 1.30 1.26 1330.83 Other Gasoline 396.00 13.00 22.00 0.40 0.20 0.18 1093.30 CNG/LPG 5.00 27.00 0.00 0.10 1062.84 106.00 0.10

**Table 3-7. Common GSE Emission Factors (continued)** 

SOURCE: FAA Emission and Dispersion Modeling System, Version 5.02 for model year 2000 GSE and converted from g/hp-hr to lb/10<sup>3</sup> hp-hr.

- 1. Reported as HC and conservatively estimated to be equal to VOC.
- 2. Reported as PM in EDMS. All PM assumed to be PM<sub>10</sub>.
- 3. Using assumptions and factors applied by EPA in its NONROAD model, PM<sub>2.5</sub> emissions can be conservatively estimated as 97% of JP-8 or diesel PM<sub>10</sub> emissions, 92% of gasoline PM<sub>10</sub> emissions, and 100% of CNG or LPG PM<sub>10</sub> emissions.
- 4. GHG is the sum of emission factors for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. The emission factors are presented in equivalent CO<sub>2</sub> (CO<sub>2</sub>e) using global warming potentials of 25 and 298 for CH<sub>4</sub> and N<sub>2</sub>O respectively. The emission factors were provided by the EPA's Emission Factors for Greenhouse Gas Inventories. When "CNG/LPG" is provided as the fuel used, then the greenhouse gas emission factor provided was calculated using the more conservative estimate from LPG. The emission factors for N<sub>2</sub>O and CH<sub>4</sub> for CNG and LPG were assumed to be equal to those for gasoline. Calculations were made using the heating values provided in Table 3-1 and assuming fuel usage rates of 7,000, 8,089, 7,858, and 10,577 Btu/hp-hr for gasoline, diesel CNG, and LPG respectively.

<sup>&</sup>quot;---" Indicates No Data Available.

Emission Factors (lb/1000gal) Hazardous Air MA-1A/2Pollutant A/M32A-60 A/M32A-60A A/M32A-95 MB-2/3Acetaldehyde 2.09E-03 2.09E-03 2.09E-03 Acrolein 3.00E-04 3.00E-04 3.00E-04 Benzene 1.30E-05 1.50E-02 1.50E-02 1.50E-02 8.78E-04 Ethylbenzene 1.10E-06 8,78E-4 8.78E-04 Formaldehyde 2.03E-02 2.03E-02 2.03E-02 Toluene 6.60E-06 4.36E-03 4.36E-03 4.36E-03 Xylenes 4.80E-06 2.69E-03 2.69E-03 2.69E-03

Table 3-8. Uncontrolled HAP Emission Factors for Select Military GSE

SOURCE: Flightline Emission Factors – Aircraft/Auxiliary Power Units/Aerospace Ground Support Equipment December 2004, IERA-RS-BR-SR-2005-0001.

Table 3-9. EPA Emission Factors for Uncontrolled Diesel Reciprocating IC Engines

		Emission Factors <sup>1,2</sup>												
Model Year	NO <sub>X</sub>		CO <sup>2</sup>		SO <sub>X</sub> <sup>2</sup>		VOC <sup>3</sup>		PM <sub>10</sub> <sup>(4)</sup>		PM <sub>2.5</sub> <sup>(4)</sup>		CO <sub>2</sub> e <sup>(5)</sup>	
wiodei iear	(lb/ 10 <sup>3</sup> gal)	(lb/10 <sup>3</sup> hp-hr)	(lb/ 10 <sup>3</sup> gal)	(lb/10 <sup>3</sup> hp-hr)	(lb/ 10 <sup>3</sup> gal)	(lb/10 <sup>3</sup> hp-hr)	(lb/ 10 <sup>3</sup> gal)	(lb/10 <sup>3</sup> hp-hr)	(lb/ 10 <sup>3</sup> gal)	(lb/10 <sup>3</sup> hp-hr)	(lb/ 10 <sup>3</sup> gal)	(lb/10 <sup>3</sup> hp-hr)	(lb/ 10 <sup>3</sup> gal)	(lb/10 <sup>3</sup> hp-hr)
Pre-2005 <sup>(2)</sup>	611.67	35.67	131.77	7.68	40.22	2.35	47.77	2.79	43.00	2.51	43.00	2.51	22824.38	1331.12
2005 - Present <sup>6</sup>	197.04 <sup>(7)</sup>	11.49 <sup>(7)</sup>	131.77	7.68	40.22	2.35	16.54	0.96	22.55	1.32	22.55	1.32	22824.38	1331.12

- 1. Emission Factors apply to reciprocating internal combustion engines rated at 600hp or less.
- 2. SOURCE: Compilation of Air Pollutant Emission Factors Volume I: Stationary Point and Area Sources fifth edition, January 1995. Section 3.3. Emission factors from the source document provided in lb/MMBtu and units were converted using an average diesel BSFC of 8.089 MMBtu/10³hp-hr and a diesel average heating value of 138.7MMBtu/10³gal.
- 3. Source documents provided emissions in terms of either non-methane hydrocarbons (NMHC), total hydrocarbons (HC), or total organic compounds (TOC). Assuming that TOC is equal to total organic gas (TOG), the VOC emission factors were estimated using the following ratios: HC=TOG/1.07, NMHC=0.984\*HC, and VOC=1.053\*HC. These ratios provided in *Conversion Factors for Hydrocarbon Emission Components*, EPA-420-R-10-015, July 2010
- 4. Emission factors for PM only provided by source documents. PM is conservatively assumed to be equal to  $PM_{10}$  which is assumed to be equal to  $PM_{2.5}$ .
- 5. Greenhouse gas emission factors are the sum of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O and the product of their respective global warming potentials (GWP). The GWP are 1, 25, and 298 for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O respectively. Source document provided CO<sub>2</sub> emission factor only. The *Compendium of Greenhouse Gas Emissions Estimation Methodologies for the Oil and Natural Gas Industry* provided emission factors of 6.64E-03 and 1.32E-03 lb/MMBtu for CH<sub>4</sub>, and N<sub>2</sub>O respectively.
- 6. SOURCE: These emission factors from 40 CFR 89 and 40 CFR 1039 and represent the worst case emission limit for that year as provided in 40 CFR 89 and 40 CFR 1039.
- 7. NOx value estimated from the NOx+NMHC limit provided in the CFR by using the ratio of NOx to NMHC as given in AP-42.

<sup>&</sup>quot;---" Indicates No Data Available.

Table 3-10. Speciated HAP Emission Factors for Uncontrolled Diesel Reciprocating Internal Combustion Engines

G 1	Emission Factors				
Compound	lb/10 <sup>3</sup> gal	lb/10 <sup>3</sup> hp-hr			
1,3-Butadiene	5.42E-03	3.16E-04			
Acenaphthene	1.97E-04	1.15E-05			
Acenaphthylene	7.02E-04	4.09E-05			
Acetaldehyde	1.06E-01	6.20E-03			
Acrolein	1.28E-02	7.48E-04			
Anthracene	2.59E-04	1.51E-05			
Benz(a)anthracene	2.33E-04	1.36E-05			
Benzene	1.29E-01	7.55E-03			
Benzo(a)pyrene	2.61E-05	1.52E-06			
Benzo(b)fluoranthene	1.37E-05	8.02E-07			
Benzo(g,h,i)perylene	6.78E-05	3.96E-06			
Benzo(k)fluoranthene	2.15E-05	1.25E-06			
Chrysene	4.90E-05	2.86E-06			
Dibenz(a,h)anthracene	8.09E-05	4.72E-06			
Fluoranthene	1.06E-03	6.16E-05			
Fluorene	4.05E-03	2.36E-04			
Formaldehyde	1.64E-01	9.55E-03			
Indeno(1,2,3-c,d)pyrene	5.20E-05	3.03E-06			
Naphthalene	1.18E-02	6.86E-04			
Phenanthrene	4.08E-03	2.38E-04			
Pyrene	6.63E-04	3.87E-05			
Toluene	5.67E-02	3.31E-03			
Xylenes	3.95E-02	2.31E-03			

SOURCE: Compilation of Air Pollutant Emission Factors Volume I: Stationary Point and Area Sources fifth edition, January 1995. Section 3.3. Where necessary, an average BSFC or 8.089 MMBtu/10³ hp-hr and an average heating value for diesel of 138.7 MMBtu/10³ gal was used for unit conversion.

Figure 3-1. Example Data Collection Form for Aerospace Ground Support Equipment

Installation Name:			<b>Inventory Year (CY):</b>				
Responsible Organization (Name & O	Office Symbol):						
POC (Name, Phone # and e-mail add	ress):						
	Equipment	Equipment Model		Power Rating	Typical Operating	Estimated Operating	Estimated Fuel

<b>Equipment Type</b>	Equipment Use	Equipment Manufacturer	Equipment Model Number	Fuel Type	Power Rating (hp)	Typical Operating Load <sup>1</sup>	Estimated Operating Time (hr/yr)	Estimated Fuel Usage (gal/yr) <sup>2</sup>
								, W

<sup>1.</sup> This is the typical load which the equipment was operated at during the inventory year. This may be listed as a horsepower value, percentage (i.e. percent of maximum power), or description. Be sure to specify.

<sup>2.</sup> While the quantity of fuel used is generally needed only if power rating and operating hours are unknown, fuel consumption data may also be needed to estimate CO<sub>2</sub>.

## 3.6 References

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## 4 NON-ROAD ENGINES AND EQUIPMENT (NRDE)

## 4.1 Introduction

Emissions on Air Force installations result not only from military operations, but also from day to day activities involving non-road engines. Examples of non-road engines and equipment that are commonly operated on Air Force installations include: industrial equipment (e.g., forklifts, aerial lifts, sweepers, etc.); lawn and garden equipment (lawn mowers, trimmers, leaf blowers, snow blowers, etc.); agricultural equipment (sprayers, agricultural tractors, agricultural mowers, etc.); commercial equipment (e.g., portable generators, pumps, air compressors, etc.); recreational vehicles (e.g., off-road motorcycles, all-terrain vehicles, including utility vehicles, snowmobiles, golf carts, etc.); and logging equipment (e.g., shredders). Aerospace ground equipment (AGE) and ground support equipment (GSE) are also non-road engines that are widely used on Air Force installations, but are addressed separately in the "Flightline Ground Support Equipment" section of this document. Emissions of concern from the operation of non-road vehicles and equipment include criteria pollutants and HAPs associated with fuel combustion processes.

Non-road vehicles and equipment are typically powered by either a reciprocating internal combustion engine or a small gas turbine. For reciprocating engines, a piston moves inside a cylinder to compress an air/fuel mixture. The air/fuel mixture combusts and expands, pushing the piston through the cylinder. The piston returns, pushing out the exhaust gases, and the cycle is repeated. For gas turbines, ambient air is pressurized with a compressor. Fuel is introduced to this compressed air and is ignited. The high temperature, high pressure air flows through a turbine where it expands, producing shaft energy that is used to drive both the compressor and the electric generator.

Reciprocating engines may differ in design by the diameter of the cylinders in the engine, known as the bore, and the length of the linear movement of the piston in each cylinder, known as the stroke. The size of the engine is related to its displacement per cylinder, which is a measure of the volume of the cylinder multiplied by the length of the stroke. A reciprocating engine may be classified as either 4-stroke or 2-stroke. For a 4-stroke engine, the combustion cycle involves two revolutions of the crankshaft, to which the pistons are connected, and the cycle consists of four stages. The induction stroke occurs when the piston moves down within the cylinder, creating a vacuum and drawing in air or an air/fuel mixture. During the compression stroke, the piston moves up to pressurize the air or air/fuel mixture which then ignites. The heated air expands generating a force on the piston such that it is forced downward again in what is called the power stroke. Finally, the piston moves upward again to force the exhaust gas out of the cylinder during the exhaust stroke and returns to the starting position of the induction stroke so the cycle may be repeated. 2-stroke engines are able to operate with just one revolution of the crankshaft because induction of the air or air/fuel mixture occurs concurrently with the release of the exhaust gas.

Detonation of the air/fuel mixture during the compression stroke may occur through either compression or spark ignition. In a compression ignition (CI) engine, air is first compressed by the piston in the cylinder, which causes the temperature of the air to rise. Fuel is added to the heated air and combusts due to the fact that the temperature of the air is above the auto-ignition temperature of the fuel. Reciprocating CI engines are powered either by diesel fuel or JP-8. Spark ignition (SI) engines, which use gasoline, natural gas, or Liquefied Petroleum Gas (LPG) differ from CI engines in that the fuel/air mixture does not ignite spontaneously, but rather by a spark. Emissions from non-road engines will vary due to operating conditions such as temperature, humidity, torque, ignition timing, or even air/fuel mixture. Even slight variations in the air/fuel mixture will dramatically affect pollutant emissions.

While most non-road engines and equipment are powered by either diesel or gasoline fuel, engines fueled with JP-8 are becoming increasingly more common. Presently, there are few EPA-approved non-road vehicle and equipment emission factors developed specifically for JP-8. However, since the combustion characteristics between JP-8 and diesel fuel are similar, emissions from JP-8 fueled non-road vehicles and equipment are typically calculated using diesel emission factors.

Gas turbines are composed of three major components: a compressor, a combustor, and a power turbine. In a gas turbine, ambient air is drawn in at the front of the engine with a fan, and the pressure is raised up to 30 times the ambient pressure via a compressor. The compressed air is directed into the combustor section where it is sprayed with fuel and ignited with an electric spark. The burning gases expand, and the high-pressure, high-velocity gas stream passes through a turbine area, driving the movement of an output shaft that converts the energy to useful power. Typically, more than half of the shaft energy produced is needed to drive the internal compressor, with the balance available to drive an external load such as an electric generator or water pump. Gas turbines may be more advantageous than reciprocating engines because of their lower operational cost, lower levels of CO and VOC emissions, and potential for use in cogeneration systems. However, the large initial cost of a gas turbine engine means that they are not likely to be part of non-road equipment.

#### 4.2 Emission Factors

Emission factors for non-road engines are provided at the end of this section. They have been developed for specific equipment and are in units of lb/10<sup>3</sup> hp-hr. The appropriate emission factor should be selected based on the fuel the engine uses and whether or not the equipment is a 2-stroke or 4-stroke engine, if applicable. The tables also provide typical load factors and calculated Brake Specific Fuel Consumption (BSFC) values which may be needed for emissions calculations as described later in this chapter.

#### 4.2.1 Alternative Fuels and Emissions Reduction

Increasingly stringent regulatory requirements resulting from the Energy Policy Act (EPAct), Presidential Executive Orders, and DoD /Air Force pollution prevention and energy conservation initiatives means that some Air Force installations may be encouraged to operate non-road engines and equipment on alternative fuels such as ethanol-based E85 (a blend of 85% ethanol and 15% gasoline) or B20 (a blend of 20% biodiesel and 80% petroleum diesel). While there are currently no non-road engines and equipment which use these alternative fuels, there are on-highway flexible fuel vehicles (FFVs) that are capable of operating on E85, and these FFVs are required to meet EPA's Tier II vehicle emission standards regardless of the fuel type. Some research suggests evidence of potential emission reduction benefits from the use of E85, although testing has been limited and emissions impacts have not been fully characterized. While some reduction in evaporative emissions is expected due to the displacement of gasoline, emissions are believed to be generally similar to gasoline emissions. Note, however, that data does indicate that some HAP emissions are reduced while others are increased. Accordingly, at this time EPA does not support the use of emission reduction factors for engines using E85 fuels.

A somewhat similar situation exists with regard to information on the emissions impact of B20 fuels. In October 2002, the EPA issued its technical report on biodiesel emissions (USEPA 2002). This report was developed using various statistical analysis tools to compile and assess the results of 39 studies regarding the impact of B20 use on vehicle emissions. Relative to conventional onhighway diesel fuel (i.e., conventional low sulfur diesel with sulfur content < 500 ppm), B20 showed a +2% impact on NO<sub>X</sub> emissions, a -10% impact on PM emissions, a -21% impact on HC emissions, and a -11% impact on CO emissions. Since the time of the study, however, ultra-low sulfur diesel (ULSD) regulations limiting the sulfur content of on-highway diesel fuel to 15 ppm have been enacted. Since June 2007, the sulfur content of non-road diesel fuel has been limited to 500 ppm which was then further reduced to 15 ppm effective June 2010. Another study conducted under the auspices of the DoD Environmental Security Technology Certification Program (ESTCP) sought to measure the impact of B20 on CO, NO<sub>X</sub>, PM, HC, and HAP emissions from engines used in on-road and portable power generation applications (Environmental Security Technology Certification Program 2006). Using primarily a B20 biodiesel/ULSD blend, the study showed no significant differences in emissions between the B20 biodiesel blended with ULSD and the ULSD by itself. No consistent trend was observed with regards to HAP emissions.

These examples indicate that efforts to apply emission reduction factors to estimate emissions from alternatively-fueled non-road vehicles and equipment should be attempted only after careful review of the most current, validated information available from either the EPA, the Department of Energy, the DoD, and Service engineering and research organizations. Application of the B20 emission factors developed by the EPA should only be considered if an installation is confident that the nonroad diesel fuel it is replacing has a sulfur concentration of 500 ppm or less. It is

important to note that should the sulfur content exceed 500 ppm, potential emissions benefits of B20 may be underreported because, to date, emission impacts studies have generally not focused on non-road engines and fuels.

## 4.3 Emissions Calculation

This section describes several methodologies available for calculating emissions from non-road engines and equipment using either the EPA's NONROAD emissions estimating software model, or the underlying emission factors in the NONROAD model and manual calculation procedures. Regardless of which approach is chosen, the methodology is applied to each individual piece of nonroad equipment for each pollutant for which emissions are being calculated. The methodologies are briefly described in the following paragraphs.

## 4.3.1 Emissions Estimation Using the EPA NONROAD Model

The EPA recommends use of its NONROAD modeling software for estimating emissions from the operation of non-road vehicles and equipment. Developed to provide a consistent means of generating emissions data required by the Clean Air Act, the current NONROAD model predicts emissions of six exhaust pollutants (HC, NO<sub>X</sub>, CO, CO<sub>2</sub>, SO<sub>X</sub>, and PM) for more than 80 basic and 260 specific types of non-road equipment across a variety of model years which use gasoline, diesel, CNG or LPG. The model allows particulate matter to be reported as PM<sub>10</sub> or PM<sub>2.5</sub>.

One advantage of the NONROAD model is that it recognizes that an engine's performance degrades over time due to normal operation and use. Engine deterioration not only increases exhaust emissions, but usually leads to a loss of combustion efficiency, and may increase non-exhaust emissions. EPA believes there is insufficient information to justify use of adjustment factors for small SI engines, so the NONROAD model uses emission factors based on unadjusted steady-state test results and applies an adjustment factor only to SI engines with a power rating greater than 25 hp. In terms of CI engines, the NONROAD model addresses the effects of deterioration by multiplying a zero hour emission factor for each category of engine by a deterioration factor to reflect degraded performance as the engine ages.

While the core model for NONROAD is written in FORTRAN and can be operated as a standalone application in a DOS environment, the graphical user interface will generate scenarios for one specified set of conditions. If the user wishes to run multiple scenarios in a single model run, the scenarios must be generated in a DOS environment. The NONROAD reporting utility is written in Microsoft Access and operated similar to the graphical users interface. The reporting utility is a stand-alone application and knowledge of Access is not required to generate reports. Emission factors for nonroad engines and equipment manufactured prior to Model Year 1998 have been derived from the NONROAD model and its underlying data sets by the EPA Office of Transportation Air Quality. They are provided in Table 4-1 and serve as the basis for estimating emissions manually using the methodologies discussed in the following subsections.

## 4.3.2 Horsepower/Load Factor Method

The most common approach for calculating emissions from non-road engines and equipment is essentially the same as the method incorporated into the NONROAD model and the horsepower/load factor method in the "Flightline Ground Support Equipment" section. Emissions are estimated based on the engine's rated power output, a load factor, and annual operating time. The following equation is used:

$$E(Pol) = OT \times \frac{LF}{100} \times hp \times \frac{1}{1000} \times EF(Pol) \times N$$

**Equation 4-1** 

Where,

**E(Pol)** = Annual emissions of each individual pollutant (lb/yr)

**OT** = Operating time (hr/unit)

**LF** = Load factor (%)

= Factor for converting percent to a fraction (%)

**hp** = Average rated horsepower of engine (hp)

**1000** = Factor converting from hp to  $10^3$  hp (hp/ $10^3$  hp) **EF(Pol)** = Emission factor of each pollutant (lb/ $10^3$  hp-hr)

N = Number of nonroad engines and equipment used each year (units/yr)

The data required for calculating emissions using the horsepower/load factor method may be found in Table 4-1.

## 4.3.3 Fuel Consumption Method

Estimating emissions based on fuel consumption can be accomplished in instances when the fuel consumption is known but the operating time of the non-road engine or equipment is not. The annual fuel consumption, fuel density, BSFC values for the particular piece of equipment, and emission factor must be known to calculate emissions using this method. The following equation is used:

$$E(Pol) = \frac{(FC \times D)}{BSFC} \times EF(Pol) \times N$$

**Equation 4-2** 

Where,

E(Pol) = Annual emissions of each individual pollutant (lb/yr)

**FC** = Annual fuel consumption (gal/unit)

**D** = Fuel density (lb/gal)

**BSFC** = Brake-specific fuel consumption for the engine  $(lb/10^3 \text{ hp-hr})$ 

**EF(Pol)** = Emission factor for each pollutant (lb/10<sup>3</sup> hp-hr) **N** = Number of equipment used each year (units/yr)

When performing emissions calculations using the fuel consumption method, enhanced accuracy may be achieved by using the density of the fuel as provided by the fuel supplier as well as the BSFC for the engine directly from the engine manufacturer. If this data is unavailable, then suggested values for these variables may be found in the following tables:

- Table 3-2 provides the average density for non-road fuels.
- Table 4-1 provides the emission factors and BSFC for specific equipment types in a lb/10<sup>3</sup> hp-hr basis.

## 4.3.4 VOC and HAP Speciation

There is very little data available for the speciation of VOCs for non-road engines. Whenever the quantity of speciated compounds is required to be calculated, the average percentage of each species within the total VOC may be used as a gross estimate of the emissions of that compound. This section should only be used if no acceptable speciated emission factors are available for the engine in question. The percentages for VOC emissions are based on the fuel used by the engine including diesel, gasoline, natural gas (which is further subdivided into 2 and 4 stroke lean burn and 4 stroke rich burn), and liquefied petroleum gas.

The following equations were used to calculate the weighted percentage of each pollutant based on the total or the average VOCs from available speciation data. VOC emission factor data came from several sources including *Compilation of Air Pollutant Emission Factors* (AP-42), the Mojave Desert Air Quality Management District, and the EPA's *SPECIATE* database. Since there is limited data available regarding mobile non-road engine emission factors, those factors presented in these sources were assumed to be representative of all non-road engines. Using these speciated emission factors, the average weight percent of the individual pollutant was calculated using the total VOCs as shown:

$$P(Pol) = \frac{EF(Pol)}{EF(VOC)_{Total}}$$

Where,

**P**<sub>Pol</sub> = Weight percent of a given pollutant (%)

**EF(Pol)** = Individual pollutant emission factor ( $lb/10^3$  hp-hr)

 $EF(VOC)_{Total}$  = Total VOC emission factor (lb/10<sup>3</sup> hp-hr)

Speciated VOCs are calculated by taking the product of the total VOCs and the weighted percentage of the individual VOC as follows:

$$E(Pol) = E(VOC) \times \frac{P(Pol)}{100}$$

**Equation 4-4** 

Where,

E(Pol) = Emissions of speciated VOC (lb/yr)

= Factor for converting percent to a fraction (%)

E(VOC) = Emissions of total VOC (lb/yr)

In addition to the emission factors and speciation values provided in Table 4-3, most vehicle and equipment manufacturers have data on emissions specific to their product, and many are willing to provide it upon request. HAPs emissions may be calculated using the following tables:

- Table 3-10 has the EPA's emission factors for uncontrolled diesel reciprocating internal combustion engines in a lb/1000hp-hr format and may be used to calculate HAPs directly using Equation 4-1.
- Table 4-3 gives the weight percent VOC/HAP speciation of VOC emissions for estimating specific VOCs/HAPs using Equation 4-4 above.

## 4.4 Information Resources

The primary source of information for most non-road vehicles and equipment is the Transportation Squadron. The Transportation Vehicle Operations Flight and/or the Transportation Vehicle Maintenance Flight typically maintain records on most Air Force owned non-road vehicles and equipment, such as identity of the shops/organizations operating the vehicles/equipment, horsepower rating of the vehicles/equipment, hours of operation, etc. In some cases, it may be necessary to contact the actual organizations/shops using the vehicles/equipment to obtain information that Transportation does not have. For example, for construction equipment and lawn/garden equipment, it will probably be necessary to contact the Civil Engineering (CE) Operations Flight, the CE Engineering Flight, and the CE Housing Flight, or a similar organization if base housing has been privatized.

It is important to note that many of the construction and lawn care activities at Air Force installations are performed via contractors, and therefore, it might be necessary to contact the contractors directly to obtain the necessary information on their equipment. The Contracts section of the CE Engineering Flight should be able to provide information on what equipment was used to perform construction and lawn care activities on base during the year.

In addition, some non-road engines and equipment (such as leaf blowers, trimmers/edgers, snow blowers, etc.) operated on Air Force installations may be owned by personnel who live on base. Since this equipment is privately owned, obtaining this information is usually more difficult than for Air Force owned equipment. One approach to obtaining the necessary information is to work with the CE Housing Flight to identify the types of non-road equipment used in base housing, estimate the number of each different equipment type, estimate the average horsepower of each equipment type, and estimate the average operating time (hours per year) for each equipment type. If adequate resources and time are available, a more comprehensive approach would be to survey a representative number of housing units to determine the type/size of equipment used and the estimated usage. For non-road engines and equipment in which emissions are calculated using emission factors based on fuel usage (i.e., using "g/gal" emission factors), Fuels Supply may be a source of information regarding fuel consumption. An example of a data collection form which can be used to collect data necessary to estimate emissions from non-road vehicles and equipment is provided in Figure 4-1.

## 4.5 Example Calculations

The following section provides examples of how the equations and methodologies discussed earlier are applied to calculate emissions from non-road vehicle and equipment operations. The procedures are applied to each individual non-road engine and equipment, and for each pollutant for which emissions must be calculated. Emissions for all non-road vehicles and equipment and pollutants are then summed to obtain pollutant-specific, base-wide totals. Load factors, BSFCs and emission factors necessary for calculating emissions are obtained from Table 4-1, Table 4-2, and Table 4-3.

## 4.5.1 Problem 1 - Estimating Emissions Using the Horsepower/Load Factor Method

As part of its requirement to conduct an annual mobile source emissions inventory, Anytown AFB has collected information on the non-road vehicles and engines operating on the base. Calculate the CO emissions associated with the operation of diesel-powered forklifts on base. The following information was obtained from the base:

Equipment Type – Diesel powered forklift (SCC-2270003020)				
# of pieces	6			
Power Rating	85 hp			
Operating Time	200 hr/unit			

<u>Step 1</u> – Record the CO emission factor and load factor. The emission factor and typical load factor are given in Table 4-1 as **6.50lb/10<sup>3</sup> hp-hr** and **59** % respectively.

<u>Step 2</u> – Calculate the annual emissions for the six forklifts. Using the information in the table above and the values recorded in Step 1, the annual CO emissions for the six forklifts are calculated using Equation 4-1:

$$E(Pol) = OT \times \frac{LF}{100} \times hp \times \frac{1}{1000} \times EF(Pol) \times N$$

$$E(CO) = 200 \frac{hr}{unit} \times \frac{59\%}{100\%} \times 85(hp) \times \frac{1}{1000} \left(\frac{10^3 hp}{hp}\right) \times 6.50 \frac{lb}{10^3 hp - hr} \times 6 \frac{units}{yr}$$

$$E(CO) = 391.17 \frac{lb}{yr}$$

## 4.5.2 Problem 2 - Estimating Emissions Using Fuel Consumption

Anytown AFB operates gasoline fueled commercial lawn mowers to maintain the appearance of public areas on base. Calculate the VOC and formaldehyde emissions associated with operation of the lawnmowers on base. The following information was obtained from the base:

Equipment Type – 4-stroke gasoline lawnmower (SCC 2265004011)					
# of pieces	25				
Power rating	5 hp				
Fuel Consumption	40 gal each; 1000 gal total				

<u>Step 1</u> – Record the fuel density, VOC emission factor, and appropriate BSFC. The fuel density is provided in Table 3-2 and the VOC emission factor and BSFC value for gas powered commercial lawn mowers are provided in Table 4-1. The fuel density is given as **6.15 lb/gal** while the VOC emission factor and BSFC are given as **103.48** and **880 lb/10<sup>3</sup> hp-hr** respectively.

Step 2 - Calculate annual VOC emissions. Using the data from Step 1 and Equation 4-2:

$$E(Pol) = \frac{(FC \times D)}{BSFC} \times EF(Pol) \times N$$

$$E(VOC) = \frac{\left(40\frac{\text{gal}}{unit} \times 6.15\frac{\text{lb}}{\text{gal}}\right)}{880\frac{\text{lb}}{10^3 \ hp-hr}} \times 103.48 \frac{\text{lb}}{10^3 \ hp-hr} \times 25 \frac{units}{yr}$$

$$E(VOC) = 0.2795 \frac{10^3 hp - hr}{unit} \times 103.48 \frac{lb}{10^3 hp - hr} \times 25 \frac{units}{yr}$$

$$E(VOC) = 723.07 \frac{lb}{yr}$$

Next, calculate formaldehyde emissions.

# <u>Step 3</u> – Record Formaldehyde weight percent VOC emissions for 4-stroke gasoline engines. Table 4-3 states this value is **1.17**.

<u>Step 4</u> - Calculate annual formaldehyde emissions. Using the formaldehyde weight percent recorded in Step 3 and Equation 4-4:

$$E(HAP) = E(VOC) \times \frac{WP(HAP)}{100}$$

$$E(Formaldehyde) = 723.07 \frac{lb}{vr} \times \frac{1.17\%}{100\%}$$

$$E(Formaldehyde) = 723.07 \frac{lb}{yr} \times 0.0117$$

$$E(Formaldehyde) = 8.46 \frac{lb}{yr}$$

## 4.5.3 Problem 3 - Estimating SO<sub>x</sub> Emissions

Anytown AFB needs to estimate SO<sub>x</sub> emissions from the operation of rough terrain forklifts. The following information was obtained from the base:

Equipment Data – Rough terrain forklifts (SCC 2270002057)					
# of pieces	5				
Fuel	Diesel				
Power rating	80 hp				
Model year	1997				
Fuel Consumption	200 gal (each); 1000 gal (total)				
Hours of operation	250 hr/unit (each)				

Since the model year of the forklifts are pre-1998, then the emission factors applicable to these engines are found in Table 4-2 and not Table 4-1.

<u>Step 1</u> – Record the load factor and  $SO_X$  emission factor. According to Table 4-1, for diesel-powered rough terrain forklifts the typical load factor is **59%** and Table 4-2 states the  $SO_X$  emission factor is **2.05** lb/10<sup>3</sup> hp-hr.

<u>Step 2</u> –Calculate the total  $SO_X$  emissions. Using these values and the data in the table above, the  $SO_X$  emissions are calculated using Equation 4-1:

$$E(Pol) = OT \times \frac{LF}{100} \times hp \times \frac{1}{1000} \times EF(Pol) \times N$$

$$E(SO_X) = 250 \frac{hr}{unit} \times \frac{59\%}{100\%} \times 80 hp \times \frac{1}{1000} \left(\frac{10^3 hp}{hp}\right) \times 2.05 \frac{lb}{10^3 hp - hr} \times 5 \frac{units}{yr}$$

$$E(SO_X) = 120.95 \frac{lb}{yr}$$

## 4.5.4 Problem 4 - Estimating Emissions from the Use of B20

Anytown AFB has been blending B20 biodiesel into the non-road diesel fuel used to power its off-highway trucks. The normal sulfur content of the non-road diesel is 500 ppm. The following information was obtained from the base:

Equipment Data – Off-H	Highway Trucks (SCC 2270002051)
# of pieces	10
Fuel	B20/nonroad diesel (500 ppm blend)
Power rating	250 hp
Model year	2001
Hours of operation	200 hours (each); 2000 hours (total)

Estimate the NO<sub>X</sub> and PM<sub>10</sub> emissions from the operation of the vehicles.

<u>Step 1</u> – Record the NO<sub>x</sub> emission factor and load factor. Table 4-1 gives the emission factor and load factor as 11.27 lb/10<sup>3</sup> hp-hr and 59% respectively.

<u>Step 2</u> - Calculate annual NO<sub>X</sub> emissions. Use the emission factor and load factor recorded in Step 1, the data provided in the table, and Equation 4-1 as follows:

$$E(Pol) = OT \times \frac{LF}{100} \times hp \times \frac{1}{1000} \times EF(Pol) \times N$$

$$\mathbf{E}(NO_X) = 200 \frac{hr}{unit} \times \frac{59\%}{100\%} \times 250 \frac{hp}{r} \times \frac{1}{1000} \left(\frac{10^3 hp}{hp}\right) \times 11.27 \frac{lb}{10^3 hp - hr} \times 10 \frac{units}{yr} = 3324.65 \frac{lb}{yr}$$

<u>Step 3</u> - Adjust the estimated emissions to reflect the expected 2% increase in NO<sub>X</sub> attributable to the use of B20.

$$E(NO_X) = 3324.65 \frac{lb}{yr} \times \left(1 + \frac{2\%}{100\%}\right)$$

$$E(NO_X) = 3324.65 \frac{lb}{yr} \times (1.02)$$

$$E(NO_X) = 3391.14 \frac{lb}{yr}$$

Next, calculate PM<sub>10</sub> emissions.

Step 4 – Record the PM<sub>10</sub> emission factor. Table 4-1 lists this value as 0.57 lb/10<sup>3</sup> hp-hr.

<u>Step 5</u> - Calculate annual  $PM_{10}$  emissions. Use Equation 4-1, the emission factor recorded in Step 4 and the data provided in the table above as follows:

$$E(Pol) = OT \times \frac{LF}{100} \times hp \times \frac{1}{1000} \times EF(Pol) \times N$$

$$E(PM_{10}) = 200 \frac{hr}{unit} \times \frac{59\%}{100\%} \times 250 hp \times \frac{1}{1000} \left(\frac{10^3 hp}{hp}\right) \times 0.57 \frac{lb}{10^3 hp - hr} \times 10 \frac{units}{yr} = 168.15 \frac{lb}{yr}$$

 $\underline{\text{Step 6}}$  - Adjust the estimated emissions to reflect the expected 10% decrease in PM emissions attributable to the use of B20:

$$E(PM_{10}) = 168.15 \frac{lb}{yr} \times \left(1 - \frac{10\%}{100\%}\right)$$

$$E(PM_{10}) = 151.34 \frac{lb}{yr}$$

Table 4-1. Criteria Pollutant Emission Factors for Non-Road Engines and Equipment

SCC	F	Load Factor <sup>1</sup>	BSFC <sup>2</sup>		E	mission Fa	actors (lb/	1000 hp-h	r)	
scc	Equipment Description	(% Max Power)	(lb/1000 hp-hr)	СО	VOC	NO <sub>X</sub>	SO <sub>2</sub>	PM <sub>10</sub> <sup>(4)</sup>	PM <sub>2.5</sub> <sup>(5,6)</sup>	GHG <sup>7</sup>
2260001010	2 Stroke Motorcycles: Off- Road <sup>3</sup>	100	260	127.07	132.83	0.35	0.09	4.74	4.36	459.30
2260001020	2 Stroke Snowmobiles	34	1640	669.88	281.73	2.45	0.90	6.31	5.80	4488.97
2260001030	2 Stroke ATVs <sup>3</sup>	100	210	126.66	126.74	0.35	0.07	4.45	4.10	299.14
2260001060	2 Stroke Specialty Vehicles/Carts	58	1000	1534.50	56.73	6.77	0.64	0.31	0.28	3154.67
2260002006	2 Stroke Tampers/Rammers	55	680	784.87	197.63	2.54	0.33	20.46	18.83	1606.63
2260002009	2 Stroke Plate Compactors	55	830	645.23	128.11	3.11	0.49	16.87	15.52	2342.89
2260002021	2 Stroke Paving Equipment	59	830	649.75	124.74	3.13	0.49	17.00	15.64	2345.09
2260002027	2 Stroke Signal Boards/Light Plants	72	830	672.94	139.53	3.13	0.46	17.60	16.19	2320.84
2260002039	2 Stroke Concrete/Industrial Saws	78	630	762.36	141.58	2.09	0.33	21.21	19.52	1594.20
2260002054	2 Stroke Crushing/Proc. Equipment	85	830	672.94	125.02	3.13	0.46	17.60	16.19	2320.84
2260003030	2 Stroke Sweepers/Scrubbers	71	820	670.85	131.79	3.11	0.46	17.53	16.13	2311.74
2260003040	2 Stroke Other General Industrial Equipment	54	830	674.27	127.29	3.13	0.46	17.62	16.21	2325.25
2260004015	2 Stroke Rotary Tillers < 6 HP (Residential)	40	940	743.35	322.28	2.51	0.46	17.55	16.15	2332.73
2260004016	2 Stroke Rotary Tillers < 6 HP (Commercial)	40	900	695.06	203.43	2.76	0.49	17.22	15.84	2342.64
2260004020	2 Stroke Chain Saws < 6 HP (Residential)	70	900	700.37	281.71	2.76	0.49	17.07	15.70	2342.64
2260004021	2 Stroke Chain Saws < 6 HP (Commercial)	70	650	764.61	176.42	2.25	0.33	20.97	19.29	1643.27
2260004025	2 Stroke Trimmers/Edgers/Brush Cutter (Residential)	91	890	671.00	291.74	2.80	0.46	17.55	16.15	2331.33
2260004026	2 Stroke Trimmers/Edgers/Brush Cutter (Commercial)	91	810	663.79	152.78	3.00	0.46	17.27	15.88	2243.10
2260004030	2 Stroke Leaf blowers/Vacuums (Residential)	94	890	691.91	319.39	2.76	0.46	17.20	15.82	2340.15
2260004031	2 Stroke Leaf blowers/Vacuums (Commercial)	94	760	710.10	157.99	2.82	0.40	18.48	17.00	1996.95
2260004035	2 Stroke Snow blowers (Residential)	35	870	1211.32	750.65	0.64	0.22	19.23	17.69	1144.48
2260004036	2 Stroke Snow blowers (Commercial)	35	870	1211.25	570.21	0.64	0.22	19.23	17.69	1146.69

Table 4-1. Criteria Pollutant Emission Factors for Non-Road Engines and Equipment (cont.)

aga		Load Factor <sup>1</sup>	BSFC <sup>2</sup>		E	mission Fa	actors (lb/	1000 hp-h	ır)	
SCC	Equipment Description	(% Max Power)	(lb/1000 hp-hr)	CO	voc	NO <sub>X</sub>	SO <sub>2</sub>	PM <sub>10</sub> <sup>(4)</sup>	PM <sub>2.5</sub> <sup>(5,6)</sup>	GHG <sup>7</sup>
2260004071	2 Stroke Commercial Turf Equipment	60	840	643.37	119.05	3.09	0.49	16.69	15.36	2351.99
2260005035	2 Stroke Sprayers	65	840	586.99	156.69	3.06	0.49	17.53	16.13	2347.58
2260006005	2 Stroke Generator Sets	68	830	639.32	130.69	3.11	0.49	16.89	15.54	2351.71
2260006010	2 Stroke Pumps	69	830	617.31	131.46	3.15	0.46	18.35	16.88	2316.43
2260006015	2 Stroke Air Compressors	56	830	672.64	123.63	3.13	0.46	17.60	16.19	2318.63
2260006035	2 Stroke Hydro Power Units	56	830	672.55	122.60	3.13	0.46	17.57	16.17	2318.63
2260007005	2 Stroke Chain Saws > 6 HP	70	620	779.31	165.53	2.12	0.31	21.52	19.80	1541.00
2265001010	4 Stroke Motorcycles: Off- Road	100	160	113.12	12.00	0.88	0.11	0.15	0.14	491.78
2265001030	4 Stroke ATVs	100	170	116.58	13.16	0.86	0.11	0.15	0.14	520.73
2265001050	4 Stroke Golf Carts	46	740	1795.27	26.68	6.13	0.49	0.29	0.26	2322.73
2265001060	4 Stroke Specialty Vehicles/Carts	58	820	1340.31	66.22	7.70	0.53	0.29	0.26	2558.70
2265002003	4 Stroke Pavers	66	700	1315.79	22.84	7.85	0.44	0.24	0.22	2191.51
2265002006	4 Stroke Tampers/Rammers	55	760	1554.83	29.64	6.57	0.49	0.26	0.24	2371.80
2265002009	4 Stroke Plate Compactors	55	830	1537.63	66.66	6.95	0.51	0.46	0.43	2481.80
2265002015	4 Stroke Rollers	62	690	1376.85	20.40	7.12	0.44	0.24	0.22	2173.59
2265002021	4 Stroke Paving Equipment	59	780	1519.71	45.78	6.95	0.49	0.33	0.30	2409.84
2265002024	4 Stroke Surfacing Equipment	49	750	1619.75	35.10	6.42	0.49	0.31	0.28	2340.65
2265002027	4 Stroke Signal Boards/Light Plants	72	780	1655.56	49.48	6.28	0.49	0.40	0.37	2394.41
2265002030	4 Stroke Trenchers	66	710	1315.26	30.16	7.96	0.44	0.29	0.26	2211.64
2265002033	4 Stroke Bore/Drill Rigs	79	790	1204.13	70.58	9.66	0.49	0.44	0.41	2355.00
2265002039	4 Stroke Concrete/Industrial Saws	78	710	1595.89	21.30	6.35	0.46	0.26	0.24	2242.51
2265002042	4 Stroke Cement & Mortar Mixers	59	820	1479.42	60.77	7.34	0.51	0.35	0.32	2507.98

Table 4-1. Criteria Pollutant Emission Factors for Non-Road Engines and Equipment (cont.)

222		Load Factor <sup>1</sup>	BSFC <sup>2</sup>		E	mission F	actors (lb/	1000 hp-h	ır)	
SCC	Equipment Description	(% Max Power)	(lb/1000 hp-hr)	co	VOC	NO <sub>X</sub>	SO <sub>2</sub>	PM <sub>10</sub> <sup>(4)</sup>	PM <sub>2.5</sub> <sup>(5,6)</sup>	GHG <sup>7</sup>
2265002045	4 Stroke Cranes	47	590	483.31	16.56	14.22	0.37	0.15	0.14	1873.12
2265002054	4 Stroke Crushing/Proc. Equipment	85	740	1511.81	32.13	7.23	0.46	0.29	0.26	2294.06
2265002057	4 Stroke Rough Terrain Forklifts	63	570	335.20	13.69	13.76	0.37	0.15	0.14	1790.98
2265002060	4 Stroke Rubber Tire Loaders	71	550	292.32	11.86	12.39	0.35	0.15	0.14	1748.52
2265002066	4 Stroke Tractors/Loaders/ Backhoes	48	730	1589.56	22.60	6.46	0.46	0.26	0.24	2287.17
2265002072	4 Stroke Skid Steer Loaders	58	640	809.50	20.35	11.47	0.42	0.20	0.18	2017.84
2265002078	4 Stroke Dumpers/Tenders	41	800	1448.35	55.06	7.47	0.51	0.31	0.28	2485.37
2265002081	4 Stroke Other Construction Equipment	48	580	354.41	15.59	15.44	0.37	0.15	0.14	1826.53
2265003010	4 Stroke Aerial Lifts	46	630	685.16	20.77	14.60	0.40	0.18	0.16	1986.69
2265003020	4 Stroke Forklifts	30	560	330.18	13.05	14.00	0.37	0.15	0.14	1784.08
2265003030	4 Stroke Sweepers/Scrubbers	71	610	742.23	17.04	9.35	0.40	0.20	0.18	1917.78
2265003040	4 Stroke Other General Industrial Equipment	54	760	1481.10	46.70	7.12	0.46	0.37	0.34	2312.26
2265003050	4 Stroke Other Material Handling Equipment	53	640	766.81	20.99	13.69	0.42	0.20	0.18	2013.43
2265003060	4 Stroke AC/Refrigeration	46	740	1637.19	28.27	6.22	0.49	0.26	0.24	2335.96
2265003070	4 Stroke Terminal Tractors	78	520	224.05	8.27	9.02	0.33	0.15	0.14	1663.89
2265004010	4 Stroke Lawn mowers (Residential)	33	900	1430.49	160.17	7.59	0.53	0.60	0.55	2624.88
2265004011	4 Stroke Lawn mowers (Commercial)	33	880	1531.13	103.48	7.19	0.53	0.62	0.57	2562.58
2265004015	4 Stroke Rotary Tillers < 6 HP (Residential)	40	910	1435.23	164.58	7.65	0.53	0.62	0.57	2649.41
2265004016	4 Stroke Rotary Tillers < 6 HP (Commercial)	40	890	1451.02	100.50	7.50	0.53	0.60	0.55	2598.14
2265004025	4 Stroke Trimmers/Edgers/Brush Cutter HP (Residential)	91	900	1456.87	172.41	7.54	0.53	0.62	0.57	2618.26
2265004026	4 Stroke Trimmers/Edgers/Brush Cutter (Commercial)	91	820	1576.80	76.12	6.77	0.51	0.46	0.43	2466.09
2265004030	4 Stroke Leaf blowers/Vacuums (Residential)	94	900	1459.51	168.68	7.56	0.53	0.64	0.59	2629.29

Table 4-1. Criteria Pollutant Emission Factors for Non-Road Engines and Equipment (cont.)

ecc	F	Load Factor <sup>1</sup>	BSFC <sup>2</sup>		E	mission Fa	actors (lb/	1000 hp-h	r)	
SCC	Equipment Description	(% Max Power)	(lb/1000 hp-hr)	CO	VOC	NO <sub>X</sub>	SO <sub>2</sub>	PM <sub>10</sub> <sup>(4)</sup>	PM <sub>2.5</sub> <sup>(5,6)</sup>	GHG <sup>7</sup>
2265004031	4 Stroke Leaf blowers/Vacuums (Commercial)	94	700	1308.73	26.17	8.05	0.44	0.24	0.22	2198.13
2265004035	4 Stroke Snow blowers (Residential)	35	940	1556.29	183.87	7.08	0.60	0.24	0.22	2947.93
2265004036	4 Stroke Snow blowers (Commercial)	35	940	1556.11	47.72	7.08	0.60	0.24	0.22	2947.93
2265004040	4 Stroke Rear Engine Riding Mowers (Residential)	38	760	1520.17	74.62	6.79	0.49	0.26	0.24	2391.64
2265004041	4 Stroke Rear Engine Riding Mowers (Commercial)	38	740	1612.03	25.84	6.22	0.49	0.26	0.24	2338.16
2265004046	4 Stroke Front Mowers	65	790	1467.91	47.39	7.23	0.51	0.29	0.26	2478.48
2265004051	4 Stroke Shredders < 6 HP	80	890	1439.64	107.93	7.50	0.53	0.60	0.55	2600.34
2265004055	4 Stroke Lawn & Garden Tractors (Residential)	44	760	1515.52	60.57	6.86	0.49	0.26	0.24	2400.46
2265004056	4 Stroke Lawn & Garden Tractors (Commercial)	44	740	1611.02	24.26	6.24	0.49	0.26	0.24	2338.16
2265004066	4 Stroke Chippers/Stump Grinders	78	640	960.78	16.78	8.82	0.42	0.20	0.18	2013.43
2265004071	4 Stroke Commercial Turf Equipment	60	730	1438.01	28.97	6.28	0.46	0.29	0.26	2271.73
2265004075	4 Stroke Other Lawn & Garden Equipment	58	850	1440.00	85.05	7.45	0.53	0.44	0.41	2572.77
2265004076	4 Stroke Other Lawn & Garden Equipment	58	850	1433.38	85.86	7.50	0.53	0.44	0.41	2568.36
2265005010	4 Stroke 2-Wheel Tractors	62	740	1653.35	25.42	6.15	0.49	0.26	0.24	2329.34
2265005015	4 Stroke Agricultural Tractors	62	580	490.61	13.12	11.42	0.37	0.18	0.16	1833.15
2265005020	4 Stroke Combines	74	580	356.81	21.15	16.16	0.37	0.15	0.14	1841.97
2265005025	4 Stroke Balers	62	580	356.90	24.56	16.18	0.37	0.15	0.14	1841.97
2265005030	4 Stroke Agricultural Mowers	48	770	1514.77	34.02	6.88	0.49	0.26	0.24	2416.18
2265005035	4 Stroke Sprayers	65	740	1076.59	50.74	10.36	0.46	0.31	0.28	2298.47
2265005040	4 Stroke Tillers > 6 HP	71	870	1443.48	56.40	6.20	0.55	0.24	0.22	2705.62
2265005045	4 Stroke Swathers	52	580	356.90	21.17	16.18	0.37	0.15	0.14	1841.97
2265005055	4 Stroke Other Agricultural Equipment	55	620	587.81	22.49	14.31	0.40	0.18	0.16	1966.57

Table 4-1. Criteria Pollutant Emission Factors for Non-Road Engines and Equipment (cont.)

nga	F	Load Factor <sup>1</sup>	BSFC <sup>2</sup>		E	mission Fa	actors (lb/	1000 hp-h	ır)	
SCC	Equipment Description	(% Max Power)	(lb/1000 hp-hr)	CO	VOC	NO <sub>X</sub>	SO <sub>2</sub>	PM <sub>10</sub> <sup>(4)</sup>	PM <sub>2.5</sub> <sup>(5,6)</sup>	GHG <sup>7</sup>
2265005060	4 Stroke Irrigation Sets	60	550	300.87	11.84	10.96	0.35	0.15	0.14	1735.29
2265006005	4 Stroke Generator Sets	68	780	1507.10	46.33	6.95	0.51	0.31	0.28	2434.10
2265006010	4 Stroke Pumps	69	760	1375.48	49.99	7.72	0.49	0.37	0.34	2325.49
2265006015	4 Stroke Air Compressors	56	700	1160.36	31.86	8.47	0.44	0.29	0.26	2167.26
2265006025	4 Stroke Welders	68	710	1422.95	25.20	7.47	0.46	0.24	0.22	2224.87
2265006030	4 Stroke Pressure Washers	85	800	1547.98	55.24	6.77	0.51	0.37	0.34	2434.66
2265006035	4 Stroke Hydro Power Units	56	750	1600.17	33.82	6.39	0.49	0.31	0.28	2334.03
2265007010	4 Stroke Shredders > 6 HP	80	800	1445.66	45.05	7.36	0.51	0.29	0.26	2503.01
2265007015	4 Stroke Forest Equipment - Feller/Bunch/Skidder	70	810	1647.29	58.61	6.35	0.49	0.46	0.43	2432.73
2265008005	4 Stroke Airport Ground Support Equipment	56	600	577.42	18.30	10.63	0.37	0.20	0.18	1871.19
2265010010	4 Stroke Other Oil Field Equipment	90	740	1795.20	21.28	6.13	0.49	0.29	0.26	2322.73
2267001060	LPG Specialty Vehicle Carts	58	490	102.03	6.35	23.24	0.02	0.13	0.13	1472.22
2267002003	LPG Pavers	66	460	94.42	4.98	17.79	0.02	0.13	0.13	1393.87
2267002015	LPG Rollers	62	450	89.39	4.08	14.38	0.02	0.13	0.13	1344.97
2267002021	LPG Paving Equipment	59	480	98.67	5.80	21.08	0.02	0.13	0.13	1440.96
2267002024	LPG Surfacing Equipment	49	460	93.76	4.83	17.20	0.02	0.13	0.13	1385.05
2267002030	LPG Trenchers	66	460	95.08	5.09	18.19	0.02	0.13	0.13	1398.28
2267002033	LPG Bore/Drill Rigs	79	490	100.28	6.17	22.71	0.02	0.13	0.13	1465.60
2267002039	LPG Concrete/Industrial Saws	78	430	84.67	3.29	11.36	0.02	0.13	0.13	1302.30
2267002045	LPG Cranes	47	480	98.72	5.80	21.06	0.02	0.13	0.13	1440.96
2267002054	LPG Crushing/Proc. Equipment	85	480	98.41	5.73	20.82	0.02	0.13	0.13	1436.55
2267002057	LPG Rough Terrain Forklifts	63	470	96.51	5.36	19.25	0.02	0.13	0.13	1414.11

Table 4-1. Criteria Pollutant Emission Factors for Non-Road Engines and Equipment (cont.)

aga	F 1 (F 1)	Load Factor <sup>1</sup>	BSFC <sup>2</sup>		E	mission Fa	actors (lb/	1000 hp-h	ır)	
SCC	Equipment Description	(% Max Power)	(lb/1000 hp-hr)	co	VOC	NO <sub>X</sub>	SO <sub>2</sub>	PM <sub>10</sub> <sup>(4)</sup>	PM <sub>2.5</sub> <sup>(5,6)</sup>	GHG <sup>7</sup>
2267002060	LPG Rubber Tire Loaders	71	460	94.04	4.85	17.24	0.02	0.13	0.13	1385.05
2267002066	LPG Tractors/Loaders/ Backhoes	48	450	91.55	4.41	15.57	0.02	0.13	0.13	1362.61
2267002072	LPG Skid Steer Loaders	58	470	97.64	5.60	20.22	0.02	0.13	0.13	1429.54
2267002081	LPG Other Construction Equipment	48	480	99.09	5.89	21.45	0.02	0.13	0.13	1445.37
2267003010	LPG Aerial Lifts	46	480	97.88	5.71	20.82	0.02	0.13	0.13	1436.55
2267003020	LPG Forklifts	30	460	93.54	4.83	17.15	0.02	0.13	0.13	1385.05
2267003030	LPG Sweepers/Scrubbers	71	440	88.22	3.88	13.58	0.02	0.13	0.13	1333.56
2267003040	LPG Other General Industrial Equipment	54	450	90.76	4.37	15.41	0.02	0.13	0.13	1360.41
2267003050	LPG Other Material Handling Equipment	53	480	97.70	5.67	20.59	0.02	0.13	0.13	1434.34
2267003070	LPG Terminal Tractors	78	430	84.74	3.29	11.40	0.02	0.13	0.13	1302.30
2267004066	LPG Chippers/Stump Grinders	78	450	92.24	4.56	16.16	0.02	0.13	0.13	1371.43
2267005055	LPG Other Agricultural Equipment	55	490	103.39	6.50	23.68	0.02	0.13	0.13	1478.83
2267005060	LPG Irrigation Sets	60	450	93.23	4.61	16.25	0.02	0.13	0.13	1371.43
2267006005	LPG Generator Sets	68	480	66.39	4.28	20.86	0.02	0.13	0.13	1449.78
2267006010	LPG Pumps	69	470	65.49	3.88	18.74	0.02	0.13	0.13	1420.72
2267006015	LPG Air Compressors	56	460	64.87	3.62	17.33	0.02	0.13	0.13	1402.69
2267006025	LPG Welders	68	460	93.69	5.05	18.21	0.02	0.13	0.13	1400.49
2267006030	LPG Pressure Washers	85	470	95.54	5.49	20.18	0.02	0.13	0.13	1429.54
2267006035	LPG Hydro Power Units	56	460	63.33	3.24	15.59	0.02	0.13	0.13	1378.44
2267008005	LPG Airport Ground Support Equipment	56	450	91.40	4.52	16.10	0.02	0.13	0.13	1369.23
2268002081	CNG Other Construction Equipment	48	480	99.09	0.35	21.45	0.02	0.13	0.13	2885.02
2268003020	CNG Forklifts	30	460	93.91	0.29	17.29	0.02	0.13	0.13	2783.74

Table 4-1. Criteria Pollutant Emission Factors for Non-Road Engines and Equipment (cont.)

aga	F	Load Factor <sup>1</sup>	BSFC <sup>2</sup>		E	mission F	actors (lb/	1000 hp-h	ır)	
SCC	Equipment Description	(% Max Power)	(lb/1000 hp-hr)	со	VOC	NO <sub>X</sub>	SO <sub>2</sub>	PM <sub>10</sub> <sup>(4)</sup>	PM <sub>2.5</sub> <sup>(5,6)</sup>	GHG <sup>7</sup>
2268003030	CNG Sweepers/Scrubbers	71	460	93.84	0.29	17.20	0.02	0.13	0.13	2783.74
2268003040	CNG Other General Industrial Equipment	54	460	92.92	0.29	16.67	0.02	0.13	0.13	2779.33
2268003060	CNG AC\Refrigeration	46	450	90.85	0.26	15.30	0.02	0.13	0.13	2733.09
2268003070	CNG Terminal Tractors	78	430	85.02	0.20	11.51	0.02	0.13	0.13	2636.22
2268005055	CNG Other Agricultural Equipment	55	510	120.57	0.46	27.23	0.02	0.13	0.13	3010.48
2268005060	CNG Irrigation Sets	60	510	121.21	0.46	27.03	0.02	0.13	0.13	3008.28
2268006005	CNG Generator Sets	68	490	68.24	0.26	21.98	0.02	0.13	0.13	2977.56
2268006010	CNG Pumps	69	480	67.47	0.24	20.44	0.02	0.13	0.13	2929.12
2268006015	CNG Air Compressors	56	470	66.30	0.22	18.32	0.02	0.13	0.13	2878.48
2268006020	CNG Gas Compressors	85	410	16.47	0.02	2.54	0.02	0.13	0.13	2583.45
2268006035	CNG Hydro Power Units	56	470	66.44	0.31	18.68	0.02	0.13	0.13	2834.38
2268010010	CNG Other Oil Field Equipment	90	410	67.96	0.11	6.22	0.02	0.13	0.13	2541.55
2270001060	Diesel Specialty Vehicle Carts	21	450	17.29	4.56	15.92	0.99	2.54	2.45	1443.83
2270002003	Diesel Pavers	59	380	4.76	0.90	10.72	0.84	0.88	0.84	1223.54
2270002006	Diesel Tampers/Rammers	43	1000	10.83	2.51	15.83	2.23	1.72	1.68	3214.63
2270002009	Diesel Plate Compactors	43	410	9.92	2.43	14.99	0.90	1.72	1.68	1308.18
2270002015	Diesel Rollers	59	390	5.78	1.01	11.09	0.86	0.99	0.97	1243.67
2270002018	Diesel Scrapers	59	370	4.70	0.66	10.98	0.82	0.68	0.66	1192.39
2270002021	Diesel Paving Equipment	59	390	6.26	1.15	11.69	0.86	1.06	1.04	1237.06
2270002024	Diesel Surfacing Equipment	59	380	7.92	1.23	13.27	0.86	1.19	1.17	1232.36
2270002027	Diesel Signal Boards/Light Plants	43	410	7.32	2.03	13.08	0.90	1.35	1.30	1301.57
2270002030	Diesel Trenchers	59	400	8.05	1.32	11.95	0.88	1.32	1.28	1283.65

Table 4-1. Criteria Pollutant Emission Factors for Non-Road Engines and Equipment (cont.)

ECC	F	Load Factor <sup>1</sup>	BSFC <sup>2</sup>		E	mission F	actors (lb/	1000 hp-h	ır)	
SCC	Equipment Description	(% Max Power)	(lb/1000 hp-hr)	CO	VOC	NO <sub>X</sub>	SO <sub>2</sub>	PM <sub>10</sub> <sup>(4)</sup>	PM <sub>2.5</sub> <sup>(5,6)</sup>	GHG <sup>7</sup>
2270002033	Diesel Bore/Drill Rigs	43	370	5.49	1.32	15.37	0.84	1.06	1.01	1199.00
2270002036	Diesel Excavators	59	380	3.75	0.75	10.03	0.84	0.71	0.68	1203.70
2270002039	Diesel Concrete/Industrial Saws	59	410	8.78	1.41	11.69	0.90	1.46	1.41	1314.80
2270002042	Diesel Cement & Mortar Mixers	43	390	7.17	1.81	15.79	0.86	1.35	1.30	1252.49
2270002045	Diesel Cranes	43	370	3.02	0.84	12.06	0.82	0.64	0.62	1185.77
2270002048	Diesel Graders	59	370	3.33	0.75	10.05	0.82	0.68	0.66	1194.59
2270002051	Diesel Off-highway Trucks	59	370	3.66	0.64	11.27	0.82	0.57	0.55	1192.39
2270002054	Diesel Crushing/Proc. Equipment	43	380	4.21	0.99	12.72	0.84	0.79	0.77	1212.52
2270002057	Diesel Rough Terrain Forklifts	59	390	7.30	1.23	11.71	0.88	1.21	1.17	1265.72
2270002060	Diesel Rubber Tire Loaders	59	370	4.87	0.86	11.75	0.84	0.82	0.79	1199.00
2270002066	Diesel Tractors/Loaders/ Backhoes	21	460	14.64	3.42	15.61	1.01	2.36	2.27	1472.77
2270002069	Diesel Crawler Tractor/Dozers	59	370	4.50	0.77	11.09	0.84	0.73	0.71	1199.00
2270002072	Diesel Skid Steer Loaders	21	480	19.58	4.85	16.01	1.06	3.11	3.02	1532.88
2270002075	Diesel Off-Highway Tractors	59	370	6.11	0.93	12.97	0.82	0.84	0.82	1192.39
2270002078	Diesel Dumpers/Tenders	21	470	18.74	5.01	16.43	1.04	3.11	3.00	1512.75
2270002081	Diesel Other Construction Equipment	59	370	6.46	0.99	13.01	0.82	0.95	0.93	1194.59
2270003010	Diesel Aerial Lifts	21	480	18.65	4.94	17.46	1.06	2.95	2.87	1535.08
2270003020	Diesel Forklifts	59	400	6.50	0.90	9.97	0.88	0.90	0.88	1274.83
2270003030	Diesel Sweepers/Scrubbers	43	380	3.42	0.93	11.11	0.86	0.75	0.73	1227.95
2270003040	Diesel Other General Industrial Equipment	43	380	3.75	1.04	12.33	0.84	0.79	0.77	1214.72
2270003050	Diesel Other Material Handling Equipment	21	440	12.08	3.37	18.32	0.99	2.18	2.12	1419.29
2270003060	Diesel AC\Refrigeration	43	410	5.45	1.12	11.58	0.90	1.01	0.97	1310.39

Table 4-1. Criteria Pollutant Emission Factors for Non-Road Engines and Equipment (cont.)

aga	F	Load Factor <sup>1</sup>	BSFC <sup>2</sup>		E	mission Fa	actors (lb/	1000 hp-h	nr)	
SCC	Equipment Description	(% Max Power)	(lb/1000 hp-hr)	co	VOC	NO <sub>X</sub>	SO <sub>2</sub>	PM <sub>10</sub> <sup>(4)</sup>	PM <sub>2.5</sub> <sup>(5,6)</sup>	GHG <sup>7</sup>
2270003070	Diesel Terminal Tractors	59	380	3.57	0.77	9.44	0.84	0.71	0.68	1210.31
2270004031	Diesel Leaf blowers/Vacuums	43	410	9.28	2.78	15.26	0.90	1.59	1.54	1305.98
2270004036	Diesel Snow blowers	43	370	4.70	1.15	13.60	0.82	0.86	0.84	1179.16
2270004046	Diesel Front Mowers	43	410	7.28	2.01	13.03	0.90	1.37	1.32	1308.18
2270004056	Diesel Lawn & Garden Tractors	43	410	7.47	2.07	12.94	0.90	1.30	1.26	1308.18
2270004066	Diesel Chippers/Stump Grinders	43	380	5.67	1.39	13.69	0.84	1.08	1.06	1225.75
2270004071	Diesel Commercial Turf Equipment	43	400	4.28	1.04	11.29	0.88	0.88	0.86	1272.62
2270004076	Diesel Other Lawn & Garden Equipment	43	410	7.54	1.94	13.83	0.90	1.46	1.41	1301.57
2270005010	Diesel 2-Wheel Tractors	59	410	15.61	2.12	12.37	0.90	1.92	1.85	1321.41
2270005015	Diesel Agricultural Tractors	59	380	7.23	1.39	13.30	0.84	1.32	1.30	1219.13
2270005020	Diesel Combines	59	370	5.71	1.32	15.04	0.82	1.61	1.54	1194.59
2270005025	Diesel Balers	59	400	9.44	2.36	13.41	0.88	1.87	1.83	1277.03
2270005030	Diesel Agricultural Mowers	59	410	11.36	2.05	14.13	0.90	2.12	2.05	1321.41
2270005035	Diesel Sprayers	59	380	7.21	2.01	13.38	0.84	1.52	1.48	1203.70
2270005040	Diesel Tillers > 6 HP	59	370	8.33	1.37	13.56	0.84	1.19	1.15	1194.59
2270005045	Diesel Swathers	59	400	8.60	1.72	14.99	0.90	1.96	1.92	1292.47
2270005055	Diesel Other Agricultural Equipment	59	380	7.50	1.59	14.16	0.84	1.57	1.50	1203.70
2270005060	Diesel Irrigation Sets	43	390	4.92	1.37	12.83	0.86	1.08	1.04	1243.67
2270006005	Diesel Generator Sets	43	390	6.95	1.85	13.98	0.88	1.35	1.30	1261.31
2270006010	Diesel Pumps	43	390	6.92	1.76	14.09	0.88	1.37	1.32	1261.31
2270006015	Diesel Air Compressors	43	400	5.49	1.30	12.55	0.88	1.08	1.06	1274.83
2270006020	Diesel Gas Compressors	43	410	5.69	0.95	10.67	0.90	0.77	0.75	1312.59

**Table 4-1. Criteria Pollutant Emission Factors for Non-Road Engines and Equipment** (cont.)

ggg	T	Load Factor <sup>1</sup>	BSFC <sup>2</sup>		E	mission Fa	actors (lb/	1000 hp-h	r)	
SCC	Equipment Description	(% Max Power)	(lb/1000 hp-hr)	со	VOC	NO <sub>X</sub>	SO <sub>2</sub>	PM <sub>10</sub> <sup>(4)</sup>	PM <sub>2.5</sub> <sup>(5,6)</sup>	GHG <sup>7</sup>
2270006025	Diesel Welders	21	480	20.31	5.12	15.19	1.06	3.06	2.98	1532.88
2270006030	Diesel Pressure Washers	43	380	6.33	1.83	14.18	0.86	1.12	1.10	1232.36
2270006035	Diesel Hydro Power Units	43	400	5.60	1.35	12.50	0.88	1.10	1.08	1281.44
2270007015	Diesel Forest Equipment - Feller/Bunch/Skidder	59	370	3.26	0.71	9.57	0.84	0.66	0.64	1196.80
2270008005	Diesel Airport Ground Support Equipment	59	380	4.96	0.88	11.44	0.84	0.82	0.79	1205.90
2270009010	Diesel Other Underground Mining Equipment	21	450	15.35	3.75	17.46	0.99	2.36	2.29	1432.80
2270010010	Diesel Other Oil Field Equipment	43	370	3.70	0.88	13.10	0.82	0.66	0.64	1183.57
2282005010	2 Stroke Outboard	21	850	419.61	235.67	5.93	0.44	3.31	3.04	2217.76
2282005015	2 Stroke Personal Water Craft	21	820	404.73	160.85	4.85	0.44	2.93	2.70	2208.10
2282010005	4 Stroke Inboard/Sterndrive	21	630	341.09	38.54	14.24	0.40	0.15	0.14	1982.28
2282020005	Diesel Inboard/Sterndrive	35	370	2.36	0.53	14.46	0.95	0.33	0.31	1183.57
2282020010	Diesel Outboards	35	410	8.40	2.71	13.21	1.06	1.57	1.52	1305.98
2285002015	Diesel Railway Maintenance	21	440	12.74	3.02	16.47	0.97	2.16	2.09	1408.26
2285004015	4 Stroke Railway Maintenance	62	750	1507.93	32.74	6.92	0.49	0.29	0.26	2345.06
2285006015	LPG Railway Maintenance	62	480	97.99	5.64	20.42	0.02	0.13	0.13	1432.14

- 1. Load factor and activity data obtained from EPA Office of Transportation Air Quality and were derived from *Median Life*, *Annual Activity*, *and Load Factor Values for Nonroad Engine Emissions Modeling*, EPA 420-P-005, NR-005c, April 2004.
- 2. BSFC and emission factors obtained from EPA Office of Transportation Air Quality and were derived from Exhaust Emission Factors for Nonroad Engine Modeling: Spark-Ignition, EPA 420-R-019, NR-010e, December 2005, and Exhaust Emission Factors for Nonroad Engine Modeling: Compression-Ignition, EPA 420-P-04-009, NR-009c, April 2004. The emission factors are composite emission factors that represent the national mix of model years and technology types believed to be in existence in 2007. They represent in-use emissions, and take into account NONROAD model deterioration and transient adjustment factors across the model years.
- 3. Activities for off-road motorcycles and all-terrain vehicles are in units of miles per year instead of hours per year.
- 4. PM<sub>10</sub> is assumed to be equivalent to total PM for gasoline engines.
- 5. For gasoline engines, PM<sub>2.5</sub> is assumed to be 92% of the PM<sub>10</sub> value.
- 6. For LPG and CNG engines, all PM is assumed to be PM<sub>2.5</sub>.
- 7. The greenhouse gas (GHG) emission factors are the total of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. CH<sub>4</sub> and N<sub>2</sub>O were converted to equivalent CO<sub>2</sub> (CO<sub>2</sub>e) using a global warming potential (GWP) value of 25 for CH<sub>4</sub> and 298 for N<sub>2</sub>O. These were added to the CO<sub>2</sub> emission factor and are presented as the GHG emission factors in units of lb/1000hp-hr. Calculations were made using the stated BSFC, the fuel density in Table 3-2, and if the fuel was not stated, it was assumed to be gasoline.

Table 4-2. Pre-1998 Non-Road CI Engine Criteria Pollutant Emission Factors (Power Rating >50 hp)

		Emission Factors (lb/1000 hp-hr)						
<b>Equipment Description</b>	CO		NO <sub>X</sub>	-	PM <sub>10</sub> <sup>(2)</sup>	•	GTT G4	
Construction Equipment	CO	VOC1	$NO_X$	$SO_X$	PM <sub>10</sub>	PM <sub>2.5</sub> <sup>(3)</sup>	GHG <sup>4</sup>	
Asphalt Pavers	7.05	1.35	22.71	2.05	1.09	1.92	1297.83	
Plate Compactors	6.83	1.82	20.50	2.05	1.98 1.98	1.92	1297.83	
Concrete Pavers	10.08	2.48	22.09	2.05	1.98	1.92	1297.83	
	6.83	1.81			1.72		1297.83	
Rollers			20.50	2.20		1.67		
Scrapers	11.02	1.57	19.18	1.98	2.78	2.69	1297.83	
Paving Equipment	10.14	2.28	24.27	1.98	1.98	1.92	1297.83	
Signal Boards	11.02	2.71	17.64	2.05	2.20	2.14	1297.83	
Trenchers	20.15	3.47	22.09	2.05	3.17	3.08	1297.83	
Bore/Drill Rigs	20.28	3.18	24.27	2.05	3.17	3.08	1297.83	
Excavators	11.46	1.57	23.70	2.05	3.17	3.08	1297.83	
Concrete/Industrial Saws	20.28	3.18	24.27	2.05	3.17	3.08	1297.83	
Cement and Mortar Mixers	10.14	2.28	24.27	2.05	1.98	1.92	1297.83	
Cranes	9.26	2.85	22.71	2.05	3.17	3.08	1297.83	
Graders	8.38	3.47	21.16	1.92	2.20	2.14	1297.83	
Off-Highway Trucks	6.17	1.90	21.16	1.96	1.76	1.71	1297.83	
Crushing/Processing Equipment	20.28	3.18	24.27	2.05	3.17	3.08	1297.83	
Rough Terrain Forklifts	22.05	3.78	17.64	2.05	3.53	3.42	1297.83	
Rubber Tired Dozers	6.17	1.90	21.16	2.05	1.46	1.41	1297.83	
Tractors/Loaders/Backhoes	14.99	3.16	22.27	1.87	2.31	2.25	1297.83	
Crawler Tractors	10.58	2.85	22.71	1.87	2.45	2.37	1297.83	
Skid Steer Loaders	19.84	4.72	21.16	2.05	3.17	3.08	1297.83	
Off-Highway Tractors	32.36	5.54	26.26	2.05	4.48	4.34	1297.83	
Dumpers/Tenders	6.17	1.90	21.16	1.96	3.17	3.08	1297.83	
Other Construction Equipment	20.28	3.18	24.27	2.05	3.17	3.08	1297.83	
Industrial Equipment								
Aerial Lifts	13.36	3.53	30.86	2.05	3.53	3.42	1297.83	
Forklifts	13.36	3.53	30.86	2.05	3.53	3.42	1297.83	
Sweepers/Scrubbers	13.36	3.53	30.86	2.05	3.53	3.42	1297.83	
Other General Equipment	13.36	3.53	30.86	2.05	3.53	3.42	1297.83	
Other Material Handling Equipment	13.36	3.53	30.86	2.05	3.53	3.42	1297.83	
Lawn and Garden Equipment								
Rear Engine Riding Mowers	11.02	2.70	17.64	2.05	2.20	2.14	1297.83	
Lawn and Garden Tractors	11.02	2.70	17.64	2.05	2.20	2.14	1297.83	
Wood Splitters	11.02	2.70	17.64	2.05	2.20	2.14	1297.83	
Chippers/Stump Grinders	11.02	2.70	17.64	2.05	2.20	2.14	1297.83	
Other Equipment	11.02	2.70	17.64	2.05	2.20	2.14	1297.83	

Table 4-2. Pre-1998 Non-Road CI Engine Criteria Pollutant Emission Factors (continued)

European A Daniel Alexander		Emission Factors (lb/1000 hp-hr)								
Equipment Description	СО	VOC1	NO <sub>x</sub>	SO <sub>X</sub>	PM <sub>10</sub> <sup>(2)</sup>	PM <sub>2.5</sub> <sup>(3)</sup>	GHG <sup>4</sup>			
Agricultural Equipment										
Tractors	19.71	5.01	24.71	1.92	4.52	4.38	1300.20			
Sprayers	8.33	5.01	17.15	2.03	3.33	3.23	1300.20			
Tillers	11.02	2.71	17.64	2.03	2.20	2.14	1300.20			
Hydro Power Units	8.33	5.01	17.15	2.03	3.33	3.23	1300.20			
Other Equipment	9.63	4.11	24.52	2.03	3.33	3.23	1300.20			
Logging Equipment										
Skidders	11.46	1.90	24.91	1.98	3.17	3.08	1297.93			
Fellers/Bunchers	11.46	1.90	24.91	1.98	3.17	3.08	1297.93			
Recreational Equipment			•	•			·			
Specialty Vehicles/Carts	11.02	3.46	17.64	2.05	2.20	2.14	1297.93			

SOURCE: Nonroad Engine and Vehicle Emission Study – Report, EPA 460/3-91-02, 21A-2001, November 1991.

- 1. Reported as HC and assumed to be equal to VOC.
- 2. Reported as PM in the source document and assumed to be equal to  $PM_{10}$ .
- 3. Assumed to be 97% of PM<sub>10</sub> per *Exhaust and Crankshaft Emission Factors for Nonroad Engine Modeling-Compression-Ignition*, EPA420-P-04-009, April 2004.
- 4. The Greenhouse gas (GHG) emission factors are the total of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O with individual emission factors of 10.21kg/gal, 0.58g/gal, and 0.26 g/gal respectively. CH<sub>4</sub> and N<sub>2</sub>O were converted to equivalent CO<sub>2</sub> (CO<sub>2</sub>e) using a global warming potential (GWP) value of 25 for CH<sub>4</sub> and 298 for N<sub>2</sub>O. These were added to the CO<sub>2</sub> and are presented as the GHG emission factors in units of lb/1000hp-hr. Fuel usage rates were based on the conservative 0.408 lb/hp-hr which is the average fuel usage rate for engines below 100 hp (from Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling-Compression-Ignition, EPA420-P-04-009). All engines are assumed to use diesel which has a density of 7.14lb/gal and was used for unit conversion.

Table 4-3. Weight Percent Speciation of VOC Emissions Non-Road Engines

Compound	HAP	Construct	Dis - 12		Natural Gas <sup>3</sup>				
Compound	HAP	Gas oline 1	Diesel <sup>2</sup>	2-Stroke LB	4-Stroke LB	4-Stroke RB	LPG <sup>4</sup>		
Acenaphthene	X		0.02%	0.00%	0.00%				
Acenaphthylene	X		0.08%	0.00%	0.01%				
Acetaldehyde	X	0.30%	11.88%	6.49%	7.00%	8.63%	0.88%		
Acetylene		15.47%							
Acrolein	Х		1.43%	6.51%	4.31%	8.14%			
Anthracene	X		0.03%	0.00%					
Benz(a)anthracene	Х		0.03%	0.00%					
Benzaldehyde		0.26%							
Benzene	х	5.83%	14.46%	1.62%	0.37%	4.89%	3.23%		
Benzo(a)pyrene	X		0.00%	0.00%					
Benzo(b)fluoranthene	X		0.00%	0.00%	0.00%				
Benzo(k)fluoranthene	X		0.00%	0.00%	0.0070				
	X		0.01%	0.00%	0.00%				
Benzo(g,h,i)perylene	^		0.0176	0.00%	0.00%				
Benzo(e)pyrene	X			0.00%	0.00%				
Biphenyl	_			010070					
1,3-Butadiene	X	0.99%	0.61%	0.69%	0.22%	2.05%			
Butane				3.97%	0.45%				
n-Butane		2.19%							
1-Butene	$\perp$	0.40%							
cis-2-Butene		0.22%							
trans-2-Butene		0.28%							
Butyr/Isobutyraldehyde				0.37%	0.09%	0.15%	0.59%		
Carbon Tetrachloride	X			0.05%	0.03%	0.05%			
Chlorobenzene		-	-	0.04%	0.03%	0.04%			
Chloroethane	X				0.00%				
Chloroform	X			0.04%	0.02%	0.04%			
Chrysene	Х		0.00%	0.00%	0.00%				
Cyclohexane				0.26%					
Cyclopentane				0.08%	0.19%				
1,3-Cyclopentadiene		0.26%							
Dibenz(a,h)anthracene	Х		0.01%						
1,1-Dichloroethane	X			0.03%	0.02%	0.03%			
1,2-Dichloroethane	X			0.03%	0.02%	0.03%			
	X	-		0.04%	0.02%	0.03%			
1,2-Dichloropropane	X			0.04%	0.02%	0.04%			
1,3-Dichloropropene	A								
Dicyclopentadiene		0.27%							
1,2-Diethylbenzene		0.56%							
1,3-Diethylbenzene		0.45%							
2,2-Dimethylbutane	$\perp$	0.30%							
2,3-Dimethylbutane		0.62%							
rans-1,3-Dimethylcyclopentane		0.28%							
2,3-Dimethylhexane		0.32%							
2,4-Dimethylhexane		0.45%							
2,5-Dimethylhexane		0.24%							
2,3-Dimethylpentane		1.16%							
2,4-Dimethylpentane		0.71%							
1,2-Dimethyl-4-Ethylbenzene		0.17%							
1,3-Dimethyl-2-Ethylbenzene		0.34%							
,3-Dimethyl-4-Ethylbenzene		0.20%							
Ethylbenzene	Х	2.00%		0.09%	0.03%	0.08%	0.29%		
Ethylene		11.39%					18.53%		
Ethylene Dibromide	X	11.3970		0.06%	0.04%	0.07%	10.3370		
-	X		0.12%	0.00%	0.04%	0.07%			
Fluoranthene	_								
Fluorene	X		0.45%	0.00%	0.01%				
	X	1.32%	18.28%	46.17%	44.24%	63.43%	23.82%		
		0.78%							
Formaldehyde n-Heptane									
		0.20%							
n-Heptane 1-Hexene n-Hexane	X	0.45%		0.37%	0.93%		0.59%		
n-Heptane 1-Hexene	Х								

Compound	HAP	Gasoline <sup>1</sup>	Diesel <sup>2</sup>	2-Stroke LB	Natural Gas <sup>3</sup> 4-Stroke LB	4-Stroke RB	LPG <sup>4</sup>
Isobutane				3.14%			
Isobutene		2.02%		5.1470			
Isopentane		5.50%					
Isoprene		0.32%					
Methanol	Х	0.15%		2.07%	2.10%	9.47%	
2-Methyl-1-Butene		0.35%					
2-Methyl-2-Butene		0.37%					
Methykyclohexane		0.24%		0.28%	1.03%		
Methykyclopentane		0.40%					
1-Methylcyclopentene		0.16%					
1-Methyl-2-Ethylbenzene		0.50%					
1-Methyl-3-Ethylbenzene		1.52%					
1-Methyl-4-Ethylbenzene		0.71%					
2-Methylheptane		0.37%					
3-Methylheptane		0.40%					
4-Methylheptane		0.17%					
2-Methylhexane		1.02%					
2-Methylhexane 3-Methylhexane		1.02%					
	+	0.18%					
3-Methyl-cis-3-Hexene		0.18%		0.02%	0.03%		
2-Methylnaphthalene		0.20%		0.02%	0.05%		
3-Methyloctane		0.20%					
2-Methyl-2-Pentene		1.73%					
2-Methylpentane							
3-Methylpentane		0.99%					
1-Methyl-3-Propylbenzene	77	0.26%					
Methyl t-butyl ether	X	0.30%					
Naphthalene	X	0.35%	1.31%	0.08%	0.06%	0.30%	
n-Nonane				0.03%	0.09%		
1-Nonene		0.61%					
n-Octane		0.30%		0.06%	0.29%		
1-Octene	-	0.22%					
n-Pentane		0.71%		1.28%	2.18%		
1-Pentene		0.27%					
cis-2-Pentene		0.21%					
trans-2-Pentene		0.34%					
Perylene				0.00%			
Phenanthrene	X		0.46%	0.00%	0.01%		
Phenol	X			0.03%	0.02%		
1,2-Propadiene		0.29%					
Propane				24.01%	35.11%		
n-Propylbenzene		0.38%					
Propylene		4.72%	39.98%				49.71%
1-Propyne		0.48%					
Pyrene	X		0.07%	0.00%	0.00%		
Styrene	X			0.05%	0.02%	0.04%	
Tetrachloroethane					0.00%		
1,1,2,2,-Tetrachloroethane	Х			0.06%	0.03%	0.08%	
1,2,3,5-Tetramethylbenzene		0.22%					
Tolualdehyde		0.16%					
Toluene	Х	8.21%	6.34%	0.81%	0.34%	1.73%	1.18%
1,1,2-Trichloroethane	X			0.04%	0.03%	0.05%	
1,2,3-Trimethylbenzene		0.40%		0.03%	0.02%		
1,2,4-Trimethylbenzene		2.18%		0.09%	0.01%		
1,3,5-Trimethylbenzene		0.77%		0.01%	0.03%		
2,2,5-Trimethylhexane		0.30%					
2,2,4-Trimethylpentane	х	2.37%		0.71%	0.21%		
2,3,4-Trimethylpentane	-	0.52%					
Vinyl Chloride	X	0.3270		0.02%	0.01%	0.02%	
Vinylacetylene	1	0.23%		0.0270	0.0170	0.0270	
o-Vinyltoluene		0.25%					
	X	7.47%	4.42%	0.22%	0.15%	0.60%	1.18%
Xylenes	^	7.4770	+.+270	0.2270	0.1370	0.0070	1.1070

- 1. SOURCE: Emission factors used to calculate weight percent taken from EPA's SPECIATE profile #4738.
- 2. SOURCE: Emission factors used to calculate weight percent taken from Section 3.3 of AP-42
- 3. SOURCE: Emission factors used to calculate weight percent taken from Section 3.2 of AP-42.
- 4. SOURCE: Emission factors used to calculate weight percent taken from Mojave Desert AQMD.

<sup>&</sup>quot;X" Indicates the compound is a HAP.

<sup>&</sup>quot;---" Indicates No Data Available.

Figure 4-1. Example Data Collection Form for Non-Road Vehicles and Equipment

Installation Name:				Inventory Yea	ar (CY):			
Responsible Organiz POC (Name, Phone #								
	Equipment ID	Equipment Manufacturer	Equipment Model Number	Fuel Type	Power Rating (hp)	Load Factor (% of max) <sup>1</sup>	Estimated Operating Time (hr/yr)	Estimated Fuel Usage (gal/yr) <sup>2</sup>

<sup>1.</sup> Load factor is the highest % of maximum power which the equipment was operated at during the inventory year. If this is unknown, a default EPA value should be used.

<sup>2.</sup> While the quantity of fuel is generally needed only if the power rating and operating hours are unknkown, fuel consumption data may also be needed to estimate CO<sub>2</sub> emissions.

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# 5 ON-ROAD VEHICLES (VEHE)

# SEE CORRECTIONS ADDENDUM TO 2014 MOBILE GUIDE

\*Air Force policy considers the dispensing of fuel into on-road vehicles a mobile source of emissions. However, if the regulator insists this category be included as a stationary source, subtract those emissions from the Mobile AEI and add them to the stationary AEI to avoid duplicate reporting. This is accomplished by manually calculating emissions generated from on-road vehicle refueling using the procedures given in the "Fuel Dispensing" section of this document, then subtracting those values from the emissions generated by on-road vehicles described in this section\*

#### 5.1 Introduction

On-road vehicles encompass the full range of passenger cars, light duty trucks, heavy duty trucks, buses, and motorcycles that are specifically designed to operate on highways and other road systems. On road vehicles in use on Air Force installations are *classified* either as Government Owned Vehicles (GOVs) or Privately Owned Vehicles (POVs). GOVs include all on-road vehicles that are owned or leased and operated by government organizations on the base (e.g., Air Force, Guard, Reserve, etc.). Such vehicles are typically referred to as "fleet vehicles", and range from small passenger cars to large vehicles such as refueling or fire trucks. POVs are those on-road vehicles that travel on an Air Force installation, but are owned or leased and operated by base employees, and visitors. Both GOVs and POVs typically operate on conventional gasoline and diesel motor fuels, but may also operate on alternative, non-petroleum based fuels.

The emissions of concern from the operation of on-road vehicles include the criteria pollutants: NOx, VOC, CO, SO<sub>2</sub>, PM<sub>2.5</sub> and PM<sub>10</sub>, as well as HAPs such as 1,3 butadiene, benzene, acetaldehyde, formaldehyde, acrolein and Methyl tert butyl ether (MTBE). Some of these direct pollutant emissions also participate in atmospheric reactions that contribute to the formation of ground level ozone and fine particulate matter pollution. Factors which impact the volume of pollutants emitted include the vehicle make and model, the Vehicle Miles Traveled (VMT), the average operating speed, vehicle age, climate, altitude, fuel type and quality, and maintenance procedures. To control vehicle emissions, the EPA has adopted an integrated approach to controlling on road vehicle emissions. This approach has resulted in the establishment of regulatory standards that give full consideration to changes in vehicle and engine design, advanced emission controls, and the mandated use of reformulated and cleaner burning fuels.

Emissions from the operation of on-road vehicles are designated as exhaust, evaporative, or fugitive in nature. Exhaust emissions result from the combustion (sometimes incomplete) of the motor fuel while evaporative emissions result from the volatilization of the fuel in engine components during the different stages of a vehicle's operating cycle. Additionally, fugitive

particulate emissions, in the form of road dust, brake wear dust, and tire wear dust, can be attributed to the operation of on-road vehicles.

The EPA is currently proposing to regulate greenhouse gases (GHGs) for both mobile and stationary sources. As a matter of AF policy, GHG emissions are to be reported as part of the mobile air emission inventory. Specifically, carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>) emissions should be estimated for all mobile sources where emission factors are available. Additionally, although not currently regulated under the Clean Air Act, many regulatory agencies may request installations to include GHG emissions from motor vehicles in mobile source emissions inventories. Specific requests to calculate and provide CO<sub>2</sub> and/or CH<sub>4</sub> emissions data to regulatory agencies as part of the air emission inventory process should be reported through the appropriate Air Force Civil Engineer Center (AFCEC) channels, and coordinated through the chain of command. Such coordination should be accomplished prior to responding to the request in order to ensure a consistent Air Force response.

Since 1978, the U.S. Environmental Protection Agency (EPA) has used computer models to estimate emissions from cars, trucks and other mobile sources. The EPA's initial on-road vehicle emissions modeling software, known as the MOBILE model, was expanded many times over the years to incorporate new data on vehicle emissions, new vehicle emission standards and to better address new policy questions, while keeping the basic structure of the model constant. MOBILE uses average gram per mile emission rates and a series of correction factors to estimate emissions over a wide range of driving conditions. MOBILE6.2, finalized in 2004, was EPA's official model for highway vehicle emissions. A number of analysts have critiqued the MOBILE series of models and suggested that the EPA develop a modeling "toolkit" that would better serve the range of uses for highway vehicle modeling, including consistent modeling at the aggregate scale, mesoscale, and microscale analysis. In response to these and other concerns, the EPA has developed the Motor Vehicle Emissions Simulator (MOVES). MOVES incorporates extensive new data and advanced algorithms to better estimate highway vehicle emissions of greenhouse gases, criteria pollutants and selected air toxics at the national, regional and project level. The final version of MOVES was released in 2010. It is used for EPA internal policy analyses and is required for use (outside California) in the evaluation of State Implementation Plans (SIPs) and transportation conformity determinations.

The EPA has historically classified on-road vehicles into eight broad categories, with category differences based on the motor fuel type and Gross Vehicle Weight (GVW). MOBILE6 incorporated a new vehicle categorization system that more accurately reflects the way vehicles are categorized for emissions standards. MOVES, the successor to MOBILE6, expanded the general vehicle categories to 28 specific vehicle categories. MOVES was designed to reflect the general fleet distribution or fleet characterization (i.e., fractional vehicle category distribution by year) for a specific location. MOBILE6 provides an output of vehicle emission rates (e.g., units

of grams/mile) for any year from 1952-2050. MOVES can estimate emission rates (e.g., grams/mile, grams/vehicle) or input VMT and vehicle populations to output total emissions for any year from 1990 and 1999-2050. Both the MOVES and MOBILE models incorporate emissions from on-road vehicle refueling, therefore, these emissions are not addressed in the "Fuel Dispensing" section of this document since they are already integrated in the emission factors presented in this section.

Both MOVES and MOBILE6 emission models are better at showing relative changes in emissions over several years rather than obtaining "snapshot" accuracy for a given year. The EPA's April 2007 Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM<sub>2.5</sub>, and Regional Haze; Section 1.3.1 on Page 3 (USEPA 2007), "First, we recommend using models in a relative sense in concert with observed air quality data..." Therefore, MOVES or MOBILE6 should <u>not</u> be used to create a Mobile Air Emission Inventory (AEI).

# 5.1.1 Vehicle Categories

The 28 vehicle *categories* from MOVES have been grouped into seven major aggregate *categories* based on vehicle type and Gross Vehicle Weight Rating (GVWR). Table 5-1 provides the seven major aggregate *categories*. These *categories* were chosen based upon available MOBILE6 emission factor outputs and readily identifiable general vehicle groupings. The seven aggregate vehicle *categories* are:

- Light-Duty Gasoline Vehicles (LDGV)—All gasoline-powered passenger cars
- Light-Duty Diesel Vehicles (LDDV) All diesel-powered passenger cars
- Light-Duty Gasoline Trucks (LDGT) All smaller gasoline-powered trucks (0 to 8,500 lbs. GVWR)
- Light-Duty Diesel Trucks (LDDT) All smaller diesel-powered trucks (0 to 8,500 lbs. GVWR)
- *Heavy-Duty Gasoline Vehicles (HDGV)* All larger gasoline-powered vehicles (8,501to >60,000 lbs. GVWR)
- *Heavy-Duty Diesel Vehicles* (*HDDV*) All larger diesel-powered vehicles (10,001to >60,000 lbs. GVWR)
- Motorcycles (MC) All motorcycles (assumed to be gasoline powered)

#### 5.1.2 Vehicle Fleet Characterization

Based upon a review of recent Air Force mobile source emission inventories, the vehicle categories that are most representative of the types of GOVs and POVs expected to be encountered on a typical Air Force base were identified. The seven Air Force vehicle categories provide the most

readily identifiable and discernible vehicle classes for vehicle mix identification and characterization. It is recognized that some vehicles encountered may not fit within the specific weight parameters of the categories chosen. In such instances, personnel conducting the air emissions inventory should use professional judgment to assign the vehicles to the listed category which most closely approximates (in terms of fuel type and vehicle weight) the vehicles in question. Table 5-2 provides a breakdown of the fleet characterization for the typical POV and GOV vehicle mix at an Air Force base. The vehicle mix provided in this table is to be used for estimating vehicle emissions unless specific vehicle mix data is available from a recent traffic study.

**Table 5-1. Air Force On-Road Vehicle Categories** 

CATEGORY		WELLICI E CLASS DECDIDITION					
Air Force	MOVES	VEHICLE CLASS DECRIPTION					
		Gas/Diesel					
LDGV	LDGV	Light-Duty Gasoline Vehicles (Passenger Cars)					
LDDV	LDDV	Light-Duty Diesel Vehicles (Passenger Cars)					
	LDGT1	Light-Duty Gasoline Trucks 1 (0-6,000 lbs. GVWR, 0-3,750 lbs. LVW)					
LDGT	LDGT2	Light-Duty Gasoline Trucks 2 (0-6,000 lbs. GVWR, 3,751-5,750 lbs. LVW)					
LDGI	LDGT3	Light-Duty Gasoline Trucks 3 (6,001-8,500 lbs. GVWR, 0-5,750 lbs. LVW)					
	LDGT4	Light-Duty Gasoline Trucks 4 (6,001-8,500 lbs. GVWR, greater than 5,751 lbs. ALVW)					
LDDT	LDDT1/2	Light-Duty Diesel Trucks 1 and 2 (0-6,000 lbs. GVWR)					
LDD1	LDDT3/4	Light-Duty Diesel Trucks 3 and 4 (6,001-8,500 lbs. GVWP)					
	HDGV2a	Class 2b Heavy-Duty Gasoline Vehicles (8,501-10,000 tos. GVWR)					
	HDDV2b	Class 2b Heavy-Duty Diesel Vehicles (8,501-10,007 lbs. GVWR)					
	HDGV3	Class 3 Heavy-Duty Gasoline Vehicles (10,001,4,000 lbs. GVWR)					
	HDGV4	Class 4 Heavy-Duty Gasoline Vehicles (14,001-16,000 lbs. GVWR)					
HDGV	HDGV5	Class 5 Heavy-Duty Gasoline Vehicles (16,001-19,500 lbs. GVWR)					
HDGV	HDGV6	lass 6 Heavy-Duty Gasoline Vehicles (19,501-26,000 lbs. GVWR)					
	HDGV7	lass 7 Heavy-Duty Gasoline Velicles (26,001-33,000 lbs. GVWR)					
	HDGV8a	Class 8a Heavy-Duty Gasoling Vehicles (33,001-60,000 lbs. GVWR)					
	HDGV8b	Class 8b Heavy-Duty Gasgane Vehicles (>60,000 lbs. GVWR)					
	HDGB	Gasoline Buses (School Transit and Urban)					
	HDDV3	Class 3 Heavy-Duty Diesel Vehicles (10,001-14,000 lbs. GVWR)					
	HDDV4	Class 4 Heavy-Puty Diesel Vehicles (14,001-16,000 lbs. GVWR)					
	HDDV5	Class 5 Heavy-Duty Diesel Vehicles (16,001-19,500 lbs. GVWR)					
	HDDV6	Class 6 Heavy-Duty Diesel Vehicles (19,501-26,000 lbs. GVWR)					
HDDV	HDDV7	Class Heavy-Duty Diesel Vehicles (26,001-33,000 lbs. GVWR)					
	HDDV8a	Class 8a Heavy-Duty Diesel Vehicles (33,001-60,000 lbs. GVWR)					
	HDDV8b	Class 8b Heavy-Duty Diesel Vehicles (>60,000 lbs. GVWR)					
	HDDBT	Diesel Transit and Urban Buses					
	HDDLS	Diesel School Buses					
MC	MC	Motorcycles (Gasoline)					
		HYBRID					
LDGV (H)							
LDGT (H)							
		CNG					
LDCV (C)							
LDGT (C)							
HDGV (C)							

Table 5-2. Typical Air Force POV & GOV Mix

CATEGORY		2012 to 2	020 Avg.	POV Mix	GOV Mix			
Air Force	MOVES	National Vehicle Mix (%)		(%) <sup>1</sup>	$(\%)^2$			
Gas/Diesel								
LDGV	LDGV	34.86	34.86	56.17	2.23			
LDDV	LDDV	0.03	0.03	0.88	0.28			
	LDGT1	9.57						
LDCT	LDGT2	31.86		24.62	25.54			
LDGT	LDGT3	9.98	56.00	34.62	35.54			
	LDGT4	4.59						
LDDT	LDDT1/2	0.00	0.10	1.00	21.70			
LDDT	LDDT3/4	0.19	0.19	1 00	21.79			
	HDGV2a	2.00						
	HDGV2b	2.88						
	HDGV3	0.10						
	HDGV4	0.03	/					
HDGH	HDGV5	0.11	2.4	0.62	2.53			
HDGV	HDGV6	0.24	3.46					
	HDGV7	0.10						
	HDGV8a	0.00						
	HDGV8b	0.00						
	HDGB	0.00						
	HDGV2a	0.72						
	HDDV2b	0.72						
	HDDV3	0/22						
	HDDV4	0.21						
	HDDV5	0.10		0.22	36.64			
HDDV	HDDV6	0.41	3.70					
	HDDV7	0.59						
	HDDV8.	0.35						
	HDDY 8b	0.82						
	HDOBT	0.03						
	LODBS	0.25						
MC	MC	1.76	1.76	4.49	0.00			
		НҮВ	RID					
LDGV (H)				1.70	0.48			
LDGT (II)				0.24	0.19			
		CN	NG					
LDGV (C)				0.06	0.00			
LDGT (C)				0.00	0.30			
HDGV (C)				0.00	0.02			

<sup>1.</sup> SOURCE: POV vehicle mix was based on available Employee Certification and Reporting System (ECARS) data collected on 3/7/14.

<sup>2.</sup> SOURCE: GOV vehicle mix was based on information provided by the Air Force Vehicle and Equipment Management Office (VEMSO).

<sup>&</sup>quot; "Indicates No Data Available

#### **5.2 Emission Factors**

Emissions from on road vehicle use include exhaust emissions, which occurs both when the vehicle is in motion and while idling, as well as fugitive particulate emissions from road dust. Emission factors from each of these emission contribution sources are described below.

#### 5.2.1 Vehicle Exhaust Emissions

The operation of on-road vehicles results in the generation of vehicle exhaust which emits criteria pollutants, HAPs, and CO<sub>2</sub>. To complicate vehicle exhaust emissions estimation, the amount of emitted pollutants is based on the emission factors for VMT and for vehicle idling. Emissions from vehicle exhaust are therefore the sum of the emissions generated while the vehicle is in motion and while it is idling. Both MOVES and MOBILE6 account for idling in proportion to normal driving, therefore calculation of idling emissions are not required for an AEI. Additionally, particulate emissions estimation is made more complex by the fact that particulate emissions are emitted from vehicle exhaust—from both idle and non-idle use—and from the suspension of road dust. Emission factors from road dust have been generated in addition to those for vehicle idle and non-idle operation. The emission factors for each contributing source are described in more detail below.

## 5.2.1.1 Vehicle Exhaust Emissions - Normal Vehicle Operation

Emission factors for the Air Force vehicle categories were obtained directly from MOBILE6 as model emission factor outputs. The MOBILE6 model was used with state specific information to generate an accurate estimation of on-road vehicle emissions for both high and low elevation locations. The MOBILE6 model was run for each state using standard model defaults and state-specific traffic and weather data, and the output used to generate criteria pollutants, HAPs, CO<sub>2</sub>, and fugitive on-road emission factors for the seven aggregate vehicle categories identified in Table 5-1, Air Force On-Road Vehicles Categories. Emission factors for both high and low altitude environments were generated and provided in a **gram/mile format**. Table 5-9 through Table 5-24 are Air Force/State/Territory composite emission factors while category specific emission factors are provided in Table 5-25 through Table 5-40. The tables are further subdivided into emission factors for POVs and GOVs. Unless otherwise noted, emission factors are for January 1<sup>st</sup> of each calendar year. Several of the key inputs and model default values used to generate the emission factors are presented in Table 5-3.

Table 5-3. MOBILE6 Inputs Used to Generate On-Road Vehicle Emission Factors

Model Input	Input Value
Model Years	1981-2015
Calendar Years	2005-2015
Roadway Type	Arterial
Average Speed	25 mph
Temperature (high, low & average)	State specific 50 averages from NOAA
Diesel Sulfur Content	15 ppm
Fuel RVP	9.0
Gasoline Aromatics	25%
Gasoline Olefin Content	15%
Altitude Low	500 ft. above sea level
Altitude High	5,500 ft. above sea level
VMT Fraction*	Based on 2013

EPA420 R 01 047, Fleet Characterization Data for MOBILE6 (September 2001), Appendix D

For those installations located outside of the continental United States (OCONUS), there is not a universally accepted set of emission factors based for areas outside of the United States. Additionally, determining the vehicle mix or classifying vehicles may be more difficult in a foreign country. Calculating emissions for on road vehicles at OCONUS facilities can be approximated by calculating the average of all state specific composite emission factors. The emission factors for vehicle emissions at OCONUS installations are provided in Table 5-41 and Table 5-42 and are to be used with the same methodology as calculating on-road vehicle emissions within the United States.

#### 5.2.1.2 Vehicle Exhaust Emissions - Idling

An idling vehicle wastes fuel, increases the cost of maintenance, and creates air pollution. Several states have adopted anti-idling restrictions with some including these restrictions in their SIPs. Emission factors for emissions from idling vehicles were developed and are provided in a gram/hour format since, by definition, an idling vehicle is not in motion and emissions may not be calculated on miles driven but rather time in the idle mode. For this reason, the total amount of time that a vehicle spends in idle mode must be known or closely approximated. Note that MOBILE6 emission factors already include vehicle idling in proportion to normal driving. For this reason, the emission factors given here are presented for the purpose of calculating theoretical emissions for NEPA or for intersection modeling.

Idling emissions will vary depending on the temperature, so the emission factors were developed based on summer and winter conditions which are characterized by temperatures of 75°F and 30°F respectively. Table 5-4 and Table 5-5 provide these emission factors based on summer and winter conditions respectively while Table 5-6 provides an average of the two seasons.

Table 5-4. Idling Emission Factors for On-Road Vehicles During Summer Conditions

Vahiala Catagomy	Emission Factors (g/hr)						
Vehicle Category	CO	NOx	VOC	$PM_{10}^{(1)}$	PM <sub>2.5</sub> <sup>(2)</sup>		
LDGV (Passenger Cars)	229	4.72	16.1	1			
LDGT (0-8,500 lb GVWR)	339	5.71	24.1				
HDGV (>8,500 lb GVWR)	738	16.2	35.8				
LDDV (Passenger Cars)	0.97	6.50	3.53				
LDDT (Light-Duty Trucks)	11.2	6.67	4.63				
HDDV (>8,500 to GVWR)	94.0	55.0	12.5	2.58	2.37		
MC (wotorcycles)	435	1.69	19.4				

SOURCE: EPA420 F 98 014, Emission Facts: Idling Vehicle Emissions, April 1998. Summer conditions are based on a temperature of 75°F and 9.0 psi RVP gasoline.

Table 5-5. Idling Emission Factors for On-Road Vehicles During Winter Conditions

Vehicle Category	Emission Factors (g/hr)						
venicle Category	CO	NOx	VOC	$PM_{10}^{(1)}$	PM <sub>2.5</sub> <sup>(2)</sup>		
LDGV (Passenger Cars)	371	6.16	21.1				
LDGT (0-8,500 lb GVWR)	487	7.47	30.7				
HDGV (>8,500 lb GVWR)	682	11.8	44.6				
LDDV (Passenger Cars)	16.1	6.66	3.63				
LDDT(Light-Duty Trucks)	11.5	6.89	4.79				
HDDT (>8.500 to GVWR)	94.6	56.7	12.6	2.58	2.37		
Mc (Motorcycles)	388	2.51	20.1				

SOURCE: EPA420 F 98-014, *Emission Facts: Idling Vehicle Emissions*, April 1998. Winter conditions are based on a temperature of 30°F and 13.0 psi RVP gasoline.

<sup>1.</sup> PM<sub>10</sub> is an average of HDDV particulate emissions.

<sup>2.</sup> PM<sub>2.5</sub> value is assumed to be 92% of the PM<sub>10</sub> value per *Air Emissions Factor Guide to Air Force Mobile Sources*, December 2009.

<sup>&</sup>quot; "Indicates No Data Available.

<sup>1.</sup> PM<sub>10</sub> is an average of HDDV particulate emissions.

<sup>2.</sup> PM<sub>2.5</sub> value is assumed to be 92% of the PM<sub>10</sub> value per *Air Emissions Factor Guide to Air Force Mobile Sources*, December 2009.

<sup>&</sup>quot;-" Indicates No Data Available

**Emission Factors (g/hr)** Vehicle Category CO **NO**x VOC  $PM_{10}$ PM2.5 LDGV (Passenger Cars) 300 5.40 18.6 LDGT (0-8,500 lb GVWR) 413 6.60 21.4 HDGV (>8,500 lb GVWR) 710 11.040.2 ---LDDV (Passenger Cars) 10.5 6.60 3.60 LDDT(Light-Duty Trucks) 11.4 6.80 4.70 HDDT (>8,500 lb GVWR) 94.3 55.9 12.6 2.58 2.37 MC (Motorcycles) 412 2.10 19.8

**Table 5-6. Average Idling Emission Factors for On-Road Vehicles** 

SOURCE: Data represent average of summer and winter values listed in above tables.

#### 5.2.1.3 Alternative Fuel Emission Reduction Factors

Progressively stringent requirements resulting from the Energy Policy Act (EP Act), Presidential Executive Orders, and DoD and Air Force pollution prevention and energy conservation initiatives will result in an increasing number of GOVs and POVs powered by alternative fuels such as E85 (a fuel blend consisting of 85% ethanol and 15% gasoline), Compressed Natural Gas (CNG), or B20 (a fuel blend consisting of 20% biodiesel and 80% petroleum diesel), and advanced hybrid electric vehicles (HEVs). Regardless of fuel type, all vehicles operating on alternative fuels are currently required to meet existing EPA emission standards established for gasoline and/or diesel powered vehicles. However, some fuels offer potential emission reductions beyond those standards.

Relative to conventional gasoline, the higher octane value and oxygen content of E85 fuel should lead to reduced vehicle emissions. EPA's Office of Transportation Air Quality (OTAQ) notes that while potential reductions will vary with engine design, E85 fuel should lead to reductions in VOCs, CO, PM, and NO<sub>x</sub> relative to conventional gasoline (U.S. Environmental Protection Agency 2002; Clean Alternative Fuels). The case with HAP emissions is not as clear since some data indicates a reduction in benzene and fewer total toxics, but an increase in ethanol and acetaldehyde emissions (U.S. Environmental Protection Agency 2006; E85 and Flex Fuel Vehicles). Adding to the complexity, some studies have shown that with the use of a catalytic converter, there is virtually no difference in exhaust emissions from on road vehicles powered by gasoline. Due to these inconsistencies and the lack of clear data trends, at this point in time the application of E85 emission reduction factors is not recommended.

CNG is recognized as one of the cleanest burning alternative fuels available and offers a number of advantages over gasoline (USDoE 2002). Relative to conventional light-duty gasoline powered vehicle applications, emissions from CNG powered vehicles are estimated to be substantially lower for CO, PM, and NO<sub>X</sub>. On a gasoline gallon equivalent basis, CNG reduces CO<sub>2</sub> emissions by 20-30% versus gasoline and diesel-powered vehicles.

<sup>&</sup>quot;-" Indicates No Data Available.

There have been a few studies on the impact of B20 fuel on vehicle emissions. In October 2002, the EPA issued a draft technical report on biodiesel emissions (U.S. Environmental Protection Agency 2002; A Comprehensive Analysis of Biodiesel Impacts on Exhaust Emissions) which used the results from 39 studies to compare the difference in emissions between vehicles using B20 versus diesel fuel. Relative to low sulfur diesel (sulfur content of 500 ppm), B20 use resulted in notable reduction of NO<sub>x</sub>, PM, HC, and CO emissions. Since the publication of the study, Ultra-Low Sulfur Diesel (ULSD) regulations that limit the sulfur content of on highway diesel fuel to 15 ppm have been enacted and are in place across the country. Another study conducted under the auspices of the DoD Environmental Security Technology Certification Program (ESTCP) sought to measure the impact of B20 on emissions from engines used in on road and portable power generation applications (Department of Defense Environmental Security Technology Certification Program 2006; Effect of Biodiesel on Diesel Engine Nitrogen Oxide and Other Regulated Emissions). Whereas the EPA study used a B20/low sulfur diesel blend, the ESTCP study used a B20 biodiesel/ULSD blend to reflect the fact that conventional low sulfur diesel is no longer available for use in on-road vehicles. The ESTCP study concluded there were no statistically significant differences in criteria pollutant emissions between the B20 biodiesel blended with ULSD and the ULSD by itself. Likewise, no consistent trend was observed with regard to HAP emissions. While the study did not investigate the impact of B20 on direct CO<sub>2</sub> emissions, the EPA recently estimated a 10% reduction in CO<sub>2</sub> emissions which can be attributed to the use of B20 (U.S. Environmental Protection Agency, Office of Transportation Air Quality 2006; Biodiesel).

Hybrid Electric Vehicles (HEV) produce fewer criteria pollutant, HAP, and CO<sub>2</sub> emissions than comparable dedicated gasoline-powered vehicles because they utilize an electric motor in conjunction with a traditional, and often smaller, internal combustion engine. The electric motor decreases the frequency in which the combustion engine is used which reduces fuel consumption and, therefore, emissions. Overall emissions will vary depending on a number of factors including the vehicle's electrical storage capacity and how long it can operate in "electric-only" mode, how advanced the engine controls are, which emission standards the vehicles have been produced to meet, vehicle size, model year, etc. For these reasons, the emission profile of HEVs must be judged individually based on the miles traveled under each power mode, complicating attempts to estimate vehicle emission reductions. To estimate the potential emission reduction benefits from the use of HEVs, vehicle family application and emission certification data contained in the EPA OTAQ Certification and Fuel Economy Information System and the California Air Resources Board (CARB) On Road Vehicle and Engine Certification website were utilized. The assessment of representative certification data indicated NO<sub>X</sub>, CO, HC (assumed to be equal to VOCs), and CO2 were substantially reduced on average (U.S. Environmental Protection Agency, Office of Transportation Air Quality, Certification and Fuel Economy Information System).

Based upon this data, reduction factors for alternative fuels were calculated for on-road vehicles and are provided in Table 5-8. To estimate potential emission reductions from the use of these

alternative fuels and advanced vehicle technologies, calculate vehicle emissions using the MOBILE6 gasoline or diesel fuel emission factors provided and apply an appropriate percent impact based upon the values listed in the table.

Alternative Fuel		Fuel Reduction Emission Factor (%)					
(Original Fuel Type)	Vehicle Category	CO	$NO_X$	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>
CNG (Gasoline)	LDGV, LDGT, HDGV	98	60	70	90	90	22(1)
B20 (Diesel) <sup>2</sup>	LDDV, LDDT, HDDV	0	0	0	0	0	0
HEV (Casoline)	LDGV, LDGT	50	75	35			30

Table 5-7. Alternative Fuel Emission Reduction Factors (FERFs)

## 5.2.2 Fugitive Particulate Matter (PM) Emissions

Though roads are themselves stationary, the generation of airborne road dust is the result of the turbulent wake created by on road vehicles, which are mobile sources. Thus, road dust emissions are provided in this section of the Mobile Guide. Note that this section does not describe emissions from asphalt paving since those operations are considered transitory and are addressed in the Transitory Guide. Since fugitive PM emissions are the result of road dust suspended as the vehicle moves across a road surface, the extent of the emitted PM is dependent on whether the road surface is paved or unpaved. These surfaces are subjected to strong air currents from the turbulent wake that follows behind a vehicle as it passes. The currents disturb the loose material pulverized under the weight of the vehicle and PM is cast into the air. PM emissions will fluctuate for several reasons including construction activities in the area, road degradation due to vehicular traffic, and the application of granular materials for snow and ice control. Typically, the most important factors regarding road PM emissions are the number and weight of the vehicles which travel that road, and the VMT. Paved and unpaved road emission factors are already derived and may be found in Table 5-8.

<sup>1.</sup> Based on emission factors using MOBILE6 default of 15 ppm ULSD for diesel, and results of Department of Defense ESCTP study, Effect of Biodiesel on Diesel Engine Nitrogen Oxide and Other Regulated Emissions, Project number WP 0308, May 2006, indicating no statistically significant difference in B20/ULSD vs. ULSD emissions.

<sup>2.</sup> Factors represent the difference in CO<sub>2</sub> emissions associated with the combustion of one gallon of gasoline and one gasoline equivalent of CNG. Source: California Climate Action Registry, General Reporting Protocol Version 2.2, Table C 3, March 2007.

<sup>&</sup>quot;- "Indicates No Data Available.

POV GOV PM<sub>2.5</sub> (g/mi)  $PM_{10}$  (g/mi)  $PM_{2.5}(g/mi)$ PM10 (g/mi) **Paved Road** 0.0140.017 0.058 0.069 **Unpaved Read** 466.21 46.621 505.981 50.598

**Table 5-8. Fugitive PM Emission Factors** 

The emission factors for suspension of loose material on paved and unpaved road surfaces due to vehicle travel were derived from the following empirical equations from AP-42 Chapter 13.2 (Jan 2011):

$$EF(Pol)_{\mu} = k(Pol) \times (sL)^{0.91} \times W^{1.02}$$
 AP-42 Chapter 13.2.1.3

Where,

EF(Pol)<sub>P</sub> = Particulate emission factor for paved roads (g/mi)

k(Pol) = Particle size multiplier (g/mi). PM<sub>2.5</sub> = 0.25 and PM<sub>10</sub> = 1.00

sL = Road surface silt loading (g/m²). AP-42 Chapter 13.2.1 recommends a default value of 0.015 for limited access roadways (such as Air Force roads)

W = Average weight of the vehicles traveling the road (tons). POVs = 2.581 and GOVs = 3.096

$$EF(Pol)_{tt} = k(Pol) \times \left(\frac{s}{12}\right)^{4} \times \left(\frac{w}{3}\right)^{4} \times 453.6$$
 AP-42 Chapter 13.2.2.2

Where,

EF(Pol)<sub>U</sub> = Particulate emission factor for unpaved roads (g/mi)

k(Pol) = Particle size multiplier (lb/mi). PM<sub>2.5</sub> = 0.15 and PM<sub>10</sub> = 1.5

s = Surface material silt content (%). AP-42 Chapter 13.2.2 value for construction site road value of 8.5

a, b = Empirical constants for industrial roads from AP-42 Table 13.2.2-2. a=0.9 and b=0.45

453.6 = Factor converting lb to grams (g/lb)

\*Note: the equation above calls for the average weight of all vehicles traveling the road and is *not* intended to be used to calculate a separate emission factor for each vehicle weight class. Rather, one emission factor should be calculated to represent the "fleet" average weight of all vehicles.

#### 5.2.2.1 Corrected Emission Factors Accounting for Precipitation

Average fugitive PM emissions are inversely proportional to the frequency of measurable precipitation (>0.01 inch). The total fugitive PM emissions are calculated using the appropriate

emission factor listed above, the total vehicle miles traveled as determined by the user calculating emissions, and a precipitation correction term. When accounting for precipitation, the fugitive PM emission factors must be corrected. The corrected emission factors for both paved and unpaved roads are calculated as follows:

$$EF(Pol)_{CP} = EF(Pol)_{P} \times \left(1 - \frac{P}{4N}\right)$$

**Equation 5-1** 

$$EF(Pol)_{cv} = EF(Pol)_{v} \times \left(1 - \frac{P}{N}\right)$$

**Equation 5-2** 

Where,

EF(Pol)<sub>CP/CU</sub> = Corrected emission factor for paved or unpaved roads (g/mi)

P = Number of days in the inventory period in which at least 0.01 inches of precipitation was measured (days). See Figure 5-1 to determine this value based on the installation's geographic location.

N = Number of days in the inventory period (days). 1 year = 365 Days

\*Note the paved road precipitation factor differs from the unpaved precipitation factor since it incorporates a factor of "4" in the denominator to account for the fact that paved roads dry more quickly than unpaved roads.



Figure 5-1. Mean Number of Days in the Year with Precipitation of 0.01 Inches or More

#### **5.3 Emissions Calculation**

Both MOVES and MOBILE6 emission models are better at showing relative changes in emissions over several years rather than obtaining "snapshot" accuracy for a given year. The EPA's April 2007 Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM<sub>2.5</sub>, and Regional Haze; Section 1.3.1 on Page 3 (USEPA 2007), "First, we recommend using models in a relative sense in concert with observed air quality data…" Therefore, MOVES or MOBILE6 should <u>not</u> be used to create a Mobile Air Emission Inventory (AEI).

The total emissions from the operation of on-road vehicles are the sum of the emissions from the vehicle exhaust and fugitive PM from road dust. Since the emissions are dependent on the vehicle mix, there are three methods for estimating vehicle emissions. These methods are: using the typical Air Force POV and GOV fleet mix from Table 5-2, using POV and GOV fleet mix from recent traffic studies, or using Air Force/State composite emission factors, which is the simplest and preferred method. Note that POV and GOV emissions should be calculated independently.

## 5.3.1 Vehicle Exhaust Emissions - Typical Vehicle Operation

Calculating emissions from vehicle exhaust is dependent on the VMT and appropriate emission factor. Vehicle exhaust emissions are directly dependent on the vehicle mix at the installation. There are two circumstances that determine the method for calculating vehicle exhaust emissions—when the specific vehicle mix is known or when it is unknown. If the vehicle mix is known, that data may be used for emissions calculations, whereas if unknown, the mix from Table 5-2 may be assumed. Calculating these emissions is performed as follows:

# 5.3.1.1 Using Air Force/State/Territory Composite Emission Factors (Preferred Method)

This is the preferred method for emissions estimates because it is the simplest method to use. The emission factors used for this method are selected based on: (1) the emission inventory year, (2) the vehicle classification (POV versus GOV), (3) the state in which the installation is located, and (4) the altitude of the installation. According to 40 CFR 86.082-2, a designated "high altitude" location' is any base within a county that has a substantial portion of its area located above 1,219 meters (4,000 feet). For the majority of applications, low-altitude is the appropriate choice. A list of those counties the EPA has designated as high altitude appears in Appendix III of 40 CFR 1068 Subpart G. The Air Force/State/Territory composite emission factors (EF(Pol)<sub>State</sub>) were derived using the assumed vehicle mix as given in Table 5-2 and are given in Table 5-9 through Table 5-24 (or Table 5-41 and Table 5-42 for OCONUS installations). However, these emission factors **must** 

be adjusted to reflect the reduction in emissions as a result of vehicles that operate on alternative fuels. Emissions calculation using the adjusted emission factors is estimated as follows:

$$E(Pol)_{Total} = VMT_{Total} \times EF(Pol)_{Total} \times 0.002205$$

Equation 5-3

Where,

0.002205

E(Pol)<sub>Total</sub> = Total annual emissions of specific pollutant from vehicle exhaust (lb/yr)

VMT<sub>Total</sub> = Total annual vehicle miles traveled for all POV or GOV (mi/yr). This should be available for GOVs, and estimated for POVs using Equation 5-7.

Note that this includes both paved and unpaved roads, if applicable.

EF(Pol)<sub>Total</sub> = Total adjusted AF/state composite emission factor for specific pollutant (g/mi). This is calculated using Equation 5-5 and Equation 5-6.

The total adjusted Air Force/State/Territory composite emission factor (EF(Pol)<sub>Total</sub>) is the sum of the adjusted emission factors for gas and diesel, hybrid, and CNG fuel vehicles. The adjusted emission factors account for the mix of vehicles that use alternative fuels with their respective reduction in emissions as shown:

= Factor for converting grams to pounds (lb/g)

$$EF(Pol)_{Total} = \sum EF(Pol)_{Fuel} = \sum \left[ EF(Pol)_{State} \times \frac{MIX_{Fuel}}{100} \times \frac{FERF(Pol)_{Fuel}}{100} \right]$$
Equation 5-4

Where,

EF(Pol)<sub>Fuel</sub> = Adjusted emission factor for specific pollutant based on fuel and vehicle mix (g/mi)

**EF(Pol)**<sub>State</sub> = State composite emission factor for specific pollutant (g/mi). These are provided in Table 5-9 through Table 5-24.

MIX<sub>Fuel</sub> = Percent of gas and diesel, hybrid, or CNG vehicles in total vehicle population (%)

**FERF(Pol)**<sub>Fuel</sub> = Pollutant fuel emission reduction factor, from Table 5-7 (%). Use "100" if no alternative fuel is used, otherwise refer to Table 5-7.

= Factor converting percent to a fraction (%)

The vehicle mix is significantly different between POV and GOV vehicles and separate calculations must be made for both types. Using the vehicle mix data from Table 5-2 and the FERF values from Table 5-7, an equation for the calculation for total state composite emission factor for both POVs and GOVs may be written as shown:

$$\begin{split} & = EF(Pol)_{State} \\ & \times \left[0.9901 + \left(0.0067 \times \frac{FERF(Pol)_{Hyb}}{100}\right) + \left(0.0032 \times \frac{FERF(Pol)_{CNG}}{100}\right)\right] \\ & \times \left[0.9901 + \left(0.0067 \times \frac{FERF(Pol)_{Hyb}}{100}\right) + \left(0.0032 \times \frac{FERF(Pol)_{CNG}}{100}\right)\right] \end{split}$$

Where,

 $EF(Pol)_{Total-POV} = Total annual emissions of specific pollutant for POVs (g/yr)$ 

**EF(Pol)**<sub>Total-GOV</sub> = Total annual emissions of specific pollutant for GOVs (g/yr)

**FERF(Pol)**<sub>Hyb</sub> = Pollutant-specific fuel emission reduction factor for hybrid vehicles (%)

FERF(Pol)<sub>CNG</sub> = Pollutant-specific fuel emission reduction factor for CNG vehicles (%)

The total vehicle miles traveled (VMT<sub>Total</sub>) for GOVs is the sum of all the miles put on GOVs during the inventory period. These values should be available through records kept by the base transportation organization or directly from the organizations that operate and/or maintain the vehicles (or may be estimated using Equation 5-13). Estimating the total vehicle miles traveled for POVs, however, is more challenging. The suggested method for estimating VMT<sub>Total</sub> for POVs is to assume that each POV in operation on base travels twice the distance from the main base gate to the population centroid of the base. Not every person on base will operate their vehicle every day of the year. Rather, it is assumed that the vast majority of POVs will be driven during the workweek. Additionally, a statistical analysis of available ECARS data revealed that typically only 70% of the base population actually operates their vehicles on base during the week. Using this information, the VMT<sub>Total</sub> for POVs is estimated as follows:

$$VMT_{Total-PDV} = AVM \times N_{PDV} = D \times 520 \times 0.7 \times P$$

Equation 5-7

Where,

**AVM** = Average annual vehicle miles traveled on base (mi/yr)

N<sub>POV</sub> = Total number of POV vehicles

D = One-way distance from the main gate to the population centroid of the base (miles/trip)

520 = Factor for converting the number of miles per trip to miles per year (trips/year)

0.7 = Fraction of the base population that operate their vehicle during the week

P = Base population

In Equation 5-7, the "520" conversion factor was derived as follows:

$$2\frac{trips}{day} \times 5\frac{days}{week} \times 52\frac{weeks}{yr} = 520\frac{trips}{yr}$$

Emissions are calculated by first solving the emission factors for POVs and GOVs using Equation 5–5 and Equation 5–6 and state specific total composite emission factor for all vehicle categories which can be found in Table 5–9 through Table 5–24. The adjusted emission factors are then used in Equation 5–3 for the total emissions of each pollutant. These steps must be completed independently for each pollutant of concern. Note GOVs and POVs should not be combined; GOV and POV emissions must be calculated independently. Due to the complexity of calculating onroad vehicle emissions, the following steps are recommended for use as a guideline for data collection and emissions calculations:

<u>Step 1</u> Gather fleet data. If the on-base vehicle mix is unknown, the first step is to determine the number of POVs (N<sub>POV</sub>) and GOVs (N<sub>GOV</sub>) operating on base. Also, the total vehicle miles traveled (VMT<sub>Total</sub>) or average vehicle miles traveled (AVM) for GOVs should be recorded. This data often can be provided or estimated by the Security Forces Squadron (from the Pass & Registration section) and/or the Military Personnel Flight (MPF). With this information collected, the VMT<sub>Total</sub> may be calculated. For POVs, VMT<sub>Total</sub> is calculated using Equation 5-7 while Equation 5-13 may be used, if necessary, to calculate VMT<sub>Total</sub> for GOVs.

<u>Step 2</u> — <u>Select emission factors</u>. These are provided in Table 5-9 through Table 5-24. After the emission factors have been selected, they may be adjusted to reflect emissions reductions from the use of alternative fuels. Calculation of the adjusted composite emission factor (EF(Pol)<sub>Total POV</sub> or EF(Pol)<sub>Total GOV</sub>) is accomplished using either Equation 5-5 or Equation 5-6.

<u>Step 3</u> - <u>Calculate emissions</u>. Emissions of each pollutant (and *classification*) are calculated independently using Equation 5-3.

# 5.3.1.2 Using Specific Vehicle Mix Data

If necessary, emissions may be calculated using a specific vehicle mix different from the one provided in Table 5-2. Though this method is more intensive than the preferred method given above, it may be desirable if a recent traffic study conflicts with the typical vehicle mix provided, or if emissions from each vehicle category are required. The emission factors used for this method are selected based on: (1) the emission inventory year, (2) the vehicle classification (POV versus GOV), (3) the state in which the installation is located, (4) the vehicle category (LDGV, LDDV, etc.), and (5) the altitude of the installation. According to 40 CFR 86.082 2, a designated "high-altitude" location' is any base within a county that has a substantial portion of its area located above 1,219 meters (4,000 feet). For the majority of applications, low-altitude is the appropriate choice. A list of those counties the EPA has designated as high altitude appears in Appendix III of 40 CFR 1068 Subpart G. The emission factors used for this method (EF(Pol)<sub>i</sub>) are provided in

Table 5-25 through Table 5-40. Emissions are estimated using the vehicle miles traveled for each vehicle category and summed as follows:

$$E(Pol)_{Total} = \sum_{i=1}^{7} \left[ VMT_i \times EF(Pol)_i \times \frac{FERF(Pol)}{100} \times 0.002205 \right]$$

Equation 5-8

Where,

VMT: = Annual vehicle miles traveled by each vehicle category (mi/yr). This includes miles traveled both on paved and unpaved roads, if applicable.

EF(Pol): = Emission factor for specific pollutant from vehicle exhaust (g/mi)

i = Specific vehicle category of seven Air Force categories (i.e., LDGV, LDDV, LGDT, LDDT, HDGV, HDDV, and MC)

If the annual VMT for each vehicle category is not known, the following equation may be used to approximate VMT for each specific vehicle category (VMT<sub>i</sub>):

$$VMT_{i} = AVM_{i} \times n_{i} = AVM_{i} \times N \times \frac{MIX_{i}}{100}$$

Equation 5-9

Where,

**AVM**<sub>i</sub> = Average annual vehicle miles traveled by each vehicle category (mi/yr)

**n**: = Number of vehicles in a specific vehicle category

N = Total number of vehicles, POV or GOV

MIX: = Vehicle mix for a specific vehicle category

Emissions from GOVs or POVs are calculated using the general formula provided in Equation 5-8 and Equation 5-9. These steps must be completed independently for each pollutant of concern. Note GOVs and POVs should not be combined; GOV and POV emissions must be calculated independently. Due to the complexity of calculating on road vehicle emissions, the following steps are recommended for use as a guideline for data collection and emissions calculations:

<u>Step 1</u> Gather fleet data. Data required to calculate vehicle emissions typically includes vehicle category, vehicle identification, model year, and vehicle miles traveled (VMT<sub>i</sub>) during the course of the year in question.

**a.** GOV Fleet MIX Data: If a GOV is driven both on and off base during the course of the inventory year, an estimate must be made to apportion the number of miles driven between off base miles and on base miles. Figure 5-2 provides a sample form that can be used to

collect and organize GOV data by vehicle category for use in emission calculations. The best way to collect GOV information is to provide blank forms for each vehicle category to the base organization(s) responsible for managing GOVs.

b. POV Fleet MIX Data: Prior to conducting an air emissions inventory that includes POVs, it is recommended that the individual responsible for preparing the mobile source emission inventory contacts the Base Development and/or Community Planning sections of the Civil Engineering Squadron to determine if a traffic survey has been conducted recently at the base. If available, such surveys typically contain information that will be useful in calculating POV emissions.

In many cases, however, a recent traffic survey for the base is not available, and available resources do not allow the conduct of a new traffic survey. In such cases, data provided by the Security Forces Squadron (from the Pass & Registration section) and/or the Military Personnel Flight (MPF) can be used to estimate POV fleet data. Types of data which can usually be obtained from the Security Forces Squadron and/or MPF include: 1) The estimated average number of registered POVs at the installation during the applicable inventory year; 2) the estimated percentage of registered vehicles which fall under the seven vehicle categories; 3) the estimated distance (in miles) of the average POV travels on the installation during a typical weekday and weekend day; and 4) the estimated number of non registered vehicles which travel on the installation during a typical weekday and weekend day. Figure 5-3 provides a sample form that can be used to collect and organize POV data for use in emission calculations.

An alternative approach to obtaining vehicle registration information may be available at some installations. Rather than requesting the Security Forces Squadron and/or the MPF to generate estimates on the number and types of vehicles registered on base, some installations may be able to provide a listing of the vehicles contained in their databases.

<u>Step 2</u> — Group vehicle categories. Upon gathering fleet data, group together all vehicles based on the Air Force vehicle categories (i.e., LDGV, LDDV, LGDT, LDDT, HDGV, HDDV, and MC). Record the number of vehicles (n<sub>i</sub>) and total annual miles traveled (VMT<sub>i</sub>) for each vehicle category.

a. If VMT<sub>i</sub> is unknown, it may be estimated using Equation 5-9.

$$VMT_i = AVM_i \times n_i$$

**b.** If there is insufficient fleet data to provide the number of vehicles (n<sub>i</sub>) for each vehicle category yet the total number of vehicles and the relative vehicle mix (MIX<sub>i</sub>) for each specific vehicle category is known, use Equation 5-9 to approximate n<sub>i</sub>:

$$n_i = N \times \frac{MIX_i}{100}$$

<u>Step 3</u> – <u>Select emission factors</u>. The appropriate emission factors are selected based on the season, vehicle category, the calendar year you are performing the emissions calculation, the installation's location (i.e., the state it is located in), and the installation's altitude. Vehicle exhaust emission factors (EF(Pol)<sub>i</sub>) are selected from Table 5-25 through Table 5-40.

<u>Step 4</u> — <u>Calculate emissions</u>. For vehicle exhaust emissions, first calculate the emissions for each individual vehicle category (EP(Pol)<sub>i</sub>) then sum these values for the total vehicle emissions for that pollutant. Pollutant emissions for each vehicle category are calculated and summed using Equation 5–8.

## 5.3.1.3 Using Air Force Typical Vehicle Mix Data

Another method for calculating on road vehicle emissions is to calculate the emissions from each vehicle category using the typical Air Force vehicle mix. The method of calculation is similar to that of calculating emissions using specific vehicle mix data. The emission factors used for this method are selected based on: (1) the emission inventory year, (2) the vehicle *classification* (POV versus GOV), (3) the state in which the installation is located, (4) the vehicle category (LDGV, LDDV, etc.), and (5) the altitude of the installation. According to 40 CFR 86.082-2, a designated "high altitude" location' is any base within a county that has a substantial portion of its area located above 1,219 meters (4,000 feet). For the majority of applications, low-altitude is the appropriate choice. A list of those counties the EPA has designated as high altitude appears in Appendix III of 40 CFR 1068 Subpart G. The emission factors used for this method (EF(Pol)<sub>i</sub>) are provided in Table 5-25 through Table 5-40. Emissions are estimated via this method using a slightly modified Equation 5-3 by substituting the correct emission factor as shown:

$$E(Pol)_{Total} = VMT_{Total} \times EF(Pol)_{Total} \times 0.002205$$

**Equation 5-10** 

Where.

 $\mathbf{EF(Pol)_{Total}}$  = Total adjusted on road vehicle exhaust emission (lb/yr). This is calculated using Equation 5–11.

The total adjusted on-road vehicle emission factor takes into account any reduction in emissions as a result of alternative fuel use. This is calculated as follows:

$$EF(Pol)_{Total} = \sum_{i=1}^{7} \left\{ \left( \frac{MIX_i}{100} \right) \times EF(Pol)_i \times \left[ \frac{FERF(Pol)}{100} \right] \right\}$$

Equation 5-11

The total vehicle miles traveled (VMT<sub>Total</sub>) is the sum of the average miles traveled for all vehicle categories as shown:

$$VMT_{Total} = \sum_{i=1}^{7} \left( AVM_i \times N \times \frac{MIX_i}{100} \right)$$

Equation 5-12

Equation 5-12 may be simplified if it is assumed that each vehicle category traveled the same distance per year, as shown below:

$$VMT_{Total} = AVM \times N$$

**Equation 5-13** 

Emissions from vehicles are calculated by applying the general formulas provided in Equation 5-10 (further simplified with Equation 5-11, Equation 5-12, and Equation 5-13) and using the typical POV or GOV vehicle mix data from Table 5-2. These steps must be completed independently for each pollutant of concern. Note GOVs and POVs should not be combined; GOV and POV emissions must be calculated independently. Due to the complexity of calculating on road vehicle emissions, the following steps are recommended for use as a guideline for data collection and emissions ealculations:

Step 1- Gather fleet data. In this case fleet data or a traffic survey for the base is not available. Therefore, obtain the total number (N) of vehicles (POV or GOV) driving on base and the overall average annual vehicle miles traveled (AVM) for all vehicle categories. The data can often be provided or estimated by the Security Forces Squadron (from the Pass & Registration section) and/or the Military Personnel Flight (MPF) can be used to estimate POV fleet data. Types of data that can usually be obtained from the Security Forces Squadron and/or MPF include: 1) The estimated average number of registered POVs and/or GOVs at the installation during the applicable inventory year; 2) the estimated distance (in miles) of the average POV travels on the installation during a typical weekday and weekend day; and 3) the estimated number of non-registered vehicles that travel on the installation during a typical weekday and weekend day.

An alternative approach to obtaining vehicle registration information may be available at some installations. Rather than requesting the Security Forces Squadron and/or the MPF to generate estimates on the number and types of vehicles registered on base, some installations may be able to provide a listing (preferably in both electronic and hardcopy format) of the vehicles contained in their databases. At a minimum, the listing should provide the number of registered vehicles.

<u>Step 2</u> - Group vehicle categories. When the actual fleet mix data is unavailable, the typical fleet mix data from Table 5-2 may be applied. Upon gathering fleet data on the total number (N) of

vehicles (POV or GOV) driving on base and overall average annual vehicle miles traveled (AVM), obtain and record the typical vehicle mix values (MIX<sub>i</sub>) from Table 5-2 for each vehicle category. Then, assuming all vehicle categories traveled the same distance per year, calculate the total annual vehicle miles traveled (VMT<sub>Total</sub>) for all vehicle categories combined with Equation 5-13.

<u>Step 3</u> - <u>Select emission factors</u>. Selection of the appropriate emission factor is based on the vehicle category, the calendar year you are performing the emissions calculation, the installation's location (i.e., the state it is located in), and the installation's altitude. The emission factors are selected from Table 5-25 through Table 5-40.

Once the appropriate pollutant specific emission factors (EF(Pol)<sub>i</sub>) for each vehicle category are obtained, calculate the total composite emission factor using Equation 5-11.

<u>Step 4</u> - <u>Calculate emissions</u>. The total pollutant emissions from all vehicle categories (EP(Pol)<sub>Total</sub>) for on-road emissions are each calculated using Equation 5-10.

# 5.3.2 Vehicle Exhaust Emissions (Idling)

Calculating idling emissions is similar to the calculation of on-road vehicle emissions provided above with slight modifications to the equations supplied. The primary difference is that the emission factors for idling vehicles are presented in a g/hr format which means the time spent in idle mode must be known (or estimated). Idling emissions from typical on-road vehicle operation are already addressed in the previous section above. This section describes the calculation of theoretical emissions from idling vehicles for NEPA and intersection modeling, not for a mobile AEI.

#### 5.3.2.1 Using Specific Vehicle Mix Data

If necessary, emissions may be calculated using a specific vehicle mix different from the one provided in Table 5-2. This method may be desirable if a recent traffic study conflicts with the typical vehicle mix provided. The emission factors used for this method are selected based on: (1) the vehicle category (LDGV, LDDV, etc.) and (2) the season in which the emissions are being calculated (summer, winter, or average). The emission factors used for this method (EF(Pol)<sub>i</sub>) are provided in Table 5-4 through Table 5-6. Emissions are estimated using the vehicle idling time for each vehicle category and summed as follows:

$$E(Pol)_{Total} = \sum_{i=1}^{7} \left[ VIT_i \times EF(Pol)_i \times \frac{FERF(Pol)}{100} \times 0.002205 \right]$$

**Equation 5-14** 

Where,

 $\mathbf{E}(\mathbf{Pol})_{\mathsf{Total}}$  = Total theoretical emissions of specific pollutant from vehicle idling (lb/yr)

**VIT**<sub>i</sub> = Annual vehicle idling time (hr/yr)

**EF(Pol)**: = Idling emission factor for a specific pollutant (g/hr). This is provided in Table 5-4, Table 5-5, and Table 5-6

The vehicle idling time is the most difficult parameter to determine. Depending on the proposed action, idling times of varying lengths may be recommended for each vehicle *category* and/or *classification*. The idling time for each vehicle category may be estimated using an average idling time as shown:

$$VIT_i = AVIT_i \times n_i = AVIT_i \times N \times \frac{MIX_i}{100}$$

**Equation 5-15** 

Where.

AVIT<sub>i</sub> = Average annual vehicle idling time (hr/yr)

## 5.3.2.2 Using Air Force Typical Vehicle Mix Data

If the specific vehicle mix data is not available from a recent traffic study, the typical vehicle mix from Table 5-2 may be assumed. The emission factors used for this method are selected based on: (1) the vehicle category (LDGV, LDDV, etc.) and (2) the season in which the emissions are being calculated (summer, winter, or average). The emission factors used for this method (EF<sub>Idle</sub>(Pol)<sub>i</sub>) are provided in Table 5-4 through Table 5-6. Theoretical emissions from vehicle idling is estimated as follows:

$$E(Pol)_{Total} = VIT_{Total} \times EF(Pol)_{Total} \times 0.002205$$

**Equation 5-16** 

Where,

 $\begin{array}{lll} \textbf{VIT}_{Total} & = & Total \ annual \ vehicle \ idling \ time \ for \ all \ POV \ or \ GOV \ (hr/yr) \\ \textbf{EF(Pol)}_{Total} & = & Total \ adjusted \ idling \ emission \ factor \ (g/hr). \ This \ is \ calculated \ by \\ & Equation \ 5-17. \end{array}$ 

The total adjusted idling emission factor takes into account any reduction in emissions as a result of alternative fuel use. This is calculated as shown:

$$EF(Pol)_{Total} = \sum_{i=1}^{7} \left\{ \left( \frac{MIX_i}{100} \right) \times EF(Pol)_i \times \left[ \frac{FERF(Pol)}{100} \right] \right\}$$

Equation 5-17

The total vehicle idling time (VIT<sub>Total</sub>) is the sum of the average idling time for all vehicle categories as shown:

$$VIT_{Total} = \sum_{i=1}^{7} \left( AVIT_{i} \times N \times \frac{MIX_{i}}{100} \right)$$

Equation 5-18

Equation 5-18 may be simplified if it is assumed that each vehicle category will idle for the same amount of time per year, as shown below:

$$VIT_{Total} = AVIT \times N$$

**Equation 5-19** 

In the absence of average vehicle idling time (AVIT) data, contact base Civil Engineering for assistance in estimating this value.

## 5.3.3 Fugitive PM Emissions

Particulate emissions are generated from vehicle exhaust and are described in the previous sections. Fugitive particulate emissions, however, are generated from the operation of on-road vehicles across a paved or unpaved road surfaces. The amount of particulate generated is a function of the road surface (paved or unpaved) and the total vehicle miles traveled (VMT<sub>Total</sub>). The emission factors are selected from Table 5-8 based on (1) the road surface (paved or unpaved and (2) vehicle classification (POV or GOV). The selected emission factors must be corrected based on the amount of days in the year with precipitation of 0.01 inches or more using the appropriate equation (either Equation 5-1 or Equation 5-2) based on the road surface. Using the corrected emission factor for paved (EF(Pol)<sub>CP</sub>) and unpaved (EF(Pol)<sub>CU</sub>) roads, fugitive PM emissions are calculated as follows:

$$\frac{E(Pol)_{Total} = VMT_{Total} \times \left[ \left( \frac{\%VMT_P}{100} \times EF(Pol)_{CP} \right) + \left( \frac{\%VMT_U}{100} \times EF(Pol)_{CU} \right) \right] \times 0.002205}{Equation 5-20}$$

Where.

**E(Pol)**<sub>Total</sub> = Total annual emissions of fugitive PM from on road vehicles (lb/yr)

%VMT<sub>P</sub> = Percent of total miles driven on paved roads (%)

%VMT<sub>U</sub> = Percent of total miles driven on unpaved roads (%)

## 5.3.4 VOC Speciation

On-road vehicles have the potential to produce a significant amount of air pollutants released to the atmosphere. The amount of pollution is a function of the amount of on-road vehicles, the average number of miles driven, the time of year, the content of the fuel used, and even the average idling time. The large number of variables impacting air emissions from on-road vehicles increases the complexity of quantifying their emissions. However, measurements are continually being taken to develop more accurate air emission estimates. Individual VOCs may be estimated using the weight fractions of each chemical to the total emitted VOC.

The weight fractions provided in this document were determined using test data from a variety of sources including the EPA's SPECIATE database. The emission profiles used to determine the VOC weight percent are assumed to be representative of the vehicle category's emissions. However, this information should only be used when no alternative emission profiles are available. The average weight percent of individual pollutants were calculated as follows:

$$P_{Pol} = \frac{A_{Pol}}{AVOC_{Total}}$$

**Equation 5-21** 

Where,

 $\mathbf{P}_{\mathbf{Pol}}$  = Weight percent of a given pollutant (%)

A<sub>Pol</sub> = Individual pollutant emission factor (mg/mi)

AVOC<sub>Total</sub> = Total VOC emission factor (mg/mi)

Speciated VOCs are calculated by taking the product of the total VOCs and the weighted percentage of the individual VOC as follows:

$$E_{Pol} = E_{VOC} \times \frac{P_{Pol}}{100}$$

Equation 5-22

Where,

 $\mathbf{E}_{Pol}$  = Emissions of speciated VOC (lb/yr)

100 = Factor for converting percent to a fraction (%)

Evoc -= Emissions of total VOC (lb/yr)

The percentages of each VOC to total VOC are provided in Table 5-43. Note that the light duty gas vehicles, trucks, and heavy duty gas vehicles (LDGV, LDGT, and HDGV) are not further subdivided into hybrid and CNG fueled vehicles. To calculate the emissions specific to these vehicles, apply the vehicle mix (use the default values if no onsite data is available).

#### 5.4 Information Resources

Information required for calculating emissions from GOVs can usually be obtained from the base transportation organization as it typically maintains records on most, if not all, GOVs assigned to the installation. At some installations it may also be necessary to obtain information directly from the organizations that use and/or maintain the vehicles. For example, the Fire Department may need to be contacted to obtain information specific to fire trucks and rescue vehicles.

In some cases, it may be necessary to obtain and review data contained in the base's vehicle maintenance index file (VMIF), on-line vehicle interactive management system (OLVIMS) report, or equivalent vehicle information management system to verify vehicle class/type as some installations do not use the same classification system used by EPA. Some facilities may have a cross-reference tool with management codes that will assist in interpreting how vehicle usage is being tracked (e.g., miles, hours, and kilometers).

Most information required to calculate POV emissions may be obtained from the Security Forces Squadron. The Pass & Registration section of the base Security Forces Squadron usually maintains computer records on all POVs registered at the installation. Some installations perform vehicle registration at MPF. The office that handles vehicle registrations (Pass & Registration or MPF) is also in a good position to survey base personnel on their vehicle usage. Since the Security Forces Squadron is responsible for staffing the base gates, they are usually the best source of information on non-registered vehicles.

If the POV information needed to calculate vehicle emissions cannot be obtained from the Security Forces Squadron, it might be necessary to survey a representative number of base personnel to obtain the required information. It is also highly recommended that personnel conducting the air emissions inventory check with the Base Development and/or Community Planning sections of the Civil Engineering Squadron to determine whether any recent traffic surveys have been conducted at the base.

For purposes of estimating the length of typical on base POV trips, consider the trip length in terms of the mileage from the main gate to a common on base destination and back. For instance, if most POVs are believed to be traveling to the Base Exchange, the Commissary, or the Medical Clinic, estimate the distance from the main gate to those locations. In such instances, it may be assumed that a median round trip distance of 3-4 miles is appropriate for use. However, it may also be necessary to estimate vehicle travel distances for individuals who travel on and off base more than once per day, such as personnel who leave the base during lunchtime. In the absence of base specific survey data, it can be conservatively assumed that 5% of base personnel will travel off base during lunchtime. Since this is a second trip through the gate, you should assume the daily on base mileage is doubled for those individuals. If base organizations are unable to provide

required data, it may be possible to obtain trip length and driver behavior data that can be extrapolated to on-base conditions from the local metropolitan planning office (MPO).

Finally, the base Weather Detachment should be contacted to verify the installation's altitude to determine whether the installation is below or above the low/high altitude threshold (4,000 feet above sea level).

# 5.5 Example Problems

# 5.5.1 Problem 1 - Calculating POV and GOV Emissions - Air Force/State/Territory Composite Emission Factor Method

Anytown AFB is inventorying its calendar year 2013 CO emissions for their POVs and GOVs operated by the facility during the year. Data indicates that there are a total of 422 POVs and 38 GOVs which traveled an average of 4,563 miles each. Calculate CO emissions for CY2013 if Anytown AFB is located in Alabama at an elevation of 1,100 feet above sea level.

<u>Step 1</u> — Gather fleet data. The data required to calculate emissions is provided in the problem statement. This information includes the number of POVs ( $N_{POV} = 422$ ), the number of GOVs ( $N_{GOV} = 38$ ), and the average miles traveled for each GOV (AVM = 4,563 miles/yr).

Next, calculate total vehicle miles traveled (VMT<sub>Total</sub>). Using the number of POVs and GOVs, the average vehicle miles traveled (AVM) and Equation 5-7, the VMT<sub>Total</sub> is calculated as follows:

$$VMT_{Total} = AVM \times N$$

For POVs:

$$VMT_{Total-POV} = 4,563 \frac{miles}{yr} \times 422 = 1925586 \frac{miles}{yr}$$

For GOVs:

$$VMT_{Total-GOV} = 4,563 \frac{miles}{yr} \times 38 = 173394 \frac{miles}{yr}$$

<u>Step 2</u> Select emission factors. Since the altitude given (1,100 feet above sea level) is beneath the 4,000 feet threshold, this location is regarded as a "low altitude" location. According to Table 5-9, for CY2013 at a low altitude location in Alabama, the CO emission factor (EF(CO)<sub>Alabama</sub>) for POVs is **9.214 g/mi**. Similarly, the CO emission factor (EF(CO)<sub>Alabama</sub>) for GOVs, according to Table 5-17, is **7.477 g/mi**.

Next, calculate the adjusted emission factors. To adjust the emission factor (EF(CO)<sub>Alabama</sub>) for vehicles that operate on alternative fuels, the emission factors recorded in Step 3 are adjusted using Equation 5-5 and Equation 5-6 for POVs and GOVs respectively. The FERF for CO, according to Table 5-7, is 90% and 50% for CNG and hybrid vehicles respectively.

## For POVs:

$$\begin{split} EF(Pol)_{Total} &= EF(Pol)_{State} \times \left[0.98 + \left(0.0194 \times \frac{FERF(Pol)_{Hyb}}{100}\right) + \left(0.0006 \times \frac{FERF(Pol)_{CNG}}{100}\right)\right] \\ &= EF(CO)_{Total} = 9.214 \frac{g}{mi} \times \left[0.98 + \left(0.0194 \times \frac{50\%}{100\%}\right) + \left(0.0006 \times \frac{90\%}{100\%}\right)\right] \\ &= EF(CO)_{Total} = 9.214 \frac{g}{mi} \times \left[0.98 + \left(0.0194 \times 0.5\right) + \left(0.0006 \times 0.9\right)\right] \\ &= EF(CO)_{Total} = 9.214 \frac{g}{mi} \times \left[0.98 + \left(0.0097\right) + \left(0.00054\right)\right] \\ &= EF(CO)_{Total} = 9.214 \frac{g}{mi} \times \left[0.99024\right] = 9.124 \frac{g}{mi} \end{split}$$

# For GOVs:

$$EF(Pol)_{Total} = EF(Pol)_{State} \times \left[0.9901 + \left(0.0067 \times \frac{FERF(Pol)_{Hyb}}{100}\right) + \left(0.0032 \times \frac{90\%}{100}\right)\right]$$

$$EF(CO)_{Total} = 7.477 \frac{g}{mi} \times \left[0.9901 + \left(0.0067 \times \frac{50\%}{100\%}\right) + \left(0.0032 \times \frac{90\%}{100\%}\right)\right]$$

$$EF(CO)_{Total} = 7.477 \frac{g}{mi} \times \left[0.9901 + \left(0.0067 \times 0.5\right) + \left(0.0032 \times 0.9\right)\right]$$

$$EF(CO)_{Total} = 7.477 \frac{g}{mi} \times \left[0.9901 + \left(0.00335\right) + \left(0.00288\right)\right]$$

$$EF(CO)_{Total} = 7.477 \frac{g}{mi} \times \left[0.99633\right] = 7.450 \frac{g}{mi}$$

<u>Step 3</u> Calculate emissions. Emissions are calculated using the adjusted emission factors from Step 4, the VMT<sub>Total</sub> calculated from Step 2, and Equation 5–3 as shown:

$$E(Pol)_{Total} = VMT_{Total} \times EF(Pol)_{Total} \times 0.002205$$

#### For POVs:

$$E(CO)_{Total} = 1925586 \frac{miles}{yr} \times 9.124 \frac{g}{mi} \times 0.002205 \frac{lb}{g}$$

$$E(CO)_{Total} = 38,739.75 \frac{lb}{yr}$$

#### -For GOVs:

$$E(CO)_{Total} = 173394 \frac{miles}{yr} \times 7.450 \frac{g}{mi} \times 0.002205 \frac{lb}{g}$$

$$E(CO)_{Total} = 2,848.39 \frac{lb}{yr}$$

# 5.5.2 Problem 2 - Calculating GOV Emissions - Using Specific Vehicle Mix Data

Anytown AFB is inventorying its CY2013 CO emissions for their 15 GOVs operated by the facility during the year. The AFB is located in Alabama at an elevation of 1,100 feet above sea level. For this example, vehicle data was collected and organized by vehicle category using the form shown in Figure 5.2.

<u>Step 1</u> — Gather fleet data and <u>Step 2</u> — Group vehicle categories. Since the data was available from the Environmental manager, Steps 1 and 2 are combined using the form from Figure 5-2.

Installation Name: Anytown AFB		I	<del>Inventory Year</del>	<del>: 2013</del>
Responsible Organization (Name and Off	fice Symbol):			
POC (Name, Phone #, and email):				
<del>Vehicle Category:</del>				
Vehicle Identification Number (VIN)	Vehicle Description	Bldg. Number	Model Year	Miles Driven (mi/yr)
	<del>LDGV</del>			
Vehicle #1	Sedan	Bldg. 45-2	<del>1999</del>	4,900
<del>Vehicle #10</del>	Sedan	Bldg. 45-2	<del>1999</del>	<del>5,670</del>
Vehicle #11	Sedan	Bldg. 15-1	<del>2004</del>	4,368
Vehicle #15	Sedan	Bldg. 23-6	<del>2002</del>	<del>6,670</del>
Vehicle #8	Sedan	Bldg. 15	<del>1998</del>	2,700
Vehicle #3	Sedan	Bldg. 1	<del>2004</del>	7,400
<del>Vehicle #5</del>	Sedan	Bldg. 10	<del>1997</del>	<del>1,730</del>
Vehicle #9	Sedan	Bldg. 10	<del>1997</del>	<del>1,450</del>
		Average	2000	4,361
		<del>Total</del>		34,888
	LDGT			
<del>Vehicle #6</del>	<del>Pickup</del>	Bldg. 15	<del>2000</del>	4,600
<del>Vehicle #7</del>	<del>Pickup</del>	Bldg. 15	<del>2000</del>	5,200
Vehicle #13	<del>Van</del>	Bldg. 15	<del>1999</del>	6,500
Vehicle #14	SUV	Bldg. 15	2003	3,200
		Average	2000	4,875
		<del>Total</del>		<del>19,500</del>
	HDGV			
<del>Vehicle #2</del>	Flatbed	Bldg. 15	<del>1998</del>	<del>4,450</del>
		Average	1998	4 <del>,450</del>
		<del>Total</del>		4,450
	LDDT			
Vehicle #4	<del>Pickup</del>	Bldg. 1	<del>2004</del>	4,300
		Average	2004	4,300
		Total		4,300
	HDDV			
Vehicle #12	Fire Truck	Bldg. 45-2	<del>2002</del>	<del>5,300</del>
		Average	2002	<del>5,300</del>
		<del>Total</del>		<del>5,300</del>

<u>Step 3</u> — <u>Select emission factors</u>. Since the altitude of this Air Force installation falls below the 4,000 feet above sea level threshold, the facility is considered to be in a "low altitude" location.

For GOVs in CY 2013 at low altitude locations in Alabama, the CO emission factors for each vehicle category are given in Table 5-33. The emission factors are provided in the table below.

Vehicle Category	CO Emission Factor (g/mi)
<del>LDGV</del>	8.110
<del>LDGT</del>	<del>10.530</del>
HDGV	<del>9.600</del>
<del>LDDV</del>	0.808
<del>LDDT</del>	<del>0.657</del>
HDDV	<del>0.919</del>
<del>MC</del>	0.000

<u>Step 4</u> Calculate emissions. No information was provided regarding whether or not any of the vehicles operated on alternative fuel. Using the vehicle miles traveled for each vehicle category (VMT<sub>i</sub>) from the fleet data, the emission factors recorded in Step 3, and Equation 5-8, the emissions are first calculated for each vehicle category as follows:

$$\begin{split} E(Pol)_{Total} &= \sum_{i=1}^{7} \left[ VMT_{i} \times EF(Pol)_{i} \times \frac{FERF(Pol)}{100} \times 0.002205 \right] \\ E(CO)_{LDGV} &= 34,888 \frac{mi}{yr} \times 8.110 \frac{g}{mi} \times \frac{100\%}{100\%} \times 0.002205 \frac{lb}{g} = 623.9 \frac{lb}{yr} \\ E(CO)_{LDGV} &= 19,500 \frac{mi}{yr} \times 10.530 \frac{g}{mi} \times \frac{100\%}{100\%} \times 0.002205 \frac{lb}{g} = 452.8 \frac{lb}{yr} \\ E(CO)_{HDGV} &= 4,450 \frac{mi}{yr} \times 9.600 \frac{g}{mi} \times \frac{100\%}{100\%} \times 0.002205 \frac{lb}{g} = 94.2 \frac{lb}{yr} \\ E(CO)_{LDDV} &= 0 \frac{mi}{yr} \times 0.808 \frac{g}{mi} \times \frac{100\%}{100\%} \times 0.002205 \frac{lb}{g} = 0.0 \frac{lb}{yr} \\ E(CO)_{LDDV} &= 4,300 \frac{mi}{yr} \times 0.657 \frac{g}{mi} \times \frac{100\%}{100\%} \times 0.002205 \frac{lb}{g} = 6.2 \frac{lb}{yr} \\ E(CO)_{HDDV} &= 5,300 \frac{mi}{yr} \times 0.919 \frac{g}{mi} \times \frac{100\%}{100\%} \times 0.002205 \frac{lb}{g} = 10.7 \frac{lb}{yr} \\ E(CO)_{MC} &= 0 \frac{mi}{yr} \times 0.000 \frac{g}{mi} \times \frac{100\%}{100\%} \times 0.002205 \frac{lb}{g} = 0.0 \frac{lb}{yr} \end{split}$$

Finally, the total CO emissions are calculated by summing the contributing CO emissions from each vehicle category.

$$E(Pol)_{Total} = \sum_{i=1}^{7} E(Pol)_{i}$$

$$E(CO)_{TOTAL} = (623.9 + 452.8 + 94.2 + 0 + 6.2 + 10.7 + 0) \frac{lb}{yr}$$

$$E(CO)_{TOTAL} = 1187.8 \frac{lb}{yr}$$

## 5.5.3 Problem 3 - Calculating POV Emissions - Using Specific Vehicle Mix Data

Anytown AFB (located in Alabama at an elevation of 1,100 feet above sea level) is conducting an emissions inventory to quantify calendar year 2013 emissions attributable to the operation of POVs. Using the information provided by the Security Forces Squadron, the following data was used to calculate the CY2013 emissions of CO from the operation of POVs. The collected POV data was organized by vehicle category using the form shown in Figure 5-3.

<u>Step 1</u> — Gather fleet data. Fleet data information is provided in the following figure.

<u>Step 2</u> — Group vehicle categories. The first step in grouping the vehicle categories is to calculate the estimated total number of vehicles (N) driving on base. Using the data provided in the form referenced in Step 1, the total number of POVs is estimated as follows:

$$N = Registered + Unregistered$$

$$N = 1,675 + 125 = 1,800 vehicles$$

Installation Name: Anytown AFB Inventory Y	<del>'ear: 2013</del>
Responsible Organization (Name and Office Symbol): 58 CES/CD	
POC (Name, Phone #, and email): SSgt John Jones, DSN 234-5678	
Question	Response
Can you provide the listing of all registered vehicles on base? (Y/N)?	N
If so, be sure to include all specific information (make/model year, etc.) about the vehicles.	N N
What is the estimated average number of <u>registered</u> POVs at the installation during the inventory period?	<del>1,675</del>
What is the estimated percentage of <u>registered</u> vehicles which actually travel on the installation	2
during a typical weekday (Monday Friday)?	75
What is the estimated percentage of <u>registered</u> vehicles which actually travel on the installation during a typical weekend day (Saturday and Sunday)?	<del>1</del> 50
What is the estimated distance the average POV travels on base during a typical weekday?	6 mi/day
What is the estimated distance the average POV travels on base during a typical weekend day	? 4 mi/day
What is the estimated number of <u>non registered</u> POVs which travel on base during a typica weekday?	125
What is the estimated average model year of all POVs driven on base during the inventor	<del>-</del>
year? (NOTE: This is not required if the average model years are listed below for each vehicle	e
<del>category)</del>	

Using registration information, provide an estimate of the percentage of <u>registered</u> POVs which fall under each of the 7 vehicle categories listed below.

Vehicle Category	Category Description	Estimated % of Registered Vehicles
<del>LDGV</del>	Light Duty Gasoline Vehicles All gasoline powered passenger cars	<del>36</del>
LDDV	Light Duty Diesel Vehicles All diesel powered passenger cars	1
<del>LDGT</del>	Light Duty Gasoline Trucks All smaller gasoline powered trucks (0 to 8,500 lbs. GVWR)	<del>54</del>
LDDT	Light Duty Diesel Trucks (LDDT) All smaller diesel powered trucks (0 to 8,500 lbs. GVWR)	1
HDGV	Heavy Duty Gasoline Vehicles (HDGV) All larger gasoline powered vehicles (8,501to >60,000 lbs. GVWR)	4
HDDV	Heavy Duty Diesel Vehicles All larger diesel powered vehicles (10,001to >60,000 lbs. GVWR)	3
MC	Motorcycles (MC) All motorcycles (assumed to be gasoline powered)	1

Next, the number of vehicles which fall under each vehicle category are calculated under the assumption that the fleet mix for the unregistered vehicles is the same as for the registered vehicles. By slightly modifying Equation 5-9, the number of vehicles for each category (n<sub>i</sub>) may be derived from the total number of vehicles (N) and vehicle category mix (MIX<sub>i</sub>).

$$n_{\downarrow} = N \times \frac{MIX_{\downarrow}}{1000}$$
 $n_{LDGV} = 1,800 \times \frac{36\%}{100\%} = 648 \ Vehicles$ 
 $n_{LDDV} = 1,800 \times \frac{1\%}{100\%} = 18 \ Vehicles$ 
 $n_{LDGT} = 1,800 \times \frac{54\%}{100\%} = 972 \ Vehicles$ 
 $n_{LDGT} = 1,800 \times \frac{1\%}{100\%} = 18 \ Vehicles$ 
 $n_{HDGV} = 1,800 \times \frac{4\%}{100\%} = 72 \ Vehicles$ 
 $n_{HDGV} = 1,800 \times \frac{3\%}{100\%} = 54 \ Vehicles$ 
 $n_{HDGV} = 1,800 \times \frac{3\%}{100\%} = 54 \ Vehicles$ 

Next, the average annual vehicle miles traveled (AVM<sub>i</sub>) is calculated. Using the data provided in the form above, the average vehicle miles traveled is calculated as follows:

$$AVM_{\tilde{t}} = \frac{52 \, weeks}{yr} \times \left[ \left( \frac{75\%}{100\%} \times 6 \, \frac{mi}{day} \times 5 \, \frac{day}{week} \right) + \left( \frac{50\%}{100\%} \times 4 \, \frac{mi}{day} \times 2 \, \frac{day}{week} \right) \right]$$

$$AVM_{\tilde{t}} = \frac{52 \, weeks}{yr} \times \left[ \left( 0.75 \, \times 6 \, \frac{mi}{day} \times 5 \, \frac{day}{week} \right) + \left( 0.5 \, \times 4 \, \frac{mi}{day} \times 2 \, \frac{day}{week} \right) \right]$$

$$AVM_{\tilde{t}} = \frac{52 \, weeks}{yr} \times \left[ \left( 22.5 \, \frac{mi}{week} \right) + \left( 4 \, \frac{mi}{week} \right) \right]$$

$$AVM_{\tilde{t}} = \frac{52 \, weeks}{yr} \times \left[ \left( 26.5 \, \frac{mi}{week} \right) \right] = 1,378 \, \frac{mi}{yr}$$

Finally, the total annual vehicle miles traveled for each category (VMT<sub>i</sub>) is calculated using Equation 5 9.

$$VMT_{LDGV} = 1378 \frac{mi}{yr} \times 648 \text{ vehicles} = 892,944 \frac{mi}{yr}$$

$$VMT_{LDDV} = 1378 \frac{mi}{yr} \times 18 \text{ vehicles} = 24,804 \frac{mi}{yr}$$

$$VMT_{LDDV} = 1378 \frac{mi}{yr} \times 972 \text{ vehicles} = 1,339,416 \frac{mi}{yr}$$

$$VMT_{LDDT} = 1378 \frac{mi}{yr} \times 18 \text{ vehicles} = 24,804 \frac{mi}{yr}$$

$$VMT_{HDGV} = 1378 \frac{mi}{yr} \times 72 \text{ vehicles} = 99,216 \frac{mi}{yr}$$

$$VMT_{HDDV} = 1378 \frac{mi}{yr} \times 54 \text{ vehicles} = 74,412 \frac{mi}{yr}$$

$$VMT_{MC} = 1378 \frac{mi}{yr} \times 18 \text{ vehicles} = 24,804 \frac{mi}{yr}$$

<u>Step 3</u> — <u>Select emission factors.</u> Emission factors for POVs for CY2013 are provided in Table 5-25. The CO emission factors for a low altitude base in Alabama for 2013 are provided in the sub-table below.

Vehicle Category	CO Emission Factor (g/mi)
<del>LDGV</del>	<del>8.110</del>
<del>LDDV</del>	0.808
<del>LDGT</del>	<del>10.550</del>
<del>LDDT</del>	<del>0.657</del>
HDGV	<del>8.180</del>
HDDV	0.427
MC	<del>14.280</del>

<u>Step 4</u> — <u>Calculate emissions</u>. Emissions are calculated using the vehicle miles traveled as calculated in Step 2, the emission factors recorded in Step 3, and Equation 5-8. First the CO emissions from each vehicle category are individually calculated and then summed for total CO emissions. Also, since no information was provided regarding the use of alternative fuels, a fuel emission reduction factor (FERF) value of "100" is used.

$$\begin{split} E(Pol)_{Total} &= \sum_{i=1}^{7} \left[ VMT_i \times EF(Pol)_i \times \frac{FERF(Pol)}{100} \times 0.002205 \right] \\ E(CO)_{LDGV} &= 892,944 \frac{mi}{yr} \times 8.110 \frac{g}{mi} \times \frac{100\%}{100\%} \times 0.002205 \frac{lb}{g} = 15,968.1 \frac{lb}{yr} \\ E(CO)_{LDDV} &= 24,804 \frac{mi}{yr} \times 0.808 \frac{g}{mi} \times \frac{100\%}{100\%} \times 0.002205 \frac{lb}{g} = 44.2 \frac{lb}{yr} \\ E(CO)_{LDGT} &= 1,339,416 \frac{mi}{yr} \times 10.550 \frac{g}{mi} \times \frac{100\%}{100\%} \times 0.002205 \frac{lb}{g} = 31,158.5 \frac{lb}{yr} \end{split}$$

$$\begin{split} & E(CO)_{LDDT} = 24,804 \frac{\text{mi}}{\text{yr}} \times 0.657 \frac{\text{g}}{\text{mi}} \times \frac{100\%}{100\%} \times 0.002205 \frac{\text{lb}}{\text{g}} = 35.9 \frac{\text{lb}}{\text{yr}} \\ & E(CO)_{HDGV} = 99,216 \frac{\text{mi}}{\text{yr}} \times 8.180 \frac{\text{g}}{\text{mi}} \times \frac{100\%}{100\%} \times 0.002205 \frac{\text{lb}}{\text{g}} = 1,789.5 \frac{\text{lb}}{\text{yr}} \\ & E(CO)_{HDDV} = 74,412 \frac{\text{mi}}{\text{yr}} \times 0.427 \frac{\text{g}}{\text{mi}} \times \frac{100\%}{100\%} \times 0.002205 \frac{\text{lb}}{\text{g}} = 70.1 \frac{\text{lb}}{\text{yr}} \\ & E(CO)_{MC} = 24,804 \frac{\text{mi}}{\text{yr}} \times 14.280 \frac{\text{g}}{\text{mi}} \times \frac{100\%}{100\%} \times 0.002205 \frac{\text{lb}}{\text{g}} = 781.0 \frac{\text{lb}}{\text{yr}} \end{split}$$

The total CO emissions are calculated by summing the CO emissions from each contributing vehicle category:

$$E(Pol)_{Total} = \sum_{i=1}^{7} E(Pol)_{i}$$

$$E(CO)_{Total} = (15968.1 + 44.2 + 31158.5 + 35.9 + 1789.5 + 70.1 + 781.0) \frac{lb}{yr}$$

$$E(CO)_{Total} = 49,847.3 \frac{lb}{yr}$$

## 5.5.4 Problem 4 - Calculating POV Emissions - Using Typical Vehicle Mix Data

An Air Force base is interested in determining the NO<sub>x</sub>-generated by the operation of POVs driven on base. There are approximately 600 POVs that average 3,700 miles per year, but no vehicle studies have been performed to describe the vehicle mix. Using the typical Air Force vehicle mix, determine the NO<sub>x</sub>-generated by the operation of these vehicles on base for CY 2013. The base is located in Colorado at an elevation of 6,240 feet above sea level.

<u>Step 1</u> — Gather fleet data. The problem statement provided information regarding the number of POVs (N = 600) and the average vehicle miles driven by each vehicle (AVM = 3,700 miles per year).

<u>Step 2</u> — Group vehicle categories. The first step is to determine the total annual vehicle miles traveled (VMT<sub>Total</sub>) for all vehicles. Using the number of POVs and average miles traveled as recorded in Step 1, the total vehicle miles traveled is calculated using Equation 5–13 as shown:

$$VMT_{Total} = AVM \times N$$

$$VMT_{Total} = 3,700 \frac{mi}{vr} \times 600 = 2,220,000 \frac{mi}{vr}$$

Since the typical Air Force vehicle mix is assumed for this example, the vehicle mix (MIX<sub>i</sub>) for each category for POVs has been extracted from Table 5-2 and presented in the following subtable.

Vehicle Category	POV Vehicle Mix (%)
<del>LDGV</del>	<del>56.17</del>
<del>LDDV</del>	0.88
<del>LDGT</del>	<del>34.62</del>
<del>LDDT</del>	1.00
HDGV	<del>0.62</del>
HDDV	0.22
<del>MC</del>	<del>4.49</del>
LDGV (H)	<del>1.70</del>
LDGT (H)	0.24
LDGV (C)	<del>0.06</del>
LDGT (C)	0.00
HDGV (C)	0.00

<u>Step 3</u> – Select emission factors. The emission factors for CY 2013 POVs are presented in Table 5-25. Since the elevation of the base is above the 4,000 feet above sea level threshold, the facility is classified as a "high altitude" location. The emission factors for NO<sub>X</sub> for high altitude locations in Colorado have been extracted from the table and presented in the following sub-table.

Vehicle Category	NO <sub>x</sub> Emission Factor (g/mi)
LDGV	0.449
<del>LDDV</del>	0.200
<del>LDGT</del>	<del>0.834</del>
<del>LDDT</del>	<del>0.460</del>
HDGV	<del>1.158</del>
HDDV	<del>1.412</del>
<del>MC</del>	0.880
LDGV (H)	<del>0.449</del>
LDGT (H)	0.834
LDGV (C)	<del>0.449</del>
<del>LDGT (C)</del>	<del>0.834</del>
HDGV (C)	<del>1.158</del>

<u>Step 4</u> — Calculate emissions. First, a total composite emission factor is calculated by taking the product of the emission factor for each vehicle category (EF(Pol)<sub>i</sub>—from the sub-table in Step 3), the vehicle mix value for the corresponding vehicle category (MIX<sub>i</sub>—from the sub-table in Step

2), and the appropriate fuel emission reduction factor from Table 5-7. These values are calculated as follows:

$$EF(Pol)_{Total} = \sum_{i=1}^{7} \left\{ \left( \frac{MIX_{i}}{100} \right) \times EF(Pol)_{i} \times \left[ \frac{FERF(Pol)}{100} \right] \right\}$$

$$EF(NO_{X})_{LDGV} = \left( \frac{56.17\%}{100\%} \right) \times 0.449 \frac{g}{mi} \times \left( \frac{100\%}{100\%} \right) = 0.252 \frac{g}{mi}$$

$$EF(NO_{X})_{LDGV} = \left( \frac{6.88\%}{100\%} \right) \times 0.200 \frac{g}{mi} \times \left( \frac{100\%}{100\%} \right) = 0.00176 \frac{g}{mi}$$

$$EF(NO_{X})_{LDGT} = \left( \frac{34.62\%}{100\%} \right) \times 0.334 \frac{g}{mi} \times \left( \frac{100\%}{100\%} \right) = 0.289 \frac{g}{mi}$$

$$EF(NO_{X})_{LDGT} = \left( \frac{1.00\%}{100\%} \right) \times 0.460 \frac{g}{mi} \times \left( \frac{100\%}{100\%} \right) = 0.00460 \frac{g}{mi}$$

$$EF(NO_{X})_{HDGV} = \left( \frac{6.62\%}{100\%} \right) \times 1.158 \frac{g}{mi} \times \left( \frac{100\%}{100\%} \right) = 0.00718 \frac{g}{mi}$$

$$EF(NO_{X})_{HDGV} = \left( \frac{0.22\%}{100\%} \right) \times 1.412 \frac{g}{mi} \times \left( \frac{100\%}{100\%} \right) = 0.00311 \frac{g}{mi}$$

$$EF(NO_{X})_{HDGV} = \left( \frac{4.49\%}{100\%} \right) \times 0.880 \frac{g}{mi} \times \left( \frac{100\%}{100\%} \right) = 0.0395 \frac{g}{mi}$$

$$EF(NO_{X})_{LDGV(H)} = \left( \frac{1.70\%}{100\%} \right) \times 0.449 \frac{g}{mi} \times \left( \frac{75\%}{100\%} \right) = 0.00150 \frac{g}{mi}$$

$$EF(NO_{X})_{LDGV(H)} = \left( \frac{0.24\%}{100\%} \right) \times 0.449 \frac{g}{mi} \times \left( \frac{75\%}{100\%} \right) = 0.00150 \frac{g}{mi}$$

$$EF(NO_{X})_{LDGV(C)} = \left( \frac{0.06\%}{100\%} \right) \times 0.449 \frac{g}{mi} \times \left( \frac{60\%}{100\%} \right) = 0.00162 \frac{g}{mi}$$

$$EF(NO_{X})_{LDGV(C)} = \left( \frac{0.00\%}{100\%} \right) \times 0.449 \frac{g}{mi} \times \left( \frac{60\%}{100\%} \right) = 0.00162 \frac{g}{mi}$$

$$EF(NO_{X})_{LDGV(C)} = \left( \frac{0.00\%}{100\%} \right) \times 0.449 \frac{g}{mi} \times \left( \frac{60\%}{100\%} \right) = 0.00162 \frac{g}{mi}$$

$$EF(NO_{X})_{LDGV(C)} = \left( \frac{0.00\%}{100\%} \right) \times 0.449 \frac{g}{mi} \times \left( \frac{60\%}{100\%} \right) = 0.00 \frac{g}{mi}$$

Next, sum these values for a total composite emission factor (EF(Pol)<sub>Total</sub>) as shown:

$$EF(Pol)_{Total} = \sum_{i=1}^{7} EF(Pol)_{i}$$

$$\begin{aligned} & = (0.252 + 0.00176 + 0.289 + 0.00460 + 0.00718 + 0.00311 \\ & + 0.0395 + 0.00572 + 0.00150 + 0.000162 + 0.00 + 0.00) \frac{g}{mi} \\ & = 0.605 \frac{g}{mi} \end{aligned}$$

Finally, using the total vehicle miles traveled (VMT<sub>Total</sub>) from Step 2 and the total composite emission factor, the total NO<sub>x</sub>-emissions are calculated using Equation 5-10 as shown:

$$\begin{split} E(Pol)_{Total} &= VMT_{Total} \times EF(Pol)_{Total} \times 0.002205 \\ E(NO_X)_{Total} &= 2,220,000 \frac{mi}{yr} \times 0.605 \frac{g}{mi} \times 0.002205 \frac{lb}{g} \\ \hline E(NO_X)_{Total} &= 2961.5 \frac{lb}{yr} \end{split}$$

## 5.5.5 Problem 5 - Calculating Fugitive PM Emissions

Determine the fugitive PM<sub>10</sub> generated from the POVs and GOVs provided in Problem 1 given that the base is located in central Alabama. It can be assumed that all 100% of all miles traveled by POVs are on paved roads, whereas GOVs traveled 90% on paved roads and 10% on unpaved roads.

<u>Step 1</u> Gather fleet data. Calculation of fugitive PM<sub>10</sub> emissions from on-road vehicle operation requires that the total vehicle miles driven (VMT<sub>Total</sub>) for POVs and GOVs is known. These values have been calculated in Step 1 of Problem 1 (VMT<sub>Total POV</sub> = 1,925,586 and VMT<sub>Total COV</sub> = 173,394 miles/year).

<u>Step 2</u> — <u>Select emission factors.</u> Fugitive PM<sub>10</sub> emission factors are provided in Table 5-8. For POVs, the emission factors for paved and unpaved roads are **0.058** and **46.622** g/mi respectively. Similarly, for GOVs, the emission factors for paved and unpaved roads are **0.069** and **50.595** g/mi respectively.

Once selected, the emission factors must be corrected to account for precipitation at the base. It is given that the base is located in central Alabama. Based on this information, a review of Figure 5-1 reveals that the base is estimated to have 110 days in the year with precipitation of 0.01 inches or more. The emission factors are corrected using this value and Equation 5-1 or Equation 5-2.

#### For POVs:

$$EF(Pol)_{CP} = EF(Pol)_{\mu} \times \left(1 - \frac{\mu}{4N}\right)$$

$$EF(PM_{10})_{CP} = 0.058 \frac{\theta}{mi} \times \left(1 - \frac{110}{4\times365}\right)$$

$$EF(PM_{10})_{CP} = 0.058 \frac{\theta}{mi} \times \left(1 - \frac{110}{1460}\right) = 0.054 \frac{\theta}{mi}$$

## -For GOVs:

$$EF(PM_{10})_{CP} = 0.069 \frac{g}{mi} \times \left(1 - \frac{110}{4 \times 365}\right)$$

$$EF(PM_{10})_{CP} = 0.069 \frac{g}{mi} \times \left(1 - \frac{110}{1460}\right) = 0.064 \frac{g}{mi}$$

$$EF(Pol)_{CU} = EF(Pol)_{U} \times \left(1 - \frac{P}{N}\right)$$

$$EF(PM_{10})_{CU} = 50.595 \frac{g}{mi} \times \left(1 - \frac{110}{365}\right) = 35.347 \frac{g}{mi}$$

<u>Step 3</u> — <u>Calculate emissions</u>. Using the VMT<sub>Total</sub> for POVs and GOVs as recorded in Step 1, the estimated percentage of driving on paved and unpaved roads (as given in the problem statement), and Equation 5-20, emissions are calculated as follows:

$$E(Pol)_{Total} = VMT_{Total} \times \left[ \left( \frac{\%VMT_P}{100} \times EF(Pol)_{CP} \right) + \left( \frac{\%VMT_U}{100} \times EF(Pol)_{CU} \right) \right] \times 0.002205$$

## For POVs:

$$\begin{split} E(PM_{10})_{Total} &= 1925586 \frac{mi}{yr} \times \left[ \left( \frac{100\%}{100\%} \times 0.054 \frac{g}{mi} \right) + (0) \right] \times 0.002205 \frac{lb}{g} \\ E(PM_{10})_{Total} &= 1925586 \frac{mi}{yr} \times \left[ \left( 1 \times 0.054 \frac{g}{mi} \right) \right] \times 0.002205 \frac{lb}{g} \\ \hline E(PM_{10})_{Total} &= 229.3 \frac{lb}{yr} \end{split}$$

# For GOVs:

$$\begin{split} E(PM_{10})_{Total} &= 173394 \frac{mi}{yr} \times \left[ \left( \frac{90\%}{100\%} \times 0.064 \frac{g}{mi} \right) + \left( \frac{10\%}{100\%} \times 35.347 \frac{g}{mi} \right) \right] \times \\ & 0.002205 \frac{lb}{g} \\ E(PM_{10})_{Total} &= 173394 \frac{mi}{yr} \times \left[ \left( 0.9 \times 0.064 \frac{g}{mi} \right) + \left( 0.1 \times 35.347 \frac{g}{mi} \right) \right] \times 0.002205 \frac{lb}{g} \\ E(PM_{10})_{Total} &= 173394 \frac{mi}{yr} \times \left[ \left( 0.0576 \frac{g}{mi} \right) + \left( 3.5347 \frac{g}{mi} \right) \right] \times 0.002205 \frac{lb}{g} \\ E(PM_{10})_{Total} &= 173394 \frac{mi}{yr} \times \left[ 3.5923 \frac{g}{mi} \right] \times 0.002205 \frac{lb}{g} \\ E(PM_{10})_{Total} &= 1373.5 \frac{lb}{yr} \end{split}$$

Table 5-9. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors — 2013 POV

			Emission Factors (g/mi)								
State	Altitude	Vehicle		(	Criteria Po	llutants a	nd Ozone	Precursor	s		
		Type	NOx	SOx	co	voc	PM 10	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
	HIGH	All Vehicles	0.579	0.008	9.893	0.856	0.026	0.012	428.710	0.097	
ALABAMA	LOW	All Vehicles	0.597	0.008	9.214	0.810	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.679	0.008	17.404	0.867	0.026	0.012	428.710	0.097	
ALASKA	LOW	All Vehicles	0.700	0.008	16.611	0.832	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.585	0.008	10.265	0.868	0.026	0.012	428.710	0.097	
ARIZONA	LOW	All Vehicles	0.602	0.008	9.580	0.820	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.587	0.008	10.425	0.872	0.026	0.012	428.710	0.097	
ARKANSAS	LOW	All Vehicles	0.605	0.008	9.735	0.824	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.577	0.008	10.087	0.825	0.026	0.012	428.710	0.097	
CALIFORNIA	LOW	All Vehicles	0.595	0.008	9.422	0.784	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.611	0.008	12.998	0.789	0.026	0.012	428.710	0.097	
COLORADO	LOW	All Vehicles	0.630	0.008	12.285	0.752	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.605	0.008	12.347	0.824	0.026	0.012	428.710	0.097	
CONNECTICUT	LOW	All Vehicles	0.623	0.008	11.644	0.785	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.591	0.008	10.980	0.835	0.026	0.012	428.710	0.097	
DELAWARE	LOW	All Vehicles	0.609	0.008	10.297	0.792	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.569	0.008	8.829	0.792	0.026	0.012	428.710	0.097	
FLORIDA	LOW	All Vehicles	0.586	0.008	8.156	0.795	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.578	0.008	9.789	0.793	0.026	0.012	428.710	0.097	
GEORGIA	LOW	All Vehicles	0.575	0.008	9.111	0.808	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.554		8.357	0.800		0.012	428.710	0.097	
HAWAII	LOW			0.008			0.026	0.012		0.097	
		All Vehicles	0.571	0.008	7.721	0.760	0.026		428.710		
IDAHO	HIGH	All Vehicles	0.615	0.008	13.267	0.790	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.634	0.008	12.550	0.753	0.026	0.012	428.710	0.097	
ILLINOIS	HIGH	All Vehicles	0.602	0.008	11.811	0.850	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.620	0.008	11.113	0.806	0.026	0.012	428.710	0.097	
INDIANA	LOW	All Vehicles All Vehicles	0.600	0.008	11.769 11.074	0.838	0.026	0.012	428.710 428.710	0.097	
								0.012	428.710		
IOWA	HIGH	All Vehicles	0.614	0.008	12.781	0.827	0.026	0.012		0.097	
	LOW	All Vehicles	0.633	0.008	12.066	0.783	0.026	_	28.710		
KANSAS	LOW	All Vehicles	0.599	0.008	11.388	0.866	0.026	0.01	428.710 428.710	0.097	
		All Vehicles	0.617		10.687	0.818	0.026	0.012			
KENTUCKY	HIGH	All Vehicles	0.591	0.008	10.985	0.838	0.020	0.012	428.710	0.097	
	LOW	All Vehicles	0.609	0.008	10.302	0.795	0.026	0.012	428.710	0.097	
LOUISIANA	HIGH	All Vehicles	0.578	0.008	9.568	0.863	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.595	0.008	8.883	.816	0.026	0.012	428.710	0.097	
MAINE	HIGH	All Vehicles	0.628	0.008	14.149	0.819	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.648	0.008	12,414	0.781	0.026	0.012	428.710	0.097	
MARYLAND	HIGH	All Vehicles	0.592	0.008	11.179	0.824	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.611	008	10.495	0.782	0.026	0.012	428.710	0.097	
MASSACHUSETTS	HIGH	All Vehicles	0.606	0.008	12.517	0.824	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0 25	0.008	11.812	0.785	0.026	0.012	428.710	0.097	
MICHIGAN	HIGH	All Vehicles	0.617	0.008	13.344	0.803	0.026	0.012	428.710	0.097	
	LOW	All Vebines	0.636	0.008	12.624	0.765	0.026	0.012	428.710	0.097	
MINNESOTA	HIGH	All rehicles	0.635	0.008	14.461	0.853	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.655	0.008	13.714	0.813	0.026	0.012	428.710	0.097	
MISSISSIPPI	HV.A	All Vehicles	0.581	0.008	9.915	0.864	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.598	0.008	9.231	0.816	0.026	0.012	428.710	0.097	
MISSOUP	HIGH	All Vehicles	0.598	0.008	11.348	0.854	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.616	0.008	10.653	0.808	0.026	0.012	428.710	0.097	
MONTANA	HIGH	All Vehicles	0.623	0.008	13.770	0.808	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.642	0.008	13.042	0.771	0.026	0.012	428.710	0.097	
NEBRASKA	HIGH	All Vehicles	0.607	0.008	12.199	0.821	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.626	0.008	11.495	0.777	0.026	0.012	428.710	0.097	

			Emission Factors (g/mi)								
State	Altitude	Vehicle Type	Criteria Pollutants and Ozone Precursors								
State	Aititude		NOx	SO <sub>v</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO	NH <sub>2</sub>	
	HIGH	All Vehicles	0.598	0.008	11.833	0.817	0.026	0.012	128.710	0.097	
NEVADA	LOW	All Vehicles	0.617	0.008	11.139	0.777	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.619	0.008	13.551	0.806	0.026	0.012	428.710	0.097	
NEW HAMPSHIRE	LOW	All Vehicles	0.639	0.008	12.827	0.768	0.020	0.012	428.710	0.097	
	HIGH	All Vehicles	0.596	0.008	11.468	0.708	J.026	0.012	428.710	0.097	
NEW JERSEY	LOW	All Vehicles	0.590	0.008	10.780	0.785	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.592	0.008	11.283	.813	0.026	0.012	428.710	0.097	
NEW MEXICO	LOW	All Vehicles	0.610	0.008	10.599		0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.614	0.008	12.116	0.773	0.026	0.012	428.710	0.097	
NEW YORK	LOW	All Vehicles	0.633	0.008	12.400	0.759	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.582	0.008	10.315	0.739	0.026	0.012	428.710	0.097	
NORTH CAROLINA	LOW	All Vehicles	0.600	0.008	9.640	0.843	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.600	0.008	14.597	0.858	0.026	0.012	428.710	0.097	
NORTH DAKOTA	LOW	All Vehicles	0.656	0.008	13.847	0.838	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.636	0.008	11.944	0.817	0.026	0.012	428.710	0.097	
OHIO	LOW	All vehicles	0.620	0.008	11.944	0.828	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.620	0.008	10.676	0.788	0.026	0.012	428.710	0.097	
OKLAHOMA	LCW	All Vehicles	0.610	0.008	9.975	0.879	0.026	0.012	428.710	0.097	
	HIGH	All Vehicles	0.602	0.008	12.413	0.829	0.026	0.012	428.710	0.097	
OREGON	LOW										
		All Vehicles	0.620	0.008	11.714	0.760	0.026	0.012	428.710	0.097	
PACIFIC SLANDS	HIGH	All Vehicles	0.554	0.008	9.135	0.790	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.571	0.008	8.489	0.751	0.026	0.012	0.000	0.097	
ENNSYLVANIA	HIGH	All Vehicles	0.604	0.008	12.303	0.821	0.026	0.012	428.710	0.097	
1	LOW	All Vehicles	0.623	0.008	11.601	0.782	0.026	0.012	428.710	0.097	
PUERTO RICO	HIGH	All Vehicles	0.562	0.008	7.736	0.821	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.578	0.008	7.083	0.778	0.026	0.012	428.710	0.097	
RHODE ISLAND	HIGH	All Vehicles	0.600	0.008	12.032	0.814	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.618	0.008	11.336	0.775	0.026	0.012	428.710	0.097	
SOUTH CAROLINA	HIGH	All Vehicles	0.580	0.008	9.947	0.857	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.598	0.008	9.268	0.811	0.026	0.012	428.710	0.097	
PACIFIC SLANDS ENNSYLVANIA PUERTO RICO RHODE ISLAND	HIGH	All Vehicles	0.619	0.008	13.144	0.833	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.638	0.008	12.422	0.790	0.026	0.012	428.710	0.097	
TENNESSEE	HIGH	All Vehicles	0.587	0.008	10.631	0.839	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.605	0.008	9.951	0.795	0.026	0.012	428.710	0.097	
TEXAS	HIGH	All Vehicles	0.582	0.008	9.866	0.875	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.599	0.008	9.173	0.826	0.026	0.012	428.710	0.097	
UTAH	HIGH	All Vehicles	0.605	0.008	12.291	0.800	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.624	0.008	11.588	0.759	0.026	0.012	428.710	0.097	
VERMONT	HIGH	All Vehicles	0.623	0.008	13.778	0.811	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.642	0.008	13.049	0.774	0.026	0.012	428.710	0.097	
VIRGIN ISLANDS	HIGH	All Vehicles	0.571	0.008	7.896	0.840	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.587	0.008	7.203	0.796	0.026	0.012	428.710	0.097	
VIRGINIA	HIGH	All Vehicles	0.589	0.008	10.938	0.825	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.607	0.008	10.258	0.784	0.026	0.012	428.710	0.097	
WASHINGTON	HIGH	All Vehicles	0.604	0.008	12.593	0.800	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.623	0.008	11.891	0.764	0.026	0.012	428.710	0.097	
WEST VIRGINIA	HIGH	All Vehicles	0.596	0.008	11.707	0.814	0.026	0.012	428.710	0.097	
1	LOW	All Vehicles	0.615	0.008	11.015	0.775	0.026	0.012	428.710	0.097	
WISCONSIN	HIGH	All Vehicles	0.625	0.008	13.810	0.826	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.644	0.008	13.078	0.787	0.026	0.012	428.710	0.097	
WYOMING	HIGH	All Vehicles	0.621	0.008	13.666	0.803	0.026	0.012	428.710	0.097	
	LOW	All Vehicles	0.640	0.008	12.941	0.766	0.026	0.012	428.710	0.097	

Table 5-10. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors — 2014 POV

			Emission Factors (g/mi)								
State	Altitude	Vehicle	Criteria Pollutants and Ozone Precursors								
		Туре	NOx	SOx	CO	voc	PM 10	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
	HIGH	All Vehicles	0.537	0.008	9.586	0.807	0.026	0.012	428.820	0.097	
ALABAMA	LOW	All Vehicles	0.555	0.008	8.910	0.762	0.026	0.012	428.820	0.097	
	HIGH	All Vehicles	0.629	0.008	16.908	0.818	0.026	0.012	428.820	0.097	
ALASKA	LOW	All Vehicles	0.650	0.008	16.118	0.783	0.026	0.012	428.820	0.097	
	HIGH	All Vehicles	0.542	0.008	9.948	0.818	0.026	0.012	428.820	0.097	
ARIZONA	LOW	All Vehicles	0.560	0.008	9.266	0.771	0.026	0.012	428.820	0.097	
	HIGH	All Vehicles	0.545	0.008	10.103	0.822	0.026	0.012	428.820	0.097	
ARKANSAS	LOW	All Vehicles	0.562	0.008	9.417	0.775	0.026	0.012	428.820	0.097	
	HIGH	All Vehicles	0.535	0.008	9.781	0.777	0.026	0.012	428.820	0.097	
CALIFORNIA	LOW	All Vehicles	0.553	0.008	9.120	0.737	0.026	0.012	428.820	0.097	
	HIGH	All Vehicles	0.567	0.008	12.622	0.744	0.026	0.012	428.820	0.097	
COLORADO	LOW	All Vehicles	0.586	0.008	11.913	0.707	0.026	0.012	428.820	0.097	
	HIGH	All Vehicles	0.561	0.008	11.987	0.777	0.026	0.012	428.820	0.097	
CONNECTICUT	LOW	All Vehicles	0.579	0.008	11.288	0.778	0.026	0.012	428.820	0.097	
	HIGH	All Vehicles	0.548	0.008	10.650	0.788	0.026	0.012	428.820	0.097	
DELAWARE	LOW	All Vehicles	0.566	0.008	9.971	0.745	0.026	0.012	428.820	0.097	
	HIGH	All Vehicles	0.528	0.008	8.545	0.790	0.026	0.012	428.820	0.097	
FLORIDA	LOW	All Vehicles	0.544	0.008	7.875	0.747	0.026	0.012	428.820	0.097	
	HIGH		0.536	0.008	9.484	0.747	0.026	0.012	428.820	0.097	
GEORGIA	LOW	All Vehicles	0.553	0.008	8.810	0.759	0.026	0.012		0.097	
		All Vehicles							428.820		
HAWAII	HIGH	All Vehicles	0.514	0.008	8.094	0.754	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.531	0.008	7.461	0.715	0.026	0.012	428.820	0.097	
IDAHO	HIGH	All Vehicles	0.570	0.008	12.885	0.745	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.589	0.008	12.172	0.708	0.026	0.012	428.820	0.097	
ILLINOIS	HIGH	All Vehicles	0.558	0.008	11.460	0.802	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.576	0.008	10.766	0.758	0.026	0.012	428.820	0.097	
INDIANA	HIGH	All Vehicles	0.557	0.008	11.420	0.790	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.575	0.008	10.729	0.748	0.026	0.012	428.820	0.097	
IOWA	HIGH	All Vehicles	0.570	0.008	12.405	0.779	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.588	0.008	11.694	0.737	0.026	0.012	428.820	0.00	
KANSAS	HIGH	All Vehicles	0.556	0.008	11.043	0.817	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.574	0.008	10.346	0.770	0.026	0.012	428.920	0.097	
KENTUCKY	HIGH	All Vehicles	0.548	0.008	10.655	0.790	0.026	0.012	28.820	0.097	
	LOW	All Vehicles	0.566	0.008	9.975	0.748	0.026	0.012	428.820	0.097	
LOUISIANA	HIGH	All Vehicles	0.536	0.008	9.266	0.813	0.026	.012	428.820	0.097	
	LOW	All Vehicles	0.553	0.008	8.584	0.767	0.026	0.012	428.820	0.097	
MAINE	HIGH	All Vehicles	0.582	0.008	13.743	0.772	.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.601	0.008	13.011	0.735	0.026	0.012	428.820	0.097	
MARYLAND	HIGH	All Vehicles	0.549	0.008	10.845	0 177	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.567	0.008	10.165	0.736	0.026	0.012	428.820	0.097	
MASSACHUSETTS	HIGH	All Vehicles	0.562	0.008	12.63	0.776	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.581	0.008	11.451	0.738	0.026	0.012	428.820	0.097	
MICHIGAN	HIGH	All Vehicles	0.572	0008	12.959	0.757	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.591	0.008	12.242	0.720	0.026	0.012	428.820	0.097	
MINNESOTA	HIGH	All Vehicles	05.8	0.008	14.044	0.804	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.608	0.008	13.301	0.764	0.026	0.012	428.820	0.097	
MISSISSIPPI	HIGH	All Vehi es	0.539	0.008	9.605	0.814	0.026	0.012	428.820	0.097	
	LOW	All ehicles	0.556	0.008	8.925	0.768	0.026	0.012	428.820	0.097	
MISSOURI	HIGH	All Vehicles	0.554	0.008	11.006	0.805	0.026	0.012	428.820	0.097	
MIDDOCKI	LOW	All Vehicles	0.572	0.008	10.315	0.760	0.026	0.012	428.820	0.097	
MONTANA	HIGH	All Vehicles	0.577	0.008	13.373	0.762	0.026	0.012	428.820	0.097	
WONTANA	LOW	All Vehicles	0.596	0.008	12.649	0.725	0.026	0.012	428.820	0.097	
NEBR SKA	HIGH	All Vehicles	0.563	0.008	11.838	0.774	0.026	0.012	428.820	0.097	
MEDITORA	LOW	All Vehicles	0.581	0.008	11.138	0.731	0.026	0.012	428.820	0.097	

			Emission Factors (g/mi)							
State	Altitude	Vehicle	Criteria Pollutants and Ozone Precursors							
Suite	· · · · · · · · · · · · · · · · · · ·	Type	NOx	SOx	со	voc	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	HIGH	All Vehicles	0.555	0.008	11.485	0.770	0.026	0.012	428.820	0.01
NEVADA	LOW	All Vehicles	0.573	0.008	10.795	0.731	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.574	0.008	13.160	0.760	0.026	0.012	428°20	0.097
NEW HAMPSHIRE	LOW	All Vehicles	0.593	0.008	12.440	0.723	0.026	0.012	.28.820	0.097
	HIGH	All Vehicles	0.552	0.008	11.128	0.779	0.026	0.012	428.820	0.097
NEW JERSEY	LOW	All Vehicles	0.571	0.008	10.443	0.738	0.026	J.012	428.820	0.097
	HIGH	All Vehicles	0.549	0.008	10.949	0.767	0.026	0.012	428.820	0.097
NEW MEXICO	LOW	All Vehicles	0.567	0.008	10.268	0.727	.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.569	0.008	12.737	0.752	0.026	0.012	428.820	0.097
NEW YORK	LOW	All Vehicles	0.588	0.008	12.024	2.715	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.540	0.008	10.001		0.026	0.012	428.820	0.097
NORTH CAROLINA	LOW	All Vehicles	0.558	0.008	9.330	0.754	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.590	0.008	14.175	0.734	0.026	0.012	428.820	0.097
NORTH DAKOTA	LOW		0.610		13.430	0.768	0.026	0.012	428.820	0.097
		All Vehicles		0.008						
OHIO	HIGH	All Vehicles	0.557		11.592	0.781	0.026	0.012	428.820	0.097
	LOW	All Vehicles	0.540	0.008	10.899	0.741	0.026	0.012	428.820	0.097
OKLAHOMA	HIGH	All Vehicles	0.549	0.008	10.346	0.829	0.026	0.012	428.820	0.097
	LOW	All Vebi les	0.566	0.008	9.649	0.780	0.026	0.012	428.820	0.097
OREGON	HIGH	All ehicles	0.558	0.008	12.055	0.752	0.026	0.012	428.820	0.097
	LOW	All Vehicles	0.576	0.008	11.359	0.715	0.026	0.012	428.820	0.097
PACIFIC ISLANDS	нила	All Vehicles	0.514	0.008	8.862	0.745	0.026	0.012	428.820	0.097
	LOW	All Vehicles	0.531	0.008	8.219	0.707	0.026	0.012	0.000	0.097
PENNSYLVANIA	HIGH	All Vehicles	0.560	0.008	11.943	0.774	0.026	0.012	428.820	0.097
	LOW	All Vehicles	0.578	0.008	11.245	0.735	0.026	0.012	428.820	0.097
PLY RTO RICO	HIGH	All Vehicles	0.522	0.008	7.474	0.773	0.026	0.012	428.820	0.097
Takiro inco	LOW	All Vehicles	0.538	0.008	6.824	0.731	0.026	0.012	428.820	0.097
RHODE ISLAND	HIGH	All Vehicles	0.556	0.008	11.681	0.767	0.026	0.012	428.820	0.097
THIODE IDEATED	LOW	All Vehicles	0.574	0.008	10.988	0.729	0.026	0.012	428.820	0.097
PACIFIC ISLANDS  PENNSYLVANIA  PLENTO RICO  RHODE ISLAND  SOUTH CAROLINA  SOUTH DAKOTA	HIGH	All Vehicles	0.538	0.008	9.639	0.808	0.026	0.012	428.820	0.097
	LOW	All Vehicles	0.555	0.008	8.963	0.763	0.026	0.012	428.820	0.097
SOUTH DAKOTA	HIGH	All Vehicles	0.574	0.008	12.759	0.786	0.026	0.012	428.820	0.097
300 III DAKOTA	LOW	All Vehicles	0.592	0.008	12.041	0.743	0.026	0.012	428.820	0.097
TENNESSEE	HIGH	All Vehicles	0.544	0.008	10.309	0.791	0.026	0.012	428.820	0.097
TEINNESSEE	LOW	All Vehicles	0.562	0.008	9.632	0.748	0.026	0.012	428.820	0.097
TEXAS	HIGH	All Vehicles	0.540	0.008	9.556	0.825	0.026	0.012	428.820	0.097
IEAAS	LOW	All Vehicles	0.556	0.008	8.867	0.777	0.026	0.012	428.820	0.097
TITLATI	HIGH	All Vehicles	0.561	0.008	11.930	0.754	0.026	0.012	428.820	0.097
UTAH	LOW	All Vehicles	0.579	0.008	11.231	0.714	0.026	0.012	428.820	0.097
LIEDA CONTE	HIGH	All Vehicles	0.577	0.008	13.381	0.765	0.026	0.012	428.820	0.097
VERMONT	LOW	All Vehicles	0.596	0.008	12.657	0.728	0.026	0.012	428.820	0.097
VIDON ICLAND	HIGH	All Vehicles	0.530	0.008	7.623	0.790	0.026	0.012	428.820	0.097
VIRGIN ISLANDS	LOW	All Vehicles	0.546	0.008	6.934	0.747	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.546	0.008	10.610	0.778	0.026	0.012	428.820	0.097
VIRGINIA	LOW	All Vehicles	0.564	0.008	9,934	0.737	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.560	0.008	12.230	0.755	0.026	0.012	428.820	0.097
WASHINGTON	LOW	All Vehicles	0.579	0.008	11.531	0.719	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.553	0.008	11.362	0.768	0.026	0.012	428.820	0.097
WEST VIRGINIA	LOW	All Vehicles	0.571	0.008	10.675	0.729	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.579	0.008	13.410	0.779	0.026	0.012	428.820	0.097
WISCONSIN	LOW	All Vehicles	0.598	0.008	12.682	0.740	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.575	0.008	13.273	0.740	0.026	0.012	428.820	0.097
WYOMING	LOW						~~~~	~~~~	~~~~	
	LOW	All Vehicles	0.594	0.008	12.552	0.721	0.026	0.012	428.820	0.097

Table 5-11. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors — 2015 POV

		Vehicle	Emission Factors (g/mi)								
State	Altitude			(	Criteria Po	llutants ar	nd Ozone	Precursor	s		
		Type	$NO_X$	$SO_X$	co	voc	$PM_{10}$	$PM_{2.5}$	$CO_2$	NH <sub>3</sub>	
AT ADAMA	HIGH	All Vehicles	0.501	0.008	9.336	0.765	0.026	0.012	428.820	0.097	
ALABAMA	LOW	All Vehicles	0.518	0.008	8.662	0.720	0.026	0.012	428.820	0.097	
ALASKA	HIGH	All Vehicles	0.586	0.008	16.513	0.778	0.026	0.012	428.820	0.097	
ALASKA	LOW	All Vehicles	0.607	0.008	15.725	0.743	0.026	0.012	428.820	0.097	
ADIZONA	HIGH	All Vehicles	0.506	0.008	9.691	0.776	0.026	0.012	428.820	0.097	
ARIZONA	LOW	All Vehicles	0.523	0.008	9.011	0.730	0.026	0.012	428.820	0.097	
ADVANCAC	HIGH	All Vehicles	0.508	0.008	9.843	0.780	0.026	0.012	428.820	0.097	
ARKANSAS	LOW	All Vehicles	0.525	0.008	9.158	0.733	0.026	0.012	428.820	0.097	
CALIFORNIA	HIGH	All Vehicles	0.499	0.008	9.534	0.736	0.026	0.012	428.820	0.097	
CALIFORNIA	LOW	All Vehicles	0.517	0.008	8.874	0.697	0.026	0.012	428.820	0.097	
COLORADO	HIGH	All Vehicles	0.529	0.008	12.322	0.706	0.026	0.012	428.820	0.097	
COLORADO	LOW	All Vehicles	0.547	0.008	11.614	0.670	0.026	0.012	428,820	0.097	
	HIGH	All Vehicles	0.523	0.008	11.697	0.737	0.026	0.012	428.820	0.097	
CONNECTICUT	LOW	All Vehicles	0.541	0.008	11.000	0.699	0.026	0.012	428.820	0.097	
	HIGH	All Vehicles	0.511	0.008	10.384	0.747	0.026	0.012	428.820	0.097	
DELAWARE	LOW	All Vehicles	0.529	0.008	9.707	0.705	0.026	0.012	428.820	0.097	
	HIGH	All Vehicles	0.323	0.008	8.313	0.747	0.026	0.012	428.820	0.097	
FLORIDA	LOW	All Vehicles	0.509	0.008	7.644	0.705	0.026	0.012	428.820	0.097	
	HIGH	All Vehicles	0.500	0.008	9.236	0.762	0.026	0.012	428.820	0.097	
GEORGIA	LOW		0.517	0.008	8.564	0.702	0.026	0.012	428.820	0.097	
	HIGH	All Vehicles All Vehicles	0.480	0.008	7.880	0.718	0.026	0.012	428.820	0.097	
HAWAII											
	LOW	All Vehicles	0.497	0.008	7.248	0.675	0.026	0.012	428.820	0.097	
IDAHO	HIGH	All Vehicles	0.531	0.008	12.580	0.707	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.550	0.008	11.868	0.671	0.026	0.012	428.820	0.097	
ILLINOIS	HIGH	All Vehicles	0.520	0.008	11.178	0.760	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.538	0.008	10.485	0.718	0.026	0.012	428.820	0.097	
INDIANA	HIGH	All Vehicles	0.519	0.008	11.139	0.749	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.537	0.008	10.450	0.708	0.026	0.012	428.820	0.097	
IOWA	HIGH	All Vehicles	0.531	0.008	12.104	0.740	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.550	0.008	11.394	0.698	0.026	0.012	428.820	0.00	
KANSAS	HIGH	All Vehicles	0.518	0.008	10.765	0.775	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.536	0.008	10.069	0.729	0.026	0.012	428.9		
KENTUCKY	HIGH	All Vehicles	0.511	0.008	10.388	0.749	0.026	0.012	28.820	0.097	
	LOW	All Vehicles	0.529	0.008	9.710	0.707	0.026	0.012		0.097	
LOUISIANA	HIGH	All Vehicles	0.500	0.008	9.020	0.770	0.026	.012	428.820	0.097	
	LOW	All Vehicles	0.517	0.008	8.339	0.725	0.026		428.820	0.097	
MAINE	HIGH	All Vehicles	0.543	0.008	13.418	0.733	.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.562	0.008	12.688	0.696	0.026	0.012	428.820	0.097	
MARYLAND	HIGH	All Vehicles	0.512	0.008	10.576	0 137	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.530	0.008	9.897	0.696	0.026	0.012	428.820	0.097	
MASSACHUSETTS	HIGH	All Vehicles	0.524	0.008	11 361	0.737	0.026	0.012	428.820	0.097	
NI IOON CITCOLI IO	LOW	All Vehicles	0.542	0.008	11.160	0.699	0.026	0.012	428.820	0.097	
MICHIGAN	HIGH	All Vehicles	0.533	0.638	12.651	0.719	0.026	0.012	428.820	0.097	
	LOW	All Vehicles	0.552	0.008	11.935	0.682	0.026	0.012	428.820	0.097	
MINNESOTA	HIGH	All Vehicles	050	0.008	13.710	0.763	0.026	0.012	428.820	0.097	
MILLOOIA	LOW	All Vehicles	0.568	0.008	12.969	0.724	0.026	0.012	428.820	0.097	
MISSISSIPPI	HIGH	All Vehi es	0.503	0.008	9.354	0.771	0.026	0.012	428.820	0.097	
1 1 11001001141	LOW	All ehicles	0.520	0.008	8.675	0.726	0.026	0.012	428.820	0.097	
MICCOLIDI	HIGH	All Vehicles	0.517	0.008	10.730	0.764	0.026	0.012	428.820	0.097	
MISSOURI	LOW	All Vehicles	0.535	0.008	10.041	0.719	0.026	0.012	428.820	0.097	
MONTANA	HIGH	All Vehicles	0.538	0.008	13.057	0.723	0.026	0.012	428.820	0.097	
MONTANA	LOW	All Vehicles	0.557	0.008	12.334	0.687	0.026	0.012	428.820	0.097	
Avenue VV	HIGH	All Vehicles	0.525	0.008	11.548	0.735	0.026	0.012	428.820	0.097	
NEBP .SKA	LOW	All Vehicles	0.543	0.008	10.849	0.692	0.026	0.012	428.820	0.097	

			Emission Factors (g/mi)							
State	Altitude	Vehicle		(	Criteria Po		_		S	
State	Aititude	Type	NOx	sox	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	HIGH	All Vehicles	0.517	0.008	11.206	0.731	0.026	0.012	428.820	0.00
NEVADA	LOW	All Vehicles	0.535	0.008	10.517	0.692	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.535	0.008	12.848	0.722	0.026	0.012	428.820	0.097
NEW HAMPSHIRE	LOW	All Vehicles	0.554	0.008	12.130	0.685	0.026	0.012	28.820	0.097
	HIGH	All Vehicles	0.515	0.008	10.853	0.739	0.026	0.012	428.820	0.097
NEW JERSEY	LOW	All Vehicles	0.533	0.008	10.170	0.699	0.026	s.012	428.820	0.097
	HIGH	All Vehicles	0.533	0.008	10.170	0.727	0.026	0.012	428.820	0.097
NEW MEXICO	LOW	All Vehicles	0.530	0.008	10.000	0.688	.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.531	0.008	12.433	0.714	0.026	0.012	428.820	0.097
NEW YORK	LOW	All Vehicles	0.550	0.008	11.722	0.71	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.504	0.008	9.747	0.755	0.026	0.012	428.820	0.097
NORTH CAROLINA	LOW	All Vehicles	0.521	0.008	9,17	0.713	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.550	0.008	13.839	0.767	0.026	0.012	428.820	0.097
NORTH DAKOTA	LOW	All Vehicles	0.569	0.008	13.095	0.728	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.520	0.008	11.309	0.728	0.026	0.012	428.820	0.097
OHIO	LOW	All Vehicles	0.520	0.008	10.617	0.741	0.026	0.012	428.820	0.097
	HIGH	All Vehicles	0.512	0.008	10.017	0.786	0.026	0.012	428.820	0.097
OKLAHOMA	LOW	All Vehices	0.512	0.008	9.384	0.738	0.026	0.012	428.820	0.097
	HIGH	All vehicles	0.529	0.008	11.767	0.738	0.026	0.012	428.820	0.097
OREGON					***************************************	~~~~~				
	LOW	All Vehicles	0.538	0.008	11.073	0.678	0.026	0.012	428.820	0.097
PACIFIC ISLANDS	LOW	All Vehicles	0.479		8.640				428.820	0.097
		All Vehicles	0.497	0.008	7.998	0.668	0.026	0.012	0.000	0.097
PENNSYLVAMA	HIGH	All Vehicles	0.522	0.008	11.655	0.734	0.026	0.012	428.820	0.097
	LOW	All Vehicles	0.540	0.008	10.958	0.696	0.026	0.012	428.820	0.097
PLY ATO RICO	HIGH	All Vehicles	0.487	0.008	7.259	0.731	0.026	0.012	428.820	0.097
	LOW	All Vehicles	0.503	0.008	6.610	0.690	0.026	0.012	428.820	0.097
RHODE ISLAND	HIGH	All Vehicles	0.518	0.008	11.398	0.728	0.026	0.012	428.820	0.097
	LOW	All Vehicles	0.537	0.008	10.707	0.690	0.026	0.012	428.820	0.097
SOUTH CAROLINA	HIGH	All Vehicles	0.502	0.008	9.388	0.766	0.026	0.012	428.820	0.097
	LOW	All Vehicles	0.519	0.008	8.713	0.721	0.026	0.012	428.820	0.097
SOUTH DAKOTA	HIGH	All Vehicles	0.535	0.008	12.451	0.746	0.026	0.012	428.820	0.097
	LOW	All Vehicles	0.554	0.008	11.735	0.704	0.026	0.012	428.820	0.097
TENNESSEE	HIGH	All Vehicles	0.508	0.008	10.048	0.750	0.026	0.012	428.820	0.097
	LOW	All Vehicles	0.525	0.008	9.373	0.708	0.026	0.012	428.820	0.097
TEXAS	HIGH	All Vehicles	0.503	0.008	9.304	0.782	0.026	0.012	428.820	0.097
	LOW	All Vehicles	0.520	0.008	8.617	0.735	0.026	0.012	428.820	0.097
UTAH	HIGH	All Vehicles	0.523	0.008	11.641	0.715	0.026	0.012	428.820	0.097
· · · · · · · · · · · · · · · · · · ·	LOW	All Vehicles	0.541	0.008	10.943	0.676	0.026	0.012	428.820	0.097
VERMONT	HIGH	All Vehicles	0.538	0.008	13.064	0.726	0.026	0.012	428.820	0.097
, manor,	LOW	All Vehicles	0.557	0.008	12.341	0.689	0.026	0.012	428.820	0.097
VIRGIN ISLANDS	HIGH	All Vehicles	0.495	0.008	7.399	0.747	0.026	0.012	428.820	0.097
VIROIT IDEATIVES	LOW	All Vehicles	0.511	0.008	6.711	0.705	0.026	0.012	428.820	0.097
VIRGINIA	HIGH	All Vehicles	0.510	0.008	10.346	0.738	0.026	0.012	428.820	0.097
, monum	LOW	All Vehicles	0.527	0.008	9.671	0.697	0.026	0.012	428.820	0.097
WASHINGTON	HIGH	All Vehicles	0.522	0.008	11.938	0.716	0.026	0.012	428.820	0.097
***************************************	LOW	All Vehicles	0.541	0.008	11.241	0.681	0.026	0.012	428.820	0.097
WEST VIRGINIA	HIGH	All Vehicles	0.516	0.008	11.085	0.728	0.026	0.012	428.820	0.097
TEST VINOINIA	LOW	All Vehicles	0.534	0.008	10.399	0.690	0.026	0.012	428.820	0.097
WISCONSIN	HIGH	All Vehicles	0.540	0.008	13.091	0.739	0.026	0.012	428.820	0.097
WISCONSIN	LOW	All Vehicles	0.559	0.008	12.365	0.701	0.026	0.012	428.820	0.097
WYOMING	HIGH	All Vehicles	0.536	0.008	12.959	0.719	0.026	0.012	428.820	0.097
WYOMING	LOW	All Vehicles	0.555	0.008	12.240	0.683	0.026	0.012	428.820	0.097

Table 5-12. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors — 2016 POV

		Vehicle				mission Fa				
State	Altitude	Type			Criteria Po	llutants a		Precursor	s	
		Турс	NOx	SOx	CO	VOC	PM 10	PM 2.5	CO <sub>2</sub>	NH <sub>3</sub>
ALABAMA	HIGH	All Vehicles	0.468	0.008	9.102	0.728	0.026	0.012	428.950	0.097
ALADAMA	LOW	All Vehicles	0.484	0.008	8.429	0.684	0.026	0.012	428.950	0.097
ALASKA	HIGH	All Vehicles	0.546	0.008	16.104	0.738	0.026	0.012	428.950	0.097
ALASKA	LOW	All Vehicles	0.566	0.008	15.318	0.703	0.026	0.012	428.950	0.097
ARIZONA	HIGH	All Vehicles	0.472	0.008	9.448	0.738	0.026	0.012	428.950	0.097
MUZOM	LOW	All Vehicles	0.489	0.008	8.770	0.693	0.026	0.012	428.950	0.097
ARKANSAS	HIGH	All Vehicles	0.474	0.008	9.596	0.742	0.026	0.012	428.950	0.097
	LOW	All Vehicles	0.491	0.008	8.913	0.696	0.026	0.012	428.950	0.097
CALIFORNIA	HIGH	All Vehicles	0.465	0.008	9.298	0.700	0.026	0.012	428.950	0.097
	LOW	All Vehicles	0.483	0.008	8.640	0.661	0.026	0.012	428.950	0.097
COLORADO	HIGH	All Vehicles	0.492	0.008	12.021	0.671	0.026	0.012	428.950	0.097
	LOW	All Vehicles	0.511	0.008	11.315	0.635	0.026	0.012	428.950	0.097
CONNECTICUT	HIGH	All Vehicles	0.487	0.008	11.411	0.700	0.026	0.012	428.950	0.097
	LOW	All Vehicles	0.505	0.008	10.715	0.663	0.026	0.012	428.950	0.097
DELAWARE	HIGH	All Vehicles	0.476	0.008	10.127	0.710	0.026	0.012	428.950	0.097
	LOW	All Vehicles	0.494	0.008	9.451	0.669	0.026	0.012	428.950	0.097
FLORIDA	HIGH	All Vehicles	0.460	0.008	8.101	0.711	0.026	0.012	428.950	0.097
	LOW	All Vehicles	0.476	0.008	7.434	0.669	0.026	0.012	428.950	0.097
GEORGIA	HIGH	All Vehicles	0.467	0.008	9.005	0.725	0.026	0.012	428.950	0.097
	LOW	All Vehicles	0.483	0.008	8.333	0.682	0.026	0.012	428.950	0.097
HAWAII	HIGH	All Vehicles	0.448	0.008	7.684	0.679	0.026	0.012	428.950	0.097
	LOW	All Vehicles	0.464	0.008	7.053	0.641	0.026	0.012	428.950	0.097
IDAHO	HIGH	All Vehicles	0.495	0.008	12.273	0.672	0.026	0.012	428.950	0.097
	LOW	All Vehicles	0.513	0.008	11.563	0.636	0.026	0.012	428.950	0.097
ILLINOIS	HIGH	All Vehicles	0.485	0.008	10.902	0.723	0.026	0.012	428.950	0.097
	LOW	All Vehicles	0.503	0.008	10.211	0.681	0.026	0.012	428.950	0.097
INDIANA	HIGH	All Vehicles	0.484	0.008	10.865	0.712	0.026	0.012	428.950	0.097
	LOW	All Vehicles	0.502	0.008	10.176	0.672	0.026	0.012	428.950	0.097
IOWA	HIGH	All Vehicles	0.495	0.008	11.805	0.703	0.026	0.012	428.950	0.097
	LOW	All Vehicles	0.513	0.008	11.097	0.662	0.026	0.012	428.950	0.007
KANSAS	LOW	All Vehicles All Vehicles	0.483	0.008	10.497 9.802	0.737	0.026	0.012	428.950 428.950	0.097
	HIGH	All Vehicles	0.301	0.008	10.131	0.692	0.026	0.012	28.950	0.097
KENTUCKY	LOW	All Vehicles	0.477	0.008	9.454	0.713	0.026	0.012		0.097
	HIGH	All Vehicles	0.467	0.008	8.792	0.733	0.026	.012	428.950	0.097
LOUISIANA	LOW	All Vehicles	0.483	0.008	8.113	0.688	0.026	0.012	428.950	0.097
	HIGH	All Vehicles	0.505	0.008	13.090	0.696	0.026	0.012	428.950	0.097
MAINE	LOW	All Vehicles	0.524	0.008	12.362	0.660	0.026	0.012	428.950	0.097
	HIGH	All Vehicles	0.478	0.008	10.315	0.001	0.026	0.012	428.950	0.097
MARYLAND	LOW	All Vehicles	0.495	0.008	9.637	0.661	0.026	0.012	428.950	0.097
	HIGH	All Vehicles	0.488	0.008	11 3/1	0.700	0.026	0.012	428.950	0.097
MASSACHUSETTS	LOW	All Vehicles	0.506	0.008	10.872	0.663	0.026	0.012	428.950	0.097
	HIGH	All Vehicles	0.497	06.98	12.342	0.683	0.026	0.012	428.950	0.097
MICHIGAN	LOW	All Vehicles	0.515	0.008	11.628	0.646	0.026	0.012	428.950	0.097
	HIGH	All Vehicles	0.515	0.008	13.373	0.724	0.026	0.012	428.950	0.097
MINNESOTA	LOW	All Vehicles	0.530	0.008	12.633	0.685	0.026	0.012	428.950	0.097
A magazagener -	HIGH	All Vehices	0.469	0.008	9.119	0.734	0.026	0.012	428.950	0.097
MISSISSIPPI	LOW	All ehicles	0.486	0.008	8.441	0.689	0.026	0.012	428.950	0.097
Macorini	HIGH	All Vehicles	0.482	0.008	10.464	0.726	0.026	0.012	428.950	0.097
MISSOURI	LOW	All Vehicles	0.500	0.008	9.775	0.683	0.026	0.012	428.950	0.097
MONTHANA	AIGH	All Vehicles	0.501	0.008	12.738	0.687	0.026	0.012	428.950	0.097
MONTANA	LOW	All Vehicles	0.520	0.008	12.017	0.651	0.026	0.012	428.950	0.097
AUTON VI	HIGH	All Vehicles	0.489	0.008	11.262	0.698	0.026	0.012	428.950	0.097
NEBP SKA	LOW	All Vehicles	0.507	0.008	10.565	0.656	0.026	0.012	428.950	0.097

					Eı	mission Fa	actors (g/n	ni)		
State	Altitude	Vehicle		(	Criteria Po	llutants ar	nd Ozone	Precursor	s	
~		Type	$NO_X$	$SO_X$	co	voc	PM 10	PM 2.5	CO <sub>2</sub>	NH <sub>3</sub>
MENTADA	HIGH	All Vehicles	0.482	0.008	10.931	0.695	0.026	0.012	428.950	0.0%
NEVADA	LOW	All Vehicles	0.500	0.008	10.244	0.657	0.026	0.012	428,950	0.097
	HIGH	All Vehicles	0.499	0.008	12.535	0.685	0.026	0.012	428.9	0.097
NEW HAMPSHIRE	LOW	All Vehicles	0.517	0.008	11.817	0,649	0.026	0.012	28,950	0.097
	HIGH	All Vehicles	0.480	0.008	10.586	0,703	0.026	0.012	428.950	0.097
NEW JERSEY	LOW	All Vehicles	0.498	0.008	9,904	0,663	0.026	J.012	428,950	0.097
VEW MENTOO	HIGH	All Vehicles	0.477	0.008	10.417	0.692	0.02	0.012	428.950	0.097
NEW MEXICO	LOW	All Vehicles	0.495	0.008	9.739	0.653	.026	0.012	428.950	0.097
VEW VORV	HIGH	All Vehicles	0.495	0.008	12.129	0.678	0.026	0.012	428.950	0.097
NEW YORK	LOW	All Vehicles	0.513	0.008	11.419	0.042	0.026	0.012	428.950	0.097
NORTH CAROLINA	HIGH	All Vehicles	0.470	0.008	9.505	0.718	0.026	0.012	428.950	0.097
NORTH CAROLINA	LOW	All Vehicles	0.487	0.008	8 .57	0.676	0.026	0.012	428.950	0.097
NORTH DAKOTA	HIGH	All Vehicles	0.512	0.008	13.498	0.728	0.026	0.012	428.950	0.097
NORTH DAKOTA	LOW	All Vehicles	0.531	0.08	12.756	0.689	0.026	0.012	428.950	0.097
omo	HIGH	All Vehicles	0.484	0.008	11.031	0.704	0.026	0.012	428.950	0.097
OHIO	LOW	All Vehicles	0 = 32	0.008	10.341	0.665	0.026	0.012	428.950	0.097
0177 1 170 171	HIGH	All Vehicles		0.008	9.827	0.748	0.026	0.012	428.950	0.097
OKLAHOMA	LOW	All Vebi les	0.495	0.008	9.132	0.700	0.026	0.012	428.950	0.097
opposi	HIGH	All ehicles	0.484	0.008	11.482	0.678	0.026	0.012	428.950	0.097
OREGON	LOW	All Vehicles	0.503	0.008	10.789	0.643	0.026	0.012	428.950	0.097
	HICA	All Vehicles	0.447	0.008	8.431	0.672	0.026	0.012	428.950	0.097
PACIFIC ISLANDS	LOW	All Vehicles	0.464	0.008	7.791	0.635	0.026	0.012	0.000	0.097
	HIGH	All Vehicles	0.486	0.008	11.370	0.698	0.026	0.012	428.950	0.097
PENNSYLVAMA	LOW	All Vehicles	0.505	0.008	10.675	0.660	0.026	0.012	428.950	0.097
DVIII TO DVOO	HIGH	All Vehicles	0.454	0.008	7.069	0.695	0.026	0.012	428.950	0.097
PLY RTO RICO	LOW	All Vehicles	0.470	0.008	6.422	0.655	0.026	0.012	428.950	0.097
PHODE ICL IND	HIGH	All Vehicles	0.483	0.008	11.120	0.692	0.026	0.012	428.950	0.097
RHODE ISLAND	LOW	All Vehicles	0.501	0.008	10.430	0.655	0.026	0.012	428.950	0.097
COLUMN CAROL DA	HIGH	All Vehicles	0.468	0.008	9.153	0.728	0.026	0.012	428.950	0.097
SOUTH CAROLINA	LOW	All Vehicles	0.485	0.008	8.479	0.684	0.026	0.012	428.950	0.097
COLUMN DAMONA	HIGH	All Vehicles	0.498	0.008	12.144	0.708	0.026	0.012	428.950	0.097
SOUTH DAKOTA	LOW	All Vehicles	0.517	0.008	11.429	0.667	0.026	0.012	428.950	0.097
TEN DIEGGEE	HIGH	All Vehicles	0.473	0.008	9.799	0.714	0.026	0.012	428.950	0.097
TENNESSEE	LOW	All Vehicles	0.491	0.008	9.125	0.672	0.026	0.012	428.950	0.097
TEXA C	HIGH	All Vehicles	0.470	0.008	9.069	0.744	0.026	0.012	428.950	0.097
TEXAS	LOW	All Vehicles	0.486	0.008	8.383	0.698	0.026	0.012	428.950	0.097
*****	HIGH	All Vehicles	0.487	0.008	11.355	0.680	0.026	0.012	428.950	0.097
UTAH	LOW	All Vehicles	0.506	0.008	10.659	0.641	0.026	0.012	428.950	0.097
WED YOUT	HIGH	All Vehicles	0.501	0.008	12.745	0.690	0.026	0.012	428.950	0.097
VERMONT	LOW	All Vehicles	0.520	0.008	12.023	0.653	0.026	0.012	428.950	0.097
VIDON ICL ANDC	HIGH	All Vehicles	0.462	0.008	7.202	0.711	0.026	0.012	428.950	0.097
VIRGIN ISLANDS	LOW	All Vehicles	0.478	0.008	6.515	0.669	0.026	0.012	428.950	0.097
VIDCDIIA	HIGH	All Vehicles	0.475	0.008	10.090	0.701	0.026	0.012	428.950	0.097
VIRGINIA	LOW	All Vehicles	0.493	0.008	9.417	0.662	0.026	0.012	428.950	0.097
WACHINGTON	HIGH	All Vehicles	0.487	0.008	11.649	0.681	0.026	0.012	428.950	0.097
WASHINGTON	LOW	All Vehicles	0.505	0.008	10.953	0.646	0.026	0.012	428.950	0.097
WEST VIDORII	HIGH	All Vehicles	0.480	0.008	10.814	0.692	0.026	0.012	428.950	0.097
WEST VIRGINIA	LOW	All Vehicles	0.498	0.008	10.129	0.655	0.026	0.012	428.950	0.097
Miccorcin	HIGH	All Vehicles	0.503	0.008	12.770	0.702	0.026	0.012	428.950	0.097
WISCONSIN	LOW	All Vehicles	0.522	0.008	12.045	0.664	0.026	0.012	428.950	0.097
	HIGH	All Vehicles	0.500	0.008	12.643	0.683	0.026	0.012	428.950	0.097
WYOMING	LOW	All Vehicles	0.518	0.008	11.925	0.647	0.026	0.012	428.950	0.097

Table 5-13. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors — 2017 POV

		Vehicle			Eı	mission Fa	ctors (g/n	ni)		
State	Altitude			(	Criteria Po	llutants ar	nd Ozone	Precursor	s	
		Type	NOx	$SO_X$	co	voc	$PM_{10}$	$PM_{2.5}$	$CO_2$	NH <sub>3</sub>
ALABAMA	HIGH	All Vehicles	0.440	0.008	8.918	0.696	0.026	0.012	428.960	0.097
ALABAMA	LOW	All Vehicles	0.457	0.008	8.246	0.653	0.026	0.012	428.960	0.097
ALASKA	HIGH	All Vehicles	0.513	0.008	15.797	0.706	0.026	0.012	428.960	0.097
ALASKA	LOW	All Vehicles	0.533	0.008	15.012	0.672	0.026	0.012	428.960	0.097
ARIZONA	HIGH	All Vehicles	0.444	0.008	9.258	0.706	0.026	0.012	428.960	0.097
ARIZONA	LOW	All Vehicles	0.461	0.008	8.581	0.661	0.026	0.012	428.960	0.097
ARKANSAS	HIGH	All Vehicles	0.446	0.008	9.403	0.709	0.026	0.012	428.960	0.097
AKKANSAS	LOW	All Vehicles	0.463	0.008	8.721	0.664	0.026	0.012	428.960	0.097
CALIFORNIA	HIGH	All Vehicles	0.438	0.008	9.114	0.670	0.026	0.012	428.960	0.097
CALIFORNIA	LOW	All Vehicles	0.455	0.008	8.457	0.631	0.026	0.012	428.960	0.097
COLORADO	HIGH	All Vehicles	0.463	0.008	11.791	0.642	0.026	0.012	428.960	0.097
COLORADO	LOW	All Vehicles	0.481	0.008	11.087	0.607	0.026	0.012	428.960	0.097
CONNECTICUT	HIGH	All Vehicles	0.458	0.008	11.191	0.670	0.026	0.012	428.960	0.097
CONNECTICUT	LOW	All Vehicles	0.476	0.008	10.496	0.633	0.026	0.012	428.960	0.097
DELAWARE	HIGH	All Vehicles	0.448	0.008	9.928	0.679	0.026	0.012	428.960	0.097
DELAWARE	LOW	All Vehicles	0.465	0.008	9.253	0.639	0.026	0.012	428.960	0.097
EI OPID 4	HIGH	All Vehicles	0.433	0.008	7.933	0.679	0.026	0.012	428.960	0.097
FLORIDA	LOW	All Vehicles	0.449	0.008	7.266	0.638	0.026	0.012	428.960	0.097
GEOD GIA	HIGH	All Vehicles	0.439	0.008	8.822	0.693	0.026	0.012	428.960	0.097
GEORGIA	LOW	All Vehicles	0.456	0.008	8.152	0.650	0.026	0.012	428.960	0.097
*******	HIGH	All Vehicles	0.421	0.008	7.527	0.650	0.026	0.012	428.960	0.097
HAWAII	LOW	All Vehicles	0.438	0.008	6.898	0.612	0.026	0.012	428.960	0.097
	HIGH	All Vehicles	0.465	0.008	12.039	0.643	0.026	0.012	428.960	0.097
IDAHO	LOW	All Vehicles	0.483	0.008	11.330	0.608	0.026	0.012	428.960	0.097
	HIGH	All Vehicles	0.456	0.008	10.688	0.692	0.026	0.012	428.960	0.097
ILLINOIS	LOW	All Vehicles	0.474	0.008	9,999	0.650	0.026	0.012	428,960	0.097
	HIGH	All Vehicles	0.455	0.008	10.653	0.682	0.026	0.012	428.960	0.097
INDIANA	LOW	All Vehicles	0.473	0.008	9.966	0.642	0.026	0.012	428.960	0.097
	HIGH	All Vehicles	0.465	0.008	11.576	0.673	0.026	0.012	428,960	0.097
IOWA	LOW	All Vehicles	0.483	0.008	10.869	0.632	0.026	0.012	428.960	0.00
	HIGH	All Vehicles	0.455	0.008	10.288	0.705	0.026	0.012	428,960	0.097
KANSAS	LOW	All Vehicles	0.472	0.008	9.595	0.661	0.026	0.012	428.90	
	HIGH	All Vehicles	0.448	0.008	9.932	0.682	0.026	0.012	28.960	0.097
KENTUCKY	LOW	All Vehicles	0.466	0.008	9.256	0.641	0.026	0.012		0.097
	HIGH	All Vehicles	0.439	0.008	8.612	0.701	0.026	012	428.960	0.097
LOUISIANA	LOW	All Vehicles	0.455	0.008	7.934	0.657	0.026		428.960	0.097
	HIGH	All Vehicles	0.475	0.008	12.840	0.666	.026	0.012	428.960	0.097
MAINE	LOW	All Vehicles	0.494	0.008	12.113	0.630	0.026	0.012	428.960	0.097
	HIGH	All Vehicles	0.449	0.008	10.113	0.03	0.026	0.012	428.960	0.097
MARYLAND	LOW	All Vehicles	0.467	0.008	9.436	0.631	0.026	0.012	428.960	0.097
	HIGH	All Vehicles	0.459	0.008	11.348	0.670	0.026	0.012	428,960	0.097
MASSACHUSETTS	LOW	All Vehicles	0.477	0.008	10.650	0.633	0.026	0.012	428.960	0.097
	HIGH	All Vehicles	0.467	0.038	12.105	0.653	0.026	0.012	428.960	0.097
MICHIGAN	LOW	All Vehicles	0.485	0.008	11.393	0.617	0.026	0.012	428,960	0.097
	HIGH	All Vehicles	0.483	0.008	13.116	0.693	0.026	0.012	428.960	0.097
MINNESOTA	LOW	All Vehicles	0.499	0.008	12.378	0.654	0.026	0.012	428.960	0.097
	HIGH	All Vehices	0.441	0.008	8.934	0.702	0.026	0.012	428.960	0.097
MISSISSIPPI	LOW	All vehicles	0.458	0.008	8.257	0.658	0.026	0.012	428.960	0.097
	HIGH	All Vehicles	0.453	0.008	10.257	0.695	0.026	0.012	428.960	0.097
MISSOURI	LON	All Vehicles	0.433	0.008	9.570	0.652	0.026	0.012	428.960	0.097
	HIGH	All Vehicles	0.471	0.008	12.495	0.652	0.026	0.012	428.960	0.097
MONTANA	LOW		0.471	0.008	11.775			0.012		0.097
		All Vehicles				0.622	0.026		428.960	
NEBP .SKA	HIGH	All Vehicles	0.460	0.008	11.043	0.668	0.026	0.012	428.960	0.097
	LOW	All Vehicles	0.478	0.008	10.347	0.627	0.026	0.012	428.960	0.097

					Eı	mission Fa	ctors (g/n	ni)		
State	Altitude	Vehicle		-			nd Ozone		<b>S</b>	
State	Aititude	Type	NO <sub>X</sub>	sox	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	HIGH	All Vehicles	0.453	0.008	10.719	0.665	0.026	0.012	428.960	0.09
NEVADA	LOW	All Vehicles	0.433	0.008	10.719	0.603	0.026	0.012	428.960	0.097
	HIGH	All Vehicles	0.471	0.008	12.295	0.656	0.026	0.012	428.900	0.097
NEW HAMPSHIRE	LOW		0.487	0.008		0.620	0.026	0.012	28.960	0.097
	HIGH	All Vehicles	0.487	0.008	11.579	0.620		0.012		
NEW JERSEY		All Vehicles			10.379		0.026		428.960	0.097
	LOW	All Vehicles	0.469	0.008	9.698	0.633	0.026	0.012	428.960	0.097
NEW MEXICO	HIGH	All Vehicles	0.448	0.008	10.214	0.662	0.026	0.012	428.960	0.097
	LOW	All Vehicles	0.466	0.008	9.537	0.624	.026	0.012	428.960	0.097
NEW YORK	HIGH	All Vehicles	0.465	0.008	11.896	0.649	0.026		428.960	0.097
	LOW	All Vehicles	0.483	0.008	11.188	0.613	0.026	0.012	428.960	0.097
NORTH CAROLINA	HIGH	All Vehicles	0.442	0.008	9.316	0.687	0.026	0.012	428.960	0.097
	LOW	All Vehicles	0.459	0.008	8 ,49	0.645	0.026	0.012	428.960	0.097
NORTH DAKOTA	HIGH	All Vehicles	0.481	0.008	13.240	0.696	0.026	0.012	428.960	0.097
	LOW	All Vehicles	0.500	0.008	12.498	0.658	0.026	0.012	428.960	0.097
OHIO	HIGH	All Vehicles	0.455	0.008	10.817	0.674	0.026	0.012	428.960	0.097
	LOW	All Vehicles	0.43	0.008	10.128	0.635	0.026	0.012	428.960	0.097
OKLAHOMA	HIGH	All Vehicles	0.449	0.008	9.629	0.716	0.026	0.012	428.960	0.097
	LOW	All Vebi es	0.466	0.008	8.936	0.669	0.026	0.012	428.960	0.097
OREGON	HIGH	All ehicles	0.455	0.008	11.262	0.649	0.026	0.012	428.960	0.097
	LOW	All Vehicles	0.473	0.008	10.571	0.614	0.026	0.012	428.960	0.097
PACIFIC ISLANDS	HICA	All Vehicles	0.420	0.008	8.266	0.643	0.026	0.012	428.960	0.097
	LOW	All Vehicles	0.437	0.008	7.627	0.606	0.026	0.012	0.000	0.097
PENNSYLVAMA	HIGH	All Vehicles	0.457	0.008	11.150	0.668	0.026	0.012	428.960	0.097
	LOW	All Vehicles	0.475	0.008	10.456	0.631	0.026	0.012	428.960	0.097
PLEATO RICO	HIGH	All Vehicles	0.428	0.008	6.916	0.665	0.026	0.012	428.960	0.097
	LOW	All Vehicles	0.444	0.008	6.270	0.625	0.026	0.012	428.960	0.097
RHODE ISLAND	HIGH	All Vehicles	0.454	0.008	10.905	0.662	0.026	0.012	428.960	0.097
	LOW	All Vehicles	0.472	0.008	10.216	0.625	0.026	0.012	428.960	0.097
SOUTH CAROLINA	HIGH	All Vehicles	0.441	0.008	8.967	0.696	0.026	0.012	428.960	0.097
boe III cimozaui	LOW	All Vehicles	0.457	0.008	8.296	0.653	0.026	0.012	428.960	0.097
SOUTH DAKOTA	HIGH	All Vehicles	0.468	0.008	11.909	0.678	0.026	0.012	428.960	0.097
SOUTH DAROTA	LOW	All Vehicles	0.487	0.008	11.195	0.637	0.026	0.012	428.960	0.097
TENNESSEE	HIGH	All Vehicles	0.445	0.008	9.605	0.683	0.026	0.012	428.960	0.097
TENTLOSEE	LOW	All Vehicles	0.462	0.008	8.932	0.641	0.026	0.012	428.960	0.097
TEXAS	HIGH	All Vehicles	0.442	0.008	8.884	0.711	0.026	0.012	428.960	0.097
TEAUTO	LOW	All Vehicles	0.458	0.008	8.200	0.666	0.026	0.012	428.960	0.097
UTAH	HIGH	All Vehicles	0.458	0.008	11.136	0.650	0.026	0.012	428.960	0.097
Omm	LOW	All Vehicles	0.476	0.008	10.440	0.612	0.026	0.012	428.960	0.097
VERMONT	HIGH	All Vehicles	0.471	0.008	12.501	0.660	0.026	0.012	428.960	0.097
VERMONT	LOW	All Vehicles	0.490	0.008	11.781	0.624	0.026	0.012	428.960	0.097
VIRGIN ISLANDS	HIGH	All Vehicles	0.435	0.008	7.044	0.679	0.026	0.012	428.960	0.097
VIKUIN ISLAMUS	LOW	All Vehicles	0.451	0.008	6.358	0.638	0.026	0.012	428.960	0.097
VIRGINIA	HIGH	All Vehicles	0.447	0.008	9.892	0.671	0.026	0.012	428.960	0.097
VIROINIA	LOW	All Vehicles	0.464	0.008	9.220	0.632	0.026	0.012	428.960	0.097
WASHINGTON	HIGH	All Vehicles	0.457	0.008	11.426	0.652	0.026	0.012	428.960	0.097
"ASHINGION	LOW	All Vehicles	0.475	0.008	10.732	0.617	0.026	0.012	428.960	0.097
WEST VIRGINIA	HIGH	All Vehicles	0.452	0.008	10.604	0.662	0.026	0.012	428.960	0.097
WEST VIKUINIA	LOW	All Vehicles	0.470	0.008	9.921	0.625	0.026	0.012	428.960	0.097
WISCONSIN	HIGH	All Vehicles	0.473	0.008	12.525	0.671	0.026	0.012	428.960	0.097
WISCONSIN	LOW	All Vehicles	0.491	0.008	11.801	0.634	0.026	0.012	428.960	0.097
WYOMING	HIGH	All Vehicles	0.469	0.008	12.402	0.654	0.026	0.012	428.960	0.097
WYOMING	LOW	All Vehicles	0.488	0.008	11.685	0.618	0.026	0.012	428.960	0.097

Table 5-14. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors — 2018 POV

		Vehicle			Eı	mission Fa	ctors (g/n	ni)		
State	Altitude			(	Criteria Po	llutants ar	nd Ozone	Precursor	s	
		Type	NOx	$SO_X$	co	voc	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
ALABAMA	HIGH	All Vehicles	0.414	0.008	8.729	0.667	0.026	0.012	429.030	0.097
ALADAMA	LOW	All Vehicles	0.431	0.008	8.059	0.624	0.026	0.012	429.030	0.097
ALASKA	HIGH	All Vehicles	0.482	0.008	15.462	0.676	0.026	0.012	429.030	0.097
ALASKA	LOW	All Vehicles	0.502	0.008	14.678	0.642	0.026	0.012	429.030	0.097
ARIZONA	HIGH	All Vehicles	0.418	0.008	9.062	0.676	0.026	0.012	429.030	0.097
AKIZONA	LOW	All Vehicles	0.435	0.008	8.385	0.632	0.026	0.012	429.030	0.097
ARKANSAS	HIGH	All Vehicles	0.420	0.008	9.204	0.680	0.026	0.012	429.030	0.097
AKKANSAS	LOW	All Vehicles	0.437	0.008	8.523	0.635	0.026	0.012	429.030	0.097
CALIFORNIA	HIGH	All Vehicles	0.412	0.008	8.923	0.641	0.026	0.012	429.030	0.097
CALIFORNIA	LOW	All Vehicles	0.429	0.008	8.267	0.603	0.026	0.012	429.030	0.097
COLORADO	HIGH	All Vehicles	0.435	0.008	11.544	0.615	0.026	0.012	429.030	0.097
COLOKADO	LOW	All Vehicles	0.453	0.008	10.841	0.580	0.026	0.012	429.030	0.097
CONNECTICUT	HIGH	All Vehicles	0.431	0.008	10.956	0.642	0.026	0.012	429.030	0.097
CONNECTICUT	LOW	All Vehicles	0.449	0.008	10.262	0.605	0.026	0.012	429.030	0.097
DELAMARE	HIGH	All Vehicles	0.422	0.008	9.719	0.651	0.026	0.012	429.030	0.097
DELAWARE	LOW	All Vehicles	0.439	0.008	9.045	0.611	0.026	0.012	429.030	0.097
ET OPEN	HIGH	All Vehicles	0.408	0.008	7.764	0.650	0.026	0.012	429.030	0.097
FLORIDA	LOW	All Vehicles	0.424	0.008	7.098	0.611	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.414	0.008	8.635	0.664	0.026	0.012	429.030	0.097
GEORGIA	LOW	All Vehicles	0.430	0.008	7.966	0.622	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.397	0.008	7.369	0.623	0.026	0.012	429.030	0.097
HAWAII	LOW	All Vehicles	0.413	0.008	6.741	0.585	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.437	0.008	11.787	0.616	0.026	0.012	429.030	0.097
IDAHO	LOW	All Vehicles	0.456	0.008	11.079	0.581	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.429	0.008	10.463	0.663	0.026	0.012	429.030	0.097
ILLINOIS	LOW	All Vehicles	0.447	0.008	9.775	0.622	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.428	0.008	10.429	0.653	0.026	0.012	429.030	0.097
INDIANA	LOW	All Vehicles	0.446	0.008	9.742	0.613	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.438	0.008	11.332	0.644	0.026	0.012	429.030	0.097
IOWA	LOW	All Vehicles	0.456	0.008	10.626	0.604	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.428	0.008	10.020	0.676	0.026	0.012	429.030	0.097
KANSAS	LOW	All Vehicles	0.445	0.008	9.379	0.632	0.026	0.012	429.030	
	HIGH	All Vehicles	0.443	0.008	9.722	0.653	0.026	0.012	29.030	0.097
KENTUCKY	LOW	All Vehicles	0.422	0.008	9.048	0.613	0.026	0.012		0.097
	HIGH	All Vehicles	0.439	0.008	8.429	0.672	0.026	012	429.030	0.097
LOUISIANA	LOW	All Vehicles	0.414	0.008	7.752	0.628	0.026		429.030	0.097
	HIGH							0.012		0.097
MAINE	LOW	All Vehicles	0.447	0.008	12.571 11.844	0.637	0.026		429.030	0.097
		All Vehicles						0.012	429.030	
MARYLAND	HIGH	All Vehicles	0.423	0.008	9.900 9.225	0.604	0.026	0.012	429.030 429.030	0.097
	LOW	All Vehicles	0.440	0.008			0.026	0.012	429.030	0.097
MASSACHUSETTS	LOW	All Vehicles			11.410	0.642				0.097
		All Vehicles	0.450	0.008		0.605	0.026	0.012	429.030	0.097
MICHIGAN	HIGH	All Vehicles	0.439	0.000	11.852	0.626	0.026	0.012	429.030	0.097
	LOW	All Vehicles	0.457	0.008	11.140	0.590	0.026	0.012	429.030	0.097
MINNESOTA	HIGH	All Vehicles	0.42	0.008	12.840	0.663	0.026	0.012	429.030	0.097
	LOW	All Vehicles	0.470	0.008	12.102	0.625	0.026	0.012	429.030	0.097
MISSISSIPPI	HIGH	All Vehices	0.416	0.008	8.744	0.673	0.026	0.012	429.030	0.097
	LOW	All ehicles	0.432	0.008	8.069	0.629	0.026	0.012	429.030	0.097
MISSOURI	HIGH	All Vehicles	0.427	0.008	10.040	0.666	0.026	0.012	429.030	0.097
	LOW	All Vehicles	0.444	0.008	9.354	0.624	0.026	0.012	429.030	0.097
MONTANA	AIGH	All Vehicles	0.443	0.008	12.232	0.629	0.026	0.012	429.030	0.097
	LOW	All Vehicles	0.461	0.008	11.514	0.594	0.026	0.012	429.030	0.097
NEBP .SKA	HIGH	All Vehicles	0.433	0.008	10.810	0.640	0.026	0.012	429.030	0.097
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	LOW	All Vehicles	0.451	0.008	10.115	0.599	0.026	0.012	429.030	0.097

					Eı	mission Fa	ctors (g/n	ni)		
State	Altitude	Vehicle		(		llutants ar			s	
State	minuac	Type	NOx	SOx	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO,	NH <sub>3</sub>
	HIGH	All Vehicles	0.426	0.008	10.495	0.637	0.026	0.012	429.030	0.00
NEVADA	LOW	All Vehicles	0.444	0.008	9.810	0.600	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.441	0.008	12.037	0.628	0.026	0.012	429.00	0.097
NEW HAMPSHIRE	LOW	All Vehicles	0.459	0.008	11.322	0.592	0.026	0.012	29.030	0.097
	HIGH	All Vehicles	0.425	0.008	10.161	0.644	0.026	0.012	429.030	0.097
NEW JERSEY	LOW	All Vehicles	0.443	0.008	9.481	0.605	0.026	J.012	429.030	0.097
	HIGH	All Vehicles	0.422	0.008	10.000	0.634	0.026	0.012	429.030	0.097
NEW MEXICO	LOW	All Vehicles	0.440	0.008	9.324	0.597	.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.437	0.008	11.647	0.621	0.026	0.012	429.030	0.097
NEW YORK	LOW	All Vehicles	0.456	0.008	10.939	2.585	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.416	0.008	9.120	0.658	0.026	0.012	429.030	0.097
NORTH CAROLINA	LOW	All Vehicles	0.433	0.008	8 ,54	0.617	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.453	0.008	12,961	0.666	0.026	0.012	429.030	0.097
NORTH DAKOTA	LOW	All Vehicles	0.472	0.08	12.220	0.628	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.428	0.008	10.590	0.646	0.026	0.012	429.030	0.097
OHIO	LOW	All Vehicles	0.40	0.008	9.902	0.607	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.423	0.008	9.424	0.686	0.026	0.012	429.030	0.097
OKLAHOMA	LOW	All Vebi les	0.440	0.008	8.732	0.640	0.026	0.012	429.030	0.097
	HIGH	All ehicles	0.428	0.008	11.027	0.622	0.026	0.012	429.030	0.097
OREGON	LOW	All Vehicles	0.446	0.008	10.337	0.588	0.026	0.012	429.030	0.097
	HICA	All Vehicles	0.396	0.008	8.095	0.616	0.026	0.012	429.030	0.097
PACIFIC ISLANDS	LOW	All Vehicles	0.412	0.008	7.457	0.580	0.026	0.012	0.000	0.097
	HIGH	All Vehicles	0.430	0.008	10.917	0.640	0.026	0.012	429.030	0.097
PENNSYLVATIA	LOW	All Vehicles	0.448	0.008	10.224	0.603	0.026	0.012	429.030	0.097
	HIGH	All Vehicles	0.403	0.008	6,766	0.637	0.026	0.012	429.030	0.097
PULRTO RICO	LOW	All Vehicles	0.419	0.008	6.121	0.598	0.026	0.012	429.030	0.097
PATODE 101 111D	HIGH	All Vehicles	0.427	0.008	10.677	0.634	0.026	0.012	429.030	0.097
RHODE ISLAND	LOW	All Vehicles	0.445	0.008	9.989	0.598	0.026	0.012	429.030	0.097
GOVERN GARON BY	HIGH	All Vehicles	0.415	0.008	8.778	0.667	0.026	0.012	429.030	0.097
SOUTH CAROLINA	LOW	All Vehicles	0.432	0.008	8.107	0.625	0.026	0.012	429.030	0.097
COLUMN DAYONA	HIGH	All Vehicles	0.441	0.008	11.658	0.649	0.026	0.012	429.030	0.097
SOUTH DAKOTA	LOW	All Vehicles	0.459	0.008	10.945	0.609	0.026	0.012	429.030	0.097
TENNEGGEE	HIGH	All Vehicles	0.419	0.008	9.402	0.654	0.026	0.012	429.030	0.097
TENNESSEE	LOW	All Vehicles	0.436	0.008	8.731	0.613	0.026	0.012	429.030	0.097
TEVAC	HIGH	All Vehicles	0.416	0.008	8.696	0.682	0.026	0.012	429.030	0.097
TEXAS	LOW	All Vehicles	0.433	0.008	8.012	0.637	0.026	0.012	429.030	0.097
UTAH	HIGH	All Vehicles	0.431	0.008	10.902	0.623	0.026	0.012	429.030	0.097
UIAH	LOW	All Vehicles	0.449	0.008	10.208	0.585	0.026	0.012	429.030	0.097
VERMONT	HIGH	All Vehicles	0.443	0.008	12.239	0.632	0.026	0.012	429.030	0.097
VERMONT	LOW	All Vehicles	0.462	0.008	11.520	0.596	0.026	0.012	429.030	0.097
VIRGIN ISLANDS	HIGH	All Vehicles	0.410	0.008	6.891	0.650	0.026	0.012	429.030	0.097
VIRGIN ISLANDS	LOW	All Vehicles	0.426	0.008	6.206	0.610	0.026	0.012	429.030	0.097
VIRGINIA	HIGH	All Vehicles	0.421	0.008	9.684	0.643	0.026	0.012	429.030	0.097
VIKGINIA	LOW	All Vehicles	0.438	0.008	9.013	0.604	0.026	0.012	429.030	0.097
WASHINGTON	HIGH	All Vehicles	0.430	0.008	11.188	0.625	0.026	0.012	429.030	0.097
WASHINGTON	LOW	All Vehicles	0.448	0.008	10.494	0.590	0.026	0.012	429.030	0.097
WEST VIRGINIA	HIGH	All Vehicles	0.425	0.008	10.382	0.635	0.026	0.012	429.030	0.097
WEST VIKUINIA	LOW	All Vehicles	0.443	0.008	9.700	0.598	0.026	0.012	429.030	0.097
WISCONSIN	HIGH	All Vehicles	0.445	0.008	12.262	0.643	0.026	0.012	429.030	0.097
WISCONSIN	LOW	All Vehicles	0.463	0.008	11.539	0.606	0.026	0.012	429.030	0.097
WYOMING	HIGH	All Vehicles	0.442	0.008	12.142	0.626	0.026	0.012	429.030	0.097
W I OWIING	LOW	All Vehicles	0.460	0.008	11.426	0.591	0.026	0.012	429.030	0.097

Table 5-15. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors — 2019 POV

		Vehicle				mission Fa	- i			
State	Altitude	Type			Criteria Po	llutants ar	nd Ozone	Precursor	s	
		Турс	NOx	SOx	CO	VOC	$PM_{10}$	PM 2.5	CO <sub>2</sub>	NH <sub>3</sub>
ALABAMA	HIGH	All Vehicles	0.396	0.008	8.597	0.644	0.026	0.012	429.090	0.097
ALADAMA	LOW	All Vehicles	0.412	0.008	7.927	0.602	0.026	0.012	429.090	0.097
ALASKA	HIGH	All Vehicles	0.460	0.008	15.216	0.654	0.026	0.012	429.090	0.097
1111101111	LOW	All Vehicles	0.480	0.008	14.434	0.620	0.026	0.012	429.090	0.097
ARIZONA	HIGH	All Vehicles	0.399	0.008	8.924	0.653	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.416	0.008	8.248	0.610	0.026	0.012	429.090	0.097
ARKANSAS	HIGH	All Vehicles	0.401	0.008	9.063	0.657	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.418	0.008	8.383	0.613	0.026	0.012	429.090	0.097
CALIFORNIA	HIGH	All Vehicles	0.393	0.008	8.788	0.619	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.410	0.008	8.133	0.582	0.026	0.012	429.090	0.097
COLORADO	HIGH	All Vehicles	0.415	0.008	11.367	0.595	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.433	0.008	10.664	0.559	0.026	0.012	429.090	0.097
CONNECTICUT	HIGH	All Vehicles	0.411	0.008	10.788	0.620	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.429	0.008	10.095	0.584	0.026	0.012	429.090	0.097
DELAWARE	HIGH	All Vehicles	0.402	0.008	9.570	0.629	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.420	0.008	8.897	0.589	0.026	0.012	429.090	0.097
FLORIDA	HIGH	All Vehicles	0.389	0.008	7.647	0.628	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.405	0.008	6.982	0.588	0.026	0.012	429.090	0.097
GEORGIA	HIGH	All Vehicles	0.395	0.008	8.504	0.641	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.411	0.008	7.836	0.600	0.026	0.012	429.090	0.097
HAWAII	HIGH	All Vehicles	0.379	0.008	7.260	0.601	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.395	0.008	6.633	0.564	0.026	0.012	429.090	0.097
IDAHO	HIGH	All Vehicles	0.417	0.008	11.606	0.595	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.435	0.008	10.899	0.560	0.026	0.012	429.090	0.097
ILLINOIS	HIGH	All Vehicles	0.410	0.008	10.302	0.641	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.427	0.008	9.615	0.600	0.026	0.012	429.090	0.097
INDIANA	HIGH	All Vehicles	0.409	0.008	10.268	0.631	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.426	0.008	9.583	0.592	0.026	0.012	429.090	0.097
IOWA	HIGH	All Vehicles	0.418	0.008	11.157	0.622	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.436	0.008	10.452	0.582	0.026	0.012	429.090	0.00
KANSAS	HIGH	All Vehicles	0.409	0.008	9.916	0.654	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.426	0.008	9.225	0.610	0.026	0.012	429.00	
KENTUCKY	HIGH	All Vehicles	0.403	0.008	9.574	0.631	0.026	0.012	29.090	0.097
	LOW	All Vehicles	0.420	0.008	8.900	0.591	0.026	0.012	429.090	0.097
LOUISIANA	HIGH	All Vehicles	0.395	0.008	8.301	0.649	0.026	.012	429.090	0.097
	LOW	All Vehicles	0.411	0.008	7.625	0.606	0.026		429.090	0.097
MAINE	HIGH	All Vehicles	0.426	0.008	12.375	0.616	.026	0.012	429.090	0.097
, i	LOW	All Vehicles	0.445	0.008	11.650	0.581	0.026	0.012	429.090	0.097
MARYLAND	HIGH	All Vehicles	0.404	0.008	9.749	0 321	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.421	0.008	9.074	0.582	0.026	0.012	429.090	0.097
MASSACHUSETTS	HIGH	All Vehicles	0.412	0.008	10 ,40	0.620	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.430	0.008	10.244	0.584	0.026	0.012	429.090	0.097
MICHIGAN	HIGH	All Vehicles	0.419	06.38	11.669	0.604	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.437	0.008	10.958	0.569	0.026	0.012	429.090	0.097
MINNESOTA	HIGH	All Vehicles	011	0.008	12.640	0.640	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.449	0.008	11.903	0.603	0.026	0.012	429.090	0.097
MISSISSIPPI	HIGH	All Vehices	0.397	0.008	8.611	0.650	0.026	0.012	429.090	0.097
	LOW	All ehicles	0.413	0.008	7.937	0.607	0.026	0.012	429.090	0.097
MISSOURI	HIGH	All Vehicles	0.407	0.008	9.886	0.644	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.425	0.008	9.201	0.602	0.026	0.012	429.090	0.097
MONTANA	AIGH	All Vehicles	0.422	0.008	12.043	0.608	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.441	0.008	11.325	0.573	0.026	0.012	429.090	0.097
NEBP .SKA	HIGH	All Vehicles	0.413	0.008	10.643	0.618	0.026	0.012	429.090	0.097
112210121	LOW	All Vehicles	0.431	0.008	9.949	0.578	0.026	0.012	429.090	0.097

					Eı	mission Fa	actors (g/n	ni)		
State	Altitude	Vehicle		(	Criteria Po	llutants a	nd Ozone	Precursor	s	
		Type	NOx	SOx	co	VOC	PM 10	PM 2.5	CO <sub>2</sub>	NH <sub>3</sub>
MENTADA	HIGH	All Vehicles	0.407	0.008	10.334	0.615	0.026	0.012	429.090	0.0%
NEVADA	LOW	All Vehicles	0.425	0.008	9.650	0.579	0.026	0.012	429.090	0.097
	HIGH	All Vehicles	0.420	0.008	11.851	0.607	0.026	0.012	429.0	0.097
NEW HAMPSHIRE	LOW	All Vehicles	0.439	0.008	11.137	0.571	0.026	0.012	29.090	0.097
	HIGH	All Vehicles	0.406	0.008	10.005	0.622	0.026	0.012	429.090	0.097
NEW JERSEY	LOW	All Vehicles	0.423	0.008	9.326	0.584	0.026	J.012	429.090	0.097
	HIGH	All Vehicles	0.403	0.008	9.847	0.613	0.026	0.012	429.090	0.097
NEW MEXICO	LOW	All Vehicles	0.420	0.008	9.172	0.575	.026	0.012	429.090	0.097
	HIGH	All Vehicles	0.417	0.008	11.467	0.600	0.026	0.012	429.090	0.097
NEW YORK	LOW	All Vehicles	0.435	0.008	10.761	2.565	0.026	0.012	429.090	0.097
	HIGH	All Vehicles	0.397	0.008	8.981	0.635	0.026	0.012	429.090	0.097
NORTH CAROLINA	LOW	All Vehicles	0.414	0.008	8.16	0.595	0.026	0.012	429.090	0.097
	HIGH	All Vehicles	0.432	0.008	12.758	0.643	0.026	0.012	429.090	0.097
NORTH DAKOTA	LOW	All Vehicles	0.451	0.008	12.019	0.606	0.026	0.012	429.090	0.097
	HIGH	All Vehicles	0.409	0.008	10.427	0.624	0.026	0.012	429.090	0.097
OHIO	LOW	All Vehicles	0.409	0.008	9.740	0.586	0.026	0.012	429.090	0.097
	HIGH	All Vehicles	0.404	0.008	9.740	0.663	0.026	0.012	429.090	0.097
OKLAHOMA	LOW	All Vehi les	0.404	0.008	8.589	0.617	0.026	0.012	429.090	0.097
	HIGH	All ehicles	0.421	0.008	10.859	0.602	0.026	0.012	429.090	0.097
OREGON					~~~~~~	~~~~~~		0.012	429.090	
	LOW	All Vehicles	0.427	0.008	10.169	0.567	0.026	0.012		0.097
PACIFIC ISLANDS	LOW	All Vehicles	0.378		7.976	0.596	0.026	0.012	429.090 0.000	0.097
		All Vehicles		0.008		0.560				0.097
PENNSYLVAMA	HIGH	All Vehicles	0.411	0.008	10.749	0.618	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.428	0.008	10.057	0.582	0.026	0.012	429.090	0.097
PLEATO RICO	HIGH	All Vehicles	0.385	0.008	6.664	0.615	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.401	0.008	6.020	0.576	0.026	0.012	429.090	0.097
RHODE ISLAND	HIGH	All Vehicles	0.408	0.008	10.513	0.613	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.425	0.008	9.827	0.577	0.026	0.012	429.090	0.097
SOUTH CAROLINA	HIGH	All Vehicles	0.396	0.008	8.644	0.644	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.413	0.008	7.974	0.602	0.026	0.012	429.090	0.097
SOUTH DAKOTA	HIGH	All Vehicles	0.421	0.008	11.477	0.627	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.439	0.008	10.765	0.587	0.026	0.012	429.090	0.097
TENNESSEE	HIGH	All Vehicles	0.400	0.008	9.259	0.632	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.417	0.008	8.588	0.592	0.026	0.012	429.090	0.097
TEXAS	HIGH	All Vehicles	0.397	0.008	8.563	0.659	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.414	0.008	7.881	0.614	0.026	0.012	429.090	0.097
UTAH	HIGH	All Vehicles	0.412	0.008	10.734	0.601	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.429	0.008	10.041	0.564	0.026	0.012	429.090	0.097
VERMONT	HIGH	All Vehicles	0.423	0.008	12.050	0.611	0.026	0.012	429.090	0.097
	LOW	All Vehicles	0.441	0.008	11.331	0.575	0.026	0.012	429.090	0.097
VIRGIN ISLANDS	HIGH	All Vehicles	0.392	0.008	6.786	0.628	0.026	0.012	429.090	0.097
· mon · man in a	LOW	All Vehicles	0.407	0.008	6.102	0.588	0.026	0.012	429.090	0.097
VIRGINIA	HIGH	All Vehicles	0.401	0.008	9.536	0.621	0.026	0.012	429.090	0.097
7 INOI 1171	LOW	All Vehicles	0.419	0.008	8.866	0.583	0.026	0.012	429.090	0.097
WASHINGTON	HIGH	All Vehicles	0.410	0.008	11.016	0.604	0.026	0.012	429.090	0.097
7151111101011	LOW	All Vehicles	0.428	0.008	10.324	0.570	0.026	0.012	429.090	0.097
WEST VIRGINIA	HIGH	All Vehicles	0.406	0.008	10.223	0.613	0.026	0.012	429.090	0.097
MINIONI VIRGINIA	LOW	All Vehicles	0.423	0.008	9.542	0.577	0.026	0.012	429.090	0.097
WISCONSIN	HIGH	All Vehicles	0.424	0.008	12.071	0.621	0.026	0.012	429.090	0.097
MISCONSIN	LOW	All Vehicles	0.443	0.008	11.350	0.584	0.026	0.012	429.090	0.097
WYOMING	HIGH	All Vehicles	0.421	0.008	11.954	0.605	0.026	0.012	429.090	0.097
w i OMING	LOW	All Vehicles	0.440	0.008	11.239	0.570	0.026	0.012	429.090	0.097

Table 5-16. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors — 2020 POV

		Vehicle			Eı	mission Fa	ctors (g/n	ni)		
State	Altitude			(	Criteria Po	llutants ar	nd Ozone	Precursor	s	
		Type	NOx	$SO_X$	co	voc	$PM_{10}$	$PM_{2.5}$	$CO_2$	NH <sub>3</sub>
ALABAMA	HIGH	All Vehicles	0.383	0.008	8.492	0.615	0.025	0.012	429.080	0.097
ALABAMA	LOW	All Vehicles	0.399	0.008	7.823	0.574	0.025	0.012	429.080	0.097
ALASKA	HIGH	All Vehicles	0.444	0.008	15.039	0.632	0.025	0.012	429.080	0.097
ALASKA	LOW	All Vehicles	0.464	0.008	14.257	0.599	0.025	0.012	429.080	0.097
ARIZONA	HIGH	All Vehicles	0.386	0.008	8.816	0.624	0.025	0.012	429.080	0.097
ARIZONA	LOW	All Vehicles	0.403	0.008	8.141	0.582	0.025	0.012	429.080	0.097
ARKANSAS	HIGH	All Vehicles	0.388	0.008	8.954	0.628	0.025	0.012	429.080	0.097
AKKANSAS	LOW	All Vehicles	0.404	0.008	8.274	0.585	0.012	0.025	429.080	0.097
CALIFORNIA	HIGH	All Vehicles	0.381	0.008	8.683	0.592	0.025	0.012	429.080	0.097
CALIFORNIA	LOW	All Vehicles	0.397	0.008	8.028	0.554	0.025	0.012	429.080	0.097
COLORADO	HIGH	All Vehicles	0.401	0.008	11.234	0.572	0.025	0.012	429.080	0.097
COLOKADO	LOW	All Vehicles	0.419	0.008	10.532	0.537	0.025	0.012	429.080	0.097
CONNECTICUT	HIGH	All Vehicles	0.397	0.008	10.662	0.595	0.025	0.012	429.080	0.097
CONNECTICUT	LOW	All Vehicles	0.415	0.008	9.969	0.559	0.025	0.012	429.080	0.097
DELAWARE	HIGH	All Vehicles	0.389	0.008	9.456	0.602	0.025	0.012	429.080	0.097
DELAWARE	LOW	All Vehicles	0.406	0.008	8.784	0.563	0.025	0.012	429.080	0.097
EI OPID 4	HIGH	All Vehicles	0.377	0.008	7.552	0.598	0.025	0.012	429.080	0.097
FLORIDA	LOW	All Vehicles	0.392	0.008	6.888	0.560	0.025	0.012	429.080	0.097
GEOD GIA	HIGH	All Vehicles	0.382	0.008	8.401	0.612	0.025	0.012	429.080	0.097
GEORGIA	LOW	All Vehicles	0.398	0.008	7.733	0.572	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.366	0.008	7.171	0.573	0.025	0.012	429.080	0.097
HAWAII	LOW	All Vehicles	0.383	0.008	6.544	0.537	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.403	0.008	11.470	0.573	0.025	0.012	429.080	0.097
IDAHO	LOW	All Vehicles	0.421	0.008	10.764	0.538	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.396	0.008	10.180	0.615	0.025	0.012	429.080	0.097
ILLINOIS	LOW	All Vehicles	0.414	0.008	9,493	0.574	0.025	0.012	429,080	0.097
	HIGH	All Vehicles	0.395	0.008	10.147	0.605	0.025	0.012	429,080	0.097
INDIANA	LOW	All Vehicles	0.413	0.008	9.462	0.567	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.404	0.008	11.025	0.599	0.025	0.012	429,080	0.097
IOWA	LOW	All Vehicles	0.422	0.008	10.321	0.560	0.025	0.012	429.080	0.00
	HIGH	All Vehicles	0.395	0.008	9.797	0.627	0.025	0.012	429,080	0.097
KANSAS	LOW	All Vehicles	0.412	0.008	9.107	0.584	0.025	0.012	429.000	
	HIGH	All Vehicles	0.389	0.008	9.460	0.604	0.025	0.012	29.080	0.097
KENTUCKY	LOW	All Vehicles	0.407	0.008	8.787	0.565	0.025	0.012		0.097
	HIGH	All Vehicles	0.382	0.008	8.199	0.619	0.025	012	429.080	0.097
LOUISIANA	LOW	All Vehicles	0.398	0.008	7.524	0.577	0.025		429.080	0.097
	HIGH	All Vehicles	0.412	0.008	12.231	0.593	.025	0.012	429.080	0.097
MAINE	LOW	All Vehicles	0.430	0.008	11.507	0.558	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.390	0.008	9.633	0.595	0.025	0.012	429.080	0.097
MARYLAND	LOW	All Vehicles	0.407	0.008	8.959	0.557	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.398	0.008	1012	0.595	0.025	0.012	429,080	0.097
MASSACHUSETTS	LOW	All Vehicles	0.416	0.008	10.116	0.559	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.405	0.000	11.532	0.582	0.025	0.012	429.080	0.097
MICHIGAN	LOW	All Vehicles	0.423	0.008	10.822	0.547	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.423	0.008	12.492	0.617	0.025	0.012	429.080	0.097
MINNESOTA	LOW	All Vehicles	0.435	0.008	11.756	0.580	0.025	0.012	429.080	0.097
	HIGH	All Vehices	0.384	0.008	8.507	0.620	0.025	0.012	429.080	0.097
MISSISSIPPI	LOW	All vehicles	0.400	0.008	7.833	0.578	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.394	0.008	9.768	0.617	0.025	0.012	429.080	0.097
MISSOURI	LOW	All Vehicles	0.394	0.008	9.083	0.576	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.411	0.008	11.903	0.586	0.025	0.012	429.080	0.097
MONTANA	LOW		0.408	0.008			0.025	0.012	429.080	0.097
		All Vehicles			11.186	0.551				
NEBP .SKA	HIGH	All Vehicles	0.400	0.008	10.517	0.594	0.025	0.012	429.080	0.097
	LOW	All Vehicles	0.417	0.008	9.824	0.554	0.025	0.012	429.080	0.097

					Eı	mission Fa	ctors (g/n	ni)		
State	Altitude	Vehicle		(	Criteria Po				s	
State	minuac	Type	NOx	SOx	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO,	NH <sub>3</sub>
	HIGH	All Vehicles	0.393	0.008	10.212	0.590	0.025	0.012	429.080	0.00
NEVADA	LOW	All Vehicles	0.411	0.008	9.529	0.554	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.406	0.008	11.713	0.584	0.025	0.012	429.000	0.097
NEW HAMPSHIRE	LOW	All Vehicles	0.425	0.008	11.000	0.549	0.025	0.012	29.080	0.097
	HIGH	All Vehicles	0.392	0.008	9.887	0.597	0.025	0.012	429.080	0.097
NEW JERSEY	LOW	All Vehicles	0.410	0.008	9.208	0.559	0.025	s.012	429.080	0.097
	HIGH	All Vehicles	0.389	0.008	9.731	0.587	0.025	0.012	429.080	0.097
NEW MEXICO	LOW	All Vehicles	0.407	0.008	9.056	0.550	.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.403	0.008	11.333	0.578	0.025	0.012	429.080	0.097
NEW YORK	LOW	All Vehicles	0.421	0.008	10.627	0.543	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.384	0.008	8.873	0.607	0.025	0.012	429.080	0.097
NORTH CAROLINA	LOW	All Vehicles	0.401	0.008	8_09	0.568	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.417	0.008	12,609	0,620	0.025	0.012	429.080	0.097
NORTH DAKOTA	LOW	All Vehicles	0.436	0.08	11.871	0.583	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.395	0.008	10.305	0.598	0.025	0.012	429.080	0.097
OHIO	LOW	All Vehicles	0.555	0.008	9.618	0.561	0.025	0.012	429.080	0.097
	HIGH	All Vehicles		0.008	9.168	0.634	0.025	0.012	429.080	0.097
OKLAHOMA	LOW	All Vebi les	0.407	0.008	8,477	0.590	0.025	0.012	429,080	0.097
	HIGH	All ehicles	0.395	0.008	10.732	0.578	0.025	0.012	429.080	0.097
OREGON	LOW	All Vehicles	0.413	0.008	10.043	0,544	0.025	0.012	429,080	0.097
	HICA	All Vehicles	0.365	0.008	7.882	0.569	0.025	0.012	429.080	0.097
PACIFIC ISLANDS	LOW	All Vehicles	0.382	0.008	7.246	0,533	0.025	0.012	0,000	0.097
	HIGH	All Vehicles	0.397	0.008	10.623	0.593	0.025	0.012	429.080	0.097
PENNSYLVAMA	LOW	All Vehicles	0.415	0.008	9.932	0.557	0.025	0.012	429.080	0.097
	HIGH	All Vehicles	0.373	0.008	6,579	0.585	0.025	0.012	429.080	0.097
PULRTO RICO	LOW	All Vehicles	0.389	0.008	5.936	0.547	0.025	0.012	429.080	0.097
PATODE 101 111D	HIGH	All Vehicles	0.394	0.008	10.390	0.588	0.025	0.012	429.080	0.097
RHODE ISLAND	LOW	All Vehicles	0.412	0.008	9.704	0.552	0.025	0.012	429.080	0.097
GOVERN GARON BY	HIGH	All Vehicles	0.383	0.008	8.539	0.616	0.025	0.012	429.080	0.097
SOUTH CAROLINA	LOW	All Vehicles	0.400	0.008	7.870	0.574	0.025	0.012	429.080	0.097
COLUMN DAYONA	HIGH	All Vehicles	0.407	0.008	11.342	0.603	0.025	0.012	429.080	0.097
SOUTH DAKOTA	LOW	All Vehicles	0.425	0.008	10.631	0.564	0.025	0.012	429.080	0.097
TENNEGGEE	HIGH	All Vehicles	0.387	0.008	9.148	0.605	0.025	0.012	429.080	0.097
TENNESSEE	LOW	All Vehicles	0.404	0.008	8.478	0.565	0.025	0.012	429.080	0.097
TEVAC	HIGH	All Vehicles	0.384	0.008	8.459	0.629	0.025	0.012	429.080	0.097
TEXAS	LOW	All Vehicles	0.401	0.008	7.777	0.585	0.025	0.012	429.080	0.097
UTAH	HIGH	All Vehicles	0.398	0.008	10.608	0.578	0.025	0.012	429.080	0.097
UIAH	LOW	All Vehicles	0.416	0.008	9.915	0.541	0.025	0.012	429.080	0.097
VERMONT	HIGH	All Vehicles	0.409	0.008	11.909	0.588	0.025	0.012	429.080	0.097
VERMONT	LOW	All Vehicles	0.427	0.008	11.191	0.553	0.025	0.012	429.080	0.097
VIRGIN ISLANDS	HIGH	All Vehicles	0.380	0.008	6.698	0.597	0.025	0.012	429.080	0.097
VIRGIN ISLANDS	LOW	All Vehicles	0.395	0.008	6.015	0.558	0.025	0.012	429.080	0.097
VIRGINIA	HIGH	All Vehicles	0.388	0.008	9.423	0.595	0.025	0.012	429.080	0.097
VIKGINIA	LOW	All Vehicles	0.405	0.008	8.753	0.557	0.025	0.012	429.080	0.097
WASHINGTON	HIGH	All Vehicles	0.397	0.008	10.888	0.580	0.025	0.012	429.080	0.097
WASHINGTON	LOW	All Vehicles	0.415	0.008	10.196	0.546	0.025	0.012	429.080	0.097
WEST VIRGINIA	HIGH	All Vehicles	0.392	0.008	10.103	0.588	0.025	0.012	429.080	0.097
WEST VIKUINIA	LOW	All Vehicles	0.410	0.008	9.422	0.552	0.025	0.012	429.080	0.097
WISCONSIN	HIGH	All Vehicles	0.410	0.008	11.930	0.598	0.025	0.012	429.080	0.097
WISCONSIN	LOW	All Vehicles	0.429	0.008	11.209	0.562	0.025	0.012	429.080	0.097
WYOMING	HIGH	All Vehicles	0.407	0.008	11.815	0.583	0.025	0.012	429.080	0.097
W I OWIING	LOW	All Vehicles	0.425	0.008	11.101	0.548	0.025	0.012	429.080	0.097

Table 5-17. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors - 2013 GOV

		Vahiala				mission Fa				
State	Altitude	Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precursor	s	
		Туре	$NO_X$	$SO_X$	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$
AT ADAMA	HIGH	All Vehicles	1.535	0.011	9.817	0.915	0.054	0.036	792.420	0.074
ALABAMA	LOW	All Vehicles	1.544	0.011	7.477	0.782	0.054	0.036	792.420	0.074
AT ACT.	HIGH	All Vehicles	1.635	0.011	15.477	0.938	0.054	0.036	792.420	0.074
ALASKA	LOW	All Vehicles	1.646	0.011	12.755	0.811	0.054	0.036	792.420	0.074
ADIZONA	HIGH	All Vehicles	1.540	0.011	10.095	0.921	0.054	0.036	792.420	0.074
ARIZONA	LOW	All Vehicles	1.549	0.011	7.736	0.788	0.054	0.036	792.420	0.074
ADVANCAC	HIGH	All Vehicles	1.542	0.011	10.214	0.923	0.054	0.036	792.420	0.074
ARKANSAS	LOW	All Vehicles	1.551	0.011	7.844	0.789	0.054	0.036	792.420	0.074
CALIFORNIA	HIGH	All Vehicles	1.536	0.011	9.957	0.895	0.054	0.036	792.420	0.074
CALIFORNIA	LOW	All Vehicles	1.545	0.011	7.631	0.765	0.054	0.036	792.420	0.074
COLORADO	HIGH	All Vehicles	1.572	0.011	12.158	0.869	0.054	0.036	792.420	0.074
COLORADO	LOW	All Vehicles	1.582	0.011	9.674	0.741	0.054	0.036	792.420	0.074
CONDUCTOR	HIGH	All Vehicles	1.565	0.011	11.662	0.897	0.054	0.036	792.420	0.074
CONNECTICUT	LOW	All Vehicles	1.574	0.011	9.213	0.768	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.548	0.011	10.624	0.900	0.054	0.036	792.420	0.074
DELAWARE	LOW	All Vehicles	1.558	0.011	8.248	0.769	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.523	0.011	9.013	0.907	0.054	0.036	792.420	0.074
FLORIDA	LOW	All Vehicles	1.532	0.011	6.721	0.774	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.534	0.011	9.738	0.913	0.054	0.036	792.420	0.074
GEORGIA	LOW	All Vehicles	1.543	0.011	7.405	0.780	0.054	0.036	792,420	0.074
	HIGH	All Vehicles	1.514	0.011	8.665	0.876	0.054	0.036	792.420	0.074
HAWAII	LOW	All Vehicles	1.522	0.011	6.431	0.747	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.576	0.011	12.363	0.870	0.054	0.036	792.420	0.074
IDAHO	LOW	All Vehicles	1.585	0.011	9.864	0.742	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.560	0.011	11.248	0.742	0.054	0.036	792.420	0.074
ILLINOIS	LOW	All Vehicles	1.569	0.011	8.827	0.779	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.559	0.011	11.218	0.903	0.054	0.036	792.420	0.074
INDIANA	LOW	All Vehicles	1.568	0.011	8.801	0.772	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.572	0.011	11.977	0.896	0.054	0.036	792.420	0.074
IOWA	LOW	All Vehicles	1.582	0.011	9.505	0.764	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.555	0.011	10.932	0.704	0.054	0.036	792.420	0.074
KANSAS	LOW	All Vehicles	1.564	0.011	8.520	0.784	0.054	0.036	792,420	
	HIGH	All Vehicles	1.549	0.011	10.628	0.902	0.054	0.036	132.420	0.074
KENTUCKY	LOW	All Vehicles	1.558	0.011	8.251	0.771	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.532	0.011	9.568	0.771	0.054	036	792.420	0.074
LOUISIANA	LOW	All Vehicles	1.532	0.011	7.236	0.784	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.588	0.011	13.024	0.784	0.03	0.036	792.420	0.074
MAINE	LOW	All Vehicles	1.598	0.011	10.477	0.768	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.551	0.011	10.477	0.708	0.054	0.036	792.420	0.074
MARYLAND	LOW	All Vehicles	1.560	0.011	8.389	0.761	0.054	0.036	792.420	0.074
					11,92	0.701	0.054	0.036	792.420	0.074
MASSACHUSETTS	HIGH LOW	All Vehicles	1.567	0.011	9.334	0.768	0.054	0.036	792.420	0.074
		All Vehicles	1.576	0.011						
MICHIGAN	HIGH	All Vehicles	1.577	0.011	12.416	0.882	0.054	0.036	792.420	0.074
	LOW	All Vehicles	1.587	0.011	9.913	0.753	0.054	0.036	792.420	0.074
MINNESOTA	HIGH	All Vehicles	154	0.011	13.250	0.927	0.054	0.036	792.420	0.074
	LOW	All Vehicles	1.604	0.011	10.686	0.795	0.054	0.036	792.420	0.074
MISSISSIPPI	HIGH	All Vehices	1.536	0.011	9.831	0.919	0.054	0.036	792.420	0.074
	LOW	All ehicles	1.545	0.011	7.486	0.785	0.054	0.036	792.420	0.074
MISSOURI	HIGH	All Vehicles	1.554	0.011	10.900	0.911	0.054	0.036	792.420	0.074
	LOW	All Vehicles	1.563	0.011	8.497	0.778	0.054	0.036	792.420	0.074
MONTANA	HIGH	All Vehicles	1.583	0.011	12.738	0.887	0.054	0.036	792.420	0.074
	LOW	All Vehicles	1.593	0.011	10.212	0.758	0.054	0.036	792.420	0.074
NEBP .SKA	HIGH	All Vehicles	1.565	0.011	11.538	0.890	0.054	0.036	792.420	0.074
	LOW	All Vehicles	1.574	0.011	9.098	0.757	0.054	0.036	792.420	0.074

					Eı	mission Fa	ctors (g/n	ni)		
State	Altitude	Vehicle		(	Criteria Po	llutants a	nd Ozone	Precursor	s	
State	rittuuc	Type	NOx	SO <sub>v</sub>	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO,	NH <sub>3</sub>
	HIGH	All Vehicles	1.558	0.011	11.274	0.890	0.054	0.036	792.420	0.07
NEVADA	LOW	All Vehicles	1.567	0.011	8.853	0.761	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.580	0.011	12.573	0.885	0.054	0.036	792.4.0	0.074
NEW HAMPSHIRE	LOW	All Vehicles	1.590	0.011	10.059	0.756	0.054	0.036	2.420	0.074
	HIGH	All Vehicles	1.554	0.011	10.993	0.895	0.054	0.030	792.420	0.074
NEW JERSEY	LOW	All Vehicles	1.564	0.011	8,593	0.764	0.054	J.036	792.420	0.074
	HIGH	All Vehicles	1.551	0.011	10.858	0.886	0.054	0.036	792.420	0.074
NEW MEXICO	LOW	All Vehicles	1.560	0.011	8,467	0.756	.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.574	0.011	12.244	0.877	0.054	0.036	792.420	0.074
NEW YORK	LOW	All Vehicles	1.584	0.011	9.753	6.48	0.054	0.036	792,420	0.074
	HIGH	All Vehicles	1.540	0.011	10.128	0.908	0.054	0.036	792.420	0.074
NORTH CAROLINA	LOW	All Vehicles	1.549	0.011	7.82	0.776	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.595	0.011	13.352	0.931	0.054	0.036	792.420	0.074
NORTH DAKOTA	LOW	All Vehicles	1.605	0′11	10.780	0.799	0.054	0.036	792,420	0.074
	HIGH	All Vehicles	1.560	0.011	11.354	0,898	0.054	0.036	792,420	0.074
OHIO	LOW	All Vehicles	1 5 .9	0.011	8.927	0.768	0.054	0.036	792,420	0.074
	HIGH	All Vehicles		0.011	10.399	0.926	0.054	0.036	792,420	0.074
OKLAHOMA	LOW	All Vebi es	1.555	0.011	8.010	0.790	0.054	0.036	792.420	0.074
	HIGH	All ehicles	1.564	0.011	11.725	0.872	0.054	0.036	792,420	0.074
OREGON	LOW	All Vehicles	1.573	0.011	9.272	0.746	0.054	0.036	792.420	0.074
	HICA	All Vehicles	1.519	0.011	9.273	0.865	0.054	0.036	792,420	0.074
PACIFIC ISLANDS	LOW	All Vehicles	1.528	0.011	6.996	0.738	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.564	0.011	11.629	0.895	0.054	0.036	792,420	0.074
PENNSYLVAMA	LOW	All Vehicles	1.573	0.011	9.183	0.765	0.054	0.036	792,420	0.074
	HIGH	All Vehicles	1.513	0.011	8,174	0.893	0.054	0.036	792,420	0.074
PULKTO RICO	LOW	All Vehicles	1.522	0.011	5.952	0.761	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.560	0.011	11.427	0.888	0.054	0.036	792,420	0.074
RHODE ISLAND	LOW	All Vehicles	1.569	0.011	8.995	0.759	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.536	0.011	9.857	0.915	0.054	0.036	792,420	0.074
SOUTH CAROLINA	LOW	All Vehicles	1.545	0.011	7.515	0.782	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.577	0.011	12,252	0.903	0.054	0.036	792.420	0.074
SOUTH DAKOTA	LOW	All Vehicles	1.587	0.011	9.760	0.771	0.054	0.036	792,420	0.074
	HIGH	All Vehicles	1.544	0.011	10.364	0.902	0.054	0.036	792,420	0.074
TENNESSEE	LOW	All Vehicles	1.553	0.011	8.001	0.770	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.536	0.011	9.791	0.926	0.054	0.036	792,420	0.074
TEXAS	LOW	All Vehicles	1.545	0.011	7.441	0.791	0.054	0.036	792.420	0.074
	HIGH	All Vehicles	1.564	0.011	11.616	0.877	0.054	0.036	792.420	0.074
UTAH	LOW	All Vehicles	1.574	0.011	9.170	0.746	0.054	0.036	792.420	0.074
LIED CONT	HIGH	All Vehicles	1.583	0.011	12.744	0.890	0.054	0.036	792.420	0.074
VERMONT	LOW	All Vehicles	1.593	0.011	10.217	0.761	0.054	0.036	792,420	0.074
	HIGH	All Vehicles	1.519	0.011	8.276	0,909	0.054	0.036	792.420	0.074
VIRGIN ISLANDS	LOW	All Vehicles	1.527	0.011	6.015	0.774	0.054	0.036	792.420	0.074
I IIID CID III I	HIGH	All Vehicles	1.548	0.011	10.593	0.894	0.054	0.036	792.420	0.074
VIRGINIA	LOW	All Vehicles	1.557	0.011	8.221	0.764	0.054	0.036	792.420	0.074
W. CAMPICALC.	HIGH	All Vehicles	1.566	0.011	11.859	0.875	0.054	0.036	792.420	0.074
WASHINGTON	LOW	All Vehicles	1.576	0.011	9.397	0.749	0.054	0.036	792.420	0.074
MIDOR MID OD W	HIGH	All Vehicles	1.556	0.011	11.179	0.888	0.054	0.036	792.420	0.074
WEST VIRGINIA	LOW	All Vehicles	1.566	0.011	8.766	0.758	0.054	0.036	792.420	0.074
Maddonan	HIGH	All Vehicles	1.584	0.011	12.762	0.903	0.054	0.036	792.420	0.074
WISCONSIN	LOW	All Vehicles	1.594	0.011	10.233	0.772	0.054	0.036	792.420	0.074
WW.01-51-5	HIGH	All Vehicles	1.581	0.011	12.662	0.882	0.054	0.036	792.420	0.074
WYOMING	LOW	All Vehicles	1.591	0.011	10.141	0.754	0.054	0.036	792.420	0.074

Table 5-18. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors - 2014 GOV

		Vehicle				mission Fa	ů			
State	Altitude	Type			Criteria Po	llutants a	nd Ozone	Precursor		
		Турс	NOx	SOx	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
ALABAMA	HIGH	All Vehicles	1.348	0.011	9.414	0.859	0.049	0.031	792.370	0.074
ALADAMA	LOW	All Vehicles	1.355	0.011	7.179	0.734	0.049	0.031	792.370	0.074
ALASKA	HIGH	All Vehicles	1.440	0.011	14.861	0.882	0.049	0.031	792.370	0.074
THEORY	LOW	All Vehicles	1.448	0.011	12.255	0.762	0.049	0.031	792.370	0.074
ARIZONA	HIGH	All Vehicles	1.353	0.011	9.681	0.865	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.360	0.011	7.428	0.740	0.049	0.031	792.370	0.074
ARKANSAS	HIGH	All Vehicles	1.355	0.011	9.796	0.867	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.362	0.011	7.532	0.741	0.049	0.031	792.370	0.074
CALIFORNIA	HIGH	All Vehicles	1.349	0.011	9.550	0.841	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.356	0.011	7.328	0.719	0.049	0.031	792.370	0.074
COLORADO	HIGH	All Vehicles	1.382	0.011	11.669	0.817	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.390	0.011	9.295	0.697	0.049	0.031	792.370	0.074
CONNECTICUT	HIGH	All Vehicles	1.375	0.011	11.192	0.843	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.382	0.011	8.851	0.722	0.049	0.031	792.370	0.074
DELAWARE	HIGH	All Vehicles	1.360	0.011	10.192	0.846	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.367	0.011	7.922	0.723	0.049	0.031	792.370	0.074
FLORIDA	HIGH	All Vehicles	1.337	0.011	8.639	0.852	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.344	0.011	6.451	0.727	0.049	0.031	792.370	0.074
GEORGIA	HIGH	All Vehicles	1.347	0.011	9.338	0.858	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.354	0.011	7.109	0.733	0.049	0.031	792.370	0.074
HAWAII	HIGH	All Vehicles	1.328	0.011	8.306	0.823	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.335	0.011	6.174	0.701	0.049	0.031	792.370	0.074
IDAHO	HIGH	All Vehicles	1.385	0.011	11.867	0.818	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.393	0.011	9.478	0.698	0.049	0.031	792.370	0.074
ILLINOIS	HIGH	All Vehicles	1.370	0.011	10.792	0.856	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.378	0.011	8.479	0.732	0.049	0.031	792.370	0.074
INDIANA	HIGH	All Vehicles	1.369	0.011	10.763	0.849	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.377	0.011	8.453	0.726	0.049	0.031	792.370	0.074
IOWA	HIGH	All Vehicles	1.382	0.011	11.494	0.842	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.390	0.011	9.131	0.718	0.049	0.031	792.370	0.07
KANSAS	HIGH	All Vehicles	1.366	0.011	10.487	0.862	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.374	0.011	8.182	0.736	0.049	0.031	792,320	0.074
KENTUCKY	HIGH	All Vehicles	1.360	0.011	10.195	0.848	0.049	0.031	2.370	0.074
	LOW	All Vehicles	1.368	0.011	7.924	0.724	0.049	0.031	792.370	0.074
LOUISIANA	HIGH	All Vehicles	1.345	0.011	9.174	0.862	0.049	.031	792.370	0.074
	LOW	All Vehicles	1.352	0.011	6.946	0.736	0.049	0.031	792.370	0.074
MAINE	HIGH	All Vehicles	1.397	0.011	12.502	0.843	.049	0.031	792.370	0.074
	LOW	All Vehicles	1.404	0.011	10.066	0.722	0.049	0.031	792.370	0.074
MARYLAND	HIGH	All Vehicles	1.362	0.011	10.336	0 838	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.370	0.011	8.058	0.715	0.049	0.031	792.370	0.074
MASSACHUSETTS	HIGH	All Vehicles	1.377	0.011	11 517	0.844	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.384	0.011	8.967	0.722	0.049	0.031	792.370	0.074
MICHIGAN	HIGH	All Vehicles	1.387	0011	11.918	0.829	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.394	0.011	9.525	0.708	0.049	0.031	792.370	0.074
MINNESOTA	HIGH	All Vehicles	1 1 1	0.011	12.718	0.871	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.409	0.011	10.266	0.747	0.049	0.031	792.370	0.074
MISSISSIPPI	HIGH	All Vehices	1.349	0.011	9.427	0.863	0.049	0.031	792.370	0.074
	LOW	All ehicles	1.356	0.011	7.187	0.737	0.049	0.031	792.370	0.074
MISSOURI	HIGH	All Vehicles	1.365	0.011	10.457	0.856	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.373	0.011	8.161	0.731	0.049	0.031	792.370	0.074
MONTANA	HIGH	All Vehicles	1.392	0.011	12.227	0.834	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.400	0.011	9.812	0.713	0.049	0.031	792.370	0.074
NEBP SKA	HIGH	All Vehicles	1.375	0.011	11.071	0.836	0.049	0.031	792.370	0.074
	LOW	All Vehicles	1.383	0.011	8.739	0.712	0.049	0.031	792.370	0.074

					Eı	mission Fa	ctors (g/n	ni)		
State	Altitude	Vehicle		(		llutants a			S	
State	Antitude	Type	NOx	SOx	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO,	NH <sub>3</sub>
	HIGH	All Vehicles	1.369	0.011	10.818	0.837	0.049	0.031	792,370	0.074
NEVADA	LOW	All Vehicles	1.376	0.011	8.505	0.715	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.389	0.011	12.069	0.832	0.049	0.031	792.2.0	0.074
NEW HAMPSHIRE	LOW	All Vehicles	1.397	0.011	9.665	0.711	0.049	0.031	32.370	0.074
	HIGH	All Vehicles	1.366	0.011	10.547	0.711	0.049	0.031	792.370	0.074
NEW JERSEY	LOW	All Vehicles	1.373	0.011	8.253	0.718	0.049	J:031	792.370	0.074
	HIGH	All Vehicles	1.363	0.011	10.418	0.833	0.049	0.031	792.370	0.074
NEW MEXICO	LOW	All Vehicles	1.370	0.011	8.133	0.711	.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.384	0.011	11.752	0.711	0.049	0.031	792.370	0.074
NEW YORK	LOW	All Vehicles	1.392	0.011	9.370	0.02	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.352	0.011	9.714	0.853	0.049	0.031	792.370	0.074
NORTH CAROLINA	LOW	All Vehicles	1.359	0.011	7,13	0.729	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.403	0.011	12.816	0.729	0.049	0.031	792.370	0.074
NORTH DAKOTA	LOW	All Vehicles	1.403	0.011	10.357	0.751	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.371	0.011	10.337	0.731	0.049	0.031	792.370	0.074
OHIO	LOW	All Vehicles	1.3/1	0.011	8.575	0.722	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.358	0.011	9.974	0.722	0.049	0.031	792.370	0.074
OKLAHOMA	LOW	All Vehicles	1.366	0.011	7.692	0.742	0.049	0.031	792.370	0.074
	HIGH	All ehicles	1.374	0.011	11.253	0.742	0.049	0.031	792.370	0.074
OREGON	LOW	All Vehicles	1.381	0.011	8.909	0.701	0.049	0.031	792.370	0.074
	HVM	All Vehicles	1.333	0.011	8.894	0.701	0.049	0.031	792.370	0.074
PACIFIC ISLANDS	LOW	All Vehicles	1.333	0.011	6.719	0.694	0.049	0.031	0.000	0.074
	HIGH	All Vehicles	1.374	0.011	11.160	0.841	0.049	0.031	792.370	0.074
PENNSYLV A AA	LOW	All Vehicles	1.382	0.011	8.822	0.719	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.333	0.011	8.894	0.719	0.049	0.031	792.370	0.074
PULKTO RICO	LOW	All Vehicles	1.340	0.011	6.719	0.694	0.049	0.031	0.000	0.074
	HIGH	All Vehicles	1.371	0.011	10.966	0.835	0.049	0.031	792.370	0.074
RHODE ISLAND	LOW	All Vehicles	1.378	0.011	8.642	0.714	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.349	0.011	9.453	0.860	0.049	0.031	792.370	0.074
SOUTH CAROLINA	LOW	All Vehicles	1.356	0.011	7.216	0.734	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.386	0.011	11.758	0.734	0.049	0.031	792.370	0.074
SOUTH DAKOTA	LOW	All Vehicles	1.394	0.011	9.376	0.724	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.356	0.011	9.941	0.724	0.049	0.031	792.370	0.074
TENNESSEE	LOW	All Vehicles	1.363	0.011	7.684	0.724	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.349	0.011	9.389	0.724	0.049	0.031	792.370	0.074
TEXAS	LOW	All Vehicles	1.356	0.011	7.144	0.742	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.375	0.011	11.147	0.742	0.049	0.031	792.370	0.074
UTAH	LOW	All Vehicles	1.382	0.011	8.809	0.702	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.392	0.011	12.232	0.702	0.049	0.031	792.370	0.074
VERMONT	LOW	All Vehicles	1.400	0.011	9.816	0.716	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.333	0.011	7.926	0.853	0.049	0.031	792.370	0.074
VIRGIN ISLANDS	LOW	All Vehicles	1.340	0.011	5.768	0.726	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.359	0.011	10.162	0.840	0.049	0.031	792.370	0.074
VIRGINIA	LOW	All Vehicles	1.367	0.011	7.896	0.718	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.376	0.011	11.383	0.718	0.049	0.031	792.370	0.074
WASHINGTON	LOW	All Vehicles	1.384	0.011	9.029	0.704	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.364	0.011	10.727	0.704	0.049	0.031	792.370	0.074
WEST VIRGINIA	LOW	All Vehicles	1.375	0.011	8.420	0.713	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.393	0.011	12.249	0.713	0.049	0.031	792.370	0.074
WISCONSIN	LOW	All Vehicles	1.401	0.011	9.832	0.726	0.049	0.031	792.370	0.074
	HIGH	All Vehicles	1.390	0.011	12.154	0.720	0.049	0.031	792.370	0.074
WYOMING	LOW	All Vehicles	1.398	0.011	9.744	0.830	0.049	0.031	792.370	0.074
	LOW	An venicles	1.370	0.011	7./44	0.709	0.047	0.051	174.310	0.074

Table 5-19. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors - 2015 GOV

		37.1.1.1.			Eı	nission Fa	actors (g/n	ni)		
State	Altitude	Vehicle		(	Criteria Po	llutants ar	nd Ozone	Precursor	s	
		Type	NOx	SOx	co	voc	PM 10	PM 2.5	CO <sub>2</sub>	NH <sub>3</sub>
	HIGH	All Vehicles	1.199	0.011	9.126	0.812	0.045	0.027	792.190	0.074
ALABAMA	LOW	All Vehicles	1.205	0.011	6.947	0.694	0.045	0.027	792.190	0.074
AT ACIZA	HIGH	All Vehicles	1.284	0.011	14.416	0.836	0.045	0.027	792.190	0.074
ALASKA	LOW	All Vehicles	1.291	0.011	11.867	0.723	0.045	0.027	792.190	0.074
ADIZONA	HIGH	All Vehicles	1.203	0.011	9.386	0.818	0.045	0.027	792.190	0.074
ARIZONA	LOW	All Vehicles	1.209	0.011	7.188	0.699	0.045	0.027	792.190	0.074
ARKANSAS	HIGH	All Vehicles	1.205	0.011	9.497	0.819	0.045	0.027	792.190	0.074
AKKANSAS	LOW	All Vehicles	1.211	0.011	7.289	0.700	0.045	0.027	792.190	0.074
CALIFORNIA	HIGH	All Vehicles	1.199	0.011	9.258	0.795	0.045	0.027	792.190	0.074
CALIFORNIA	LOW	All Vehicles	1.206	0.011	7.092	0.680	0.045	0.027	792.190	0.074
COLORADO	HIGH	All Vehicles	1.230	0.011	11.318	0.774	0.045	0.027	792.190	0.074
COLOKADO	LOW	All Vehicles	1.237	0.011	8.999	0.660	0.045	0.027	792.190	0.074
CONNECTICUT	HIGH	All Vehicles	1.223	0.011	10.854	0.798	0.045	0.027	792.190	0.074
CONNECTICUT	LOW	All Vehicles	1.230	0.011	8.569	0.683	0.045	0.027	792.190	0.074
DELAMADE	HIGH	All Vehicles	1.210	0.011	9.882	0.800	0.045	0.027	792.190	0.074
DELAWARE	LOW	All Vehicles	1.216	0.011	7.667	0.684	0.045	0.027	792.190	0.074
ET ODED 4	HIGH	All Vehicles	1.189	0.011	8.372	0.805	0.045	0.027	792.190	0.074
FLORIDA	LOW	All Vehicles	1.195	0.011	6.240	0.686	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.198	0.011	9.053	0.810	0.045	0.027	792.190	0.074
GEORGIA	LOW	All Vehicles	1.204	0.011	6.879	0.692	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.180	0.011	8.049	0.778	0.045	0.027	792.190	0.074
HAWAII	LOW	All Vehicles	1.186	0.011	5.972	0.663	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.233	0.011	11.510	0.775	0.045	0.027	792.190	0.074
IDAHO	LOW	All Vehicles	1.240	0.011	9.177	0.661	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.219	0.011	10.465	0.810	0.045	0.027	792.190	0.074
ILLINOIS	LOW	All Vehicles	1.219	0.011	8.207	0.693	0.045	0.027	792.190	0.074
	HIGH		1.226	0.011	10.437	0.803	0.045	0.027	792.190	0.074
INDIANA	LOW	All Vehicles All Vehicles	1.225	0.011	8.183	0.687	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.230	0.011	11.146	0.797	0.045	0.027	792.190	0.074
IOWA	LOW	All Vehicles	1.237	0.011	8.839	0.797	0.045	0.027	792.190	0.074
							0.045	0.027	792.190	
KANSAS	LOW	All Vehicles All Vehicles	1.216	0.011	10.168 7.919	0.815	0.045	0.027	792.190	0.074
			1.222	0.011		0.802	0.045	0.027	192.190	0.074
KENTUCKY	HIGH	All Vehicles			9.885			0.027	792.190	0.074
	LOW	All Vehicles	1.217	0.011	7.670	0.685	0.045			
LOUISIANA	HIGH	All Vehicles	1.196	0.011	8.893	0.815	0.045	0.027	792.190	0.074
	LOW	All Vehicles	1.203	0.011	6.720	0.696	0.045	0.027	792.190	0.074
MAINE	HIGH	All Vehicles	1.244	0.011	12.126	0.798	0.045	0.027	792.190	0.074
	LOW	All Vehicles	1.251	0.011	9.747	0.684	0.045	0.027	792.190	0.074
MARYLAND	HIGH	All Vehicles	1.212	0.011	10.023	0 193	0.045	0.027	792.190	0.074
	LOW	All Vehicles	1.218	0.011	7.799	0.677	0.045	0.027	792.190	0.074
MASSACHUSETTS	HIGH	All Vehicles	1.225	0.011	10 //5	0.798	0.045	0.027	792.190	0.074
	LOW	All Vehicles	1.232	0.011	8.682	0.684	0.045	0.027	792.190	0.074
MICHIGAN	HIGH	All Vehicles	1.234	0.011	11.559	0.786	0.045	0.027	792.190	0.074
	LOW	All Vehicles	1.241	0.011	9.222	0.671	0.045	0.027	792.190	0.074
MINNESOTA	HIGH	All Vehicles	12.6	0.011	12.336	0.825	0.045	0.027	792.190	0.074
	LOW	All Vehicles	1.255	0.011	9.940	0.708	0.045	0.027	792.190	0.074
MISSISSIPPI	HIGH	All Vehices	1.199	0.011	9.139	0.815	0.045	0.027	792.190	0.074
	LOW	All ehicles	1.206	0.011	6.955	0.697	0.045	0.027	792.190	0.074
MISSOURI	HIGH	All Vehicles	1.215	0.011	10.139	0.809	0.045	0.027	792.190	0.074
MISSOURI	LOW	All Vehicles	1.221	0.011	7.899	0.691	0.045	0.027	792.190	0.074
MONTANA	HIGH	All Vehicles	1.239	0.011	11.860	0.790	0.045	0.027	792.190	0.074
WIONTANA	LOW	All Vehicles	1.246	0.011	9.501	0.676	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.224	0.011	10.736	0.791	0.045	0.027	792.190	0.074
NEBP SKA										

					Eı	mission Fa	ctors (g/n	ni)		
State	Altitude	Vehicle		(	Criteria Po		_		S	
State	Aititude	Type	NOx	sox	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	HIGH	All Vehicles	1.218	0.011	10.491	0.792	0.045	0.027	792.190	0.07
NEVADA	LOW	All Vehicles	1.225	0.011	8,233	0.677	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.236	0.011	11.706	0.788	0.045	0.027	792.10	0.074
NEW HAMPSHIRE	LOW	All Vehicles	1.243	0.011	9.358	0.673	0.045	0.027	12.190	0.074
	HIGH	All Vehicles	1.245	0.011	10.227	0.795	0.045	0.027	792.190	0.074
NEW JERSEY	LOW	All Vehicles	1.222	0.011	7.989	0.679	0.045	J.027	792.190	0.074
	HIGH	All Vehicles	1.212	0.011	10.102	0.788	0.045	0.027	792.190	0.074
NEW MEXICO	LOW	All Vehicles	1.219	0.011	7.873	0.672	.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.232	0.011	11.398	0.781	0.045	0.027	792.190	0.074
NEW YORK	LOW	All Vehicles	1.239	0.011	9.073	2.067	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.203	0.011	9.417	0.806	0.045	0.027	792.190	0.074
NORTH CAROLINA	LOW	All Vehicles	1.209	0.011	7_52	0.690	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.250	0.011	12.431	0.828	0.045	0.027	792.190	0.074
NORTH DAKOTA	LOW	All Vehicles	1.257	0/11	10.028	0.712	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.220	0.011	10.565	0.799	0.045	0.027	792.190	0.074
OHIO	LOW	All Vehicles	1220	0.011	8.302	0.683	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.208	0.011	9.670	0.821	0.045	0.027	792.190	0.074
OKLAHOMA	LOW	All Vebi .es	1.215	0.011	7.443	0.701	0.045	0.027	792.190	0.074
	HIGH	All ehicles	1.223	0.011	10.914	0.777	0.045	0.027	792.190	0.074
OREGON	LOW	All Vehicles	1.229	0.011	8.626	0.664	0.045	0.027	792.190	0.074
	HUM	All Vehicles	1.184	0.011	8,623	0.769	0.045	0.027	792.190	0.074
PACIFIC ISLANDS	LOW	All Vehicles	1.191	0.011	6,503	0.656	0.045	0.027	0.000	0.074
	HIGH	All Vehicles	1.223	0.011	10.823	0.796	0.045	0.027	792.190	0.074
PENNSYLVAMA	LOW	All Vehicles	1.230	0.011	8.541	0.681	0.045	0.027	792,190	0.074
	HIGH	All Vehicles	1.180	0.011	7.585	0.792	0.045	0.027	792.190	0.074
PLEATO RICO	LOW	All Vehicles	1.186	0.011	5.519	0.674	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.220	0.011	10.635	0.790	0.045	0.027	792.190	0.074
RHODE ISLAND	LOW	All Vehicles	1.226	0.011	8.367	0.676	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.199	0.011	9.164	0.812	0.045	0.027	792,190	0.074
SOUTH CAROLINA	LOW	All Vehicles	1.206	0.011	6.983	0.694	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.234	0.011	11.403	0.803	0.045	0.027	792.190	0.074
SOUTH DAKOTA	LOW	All Vehicles	1.241	0.011	9.077	0,686	0.045	0.027	792.190	0.074
	HIGH	All Vehicles	1.206	0.011	9.639	0.801	0.045	0.027	792.190	0.074
TENNESSEE	LOW	All Vehicles	1.213	0.011	7.437	0.684	0.045	0.027	792.190	0.074
TEN A C	HIGH	All Vehicles	1.199	0.011	9.101	0.821	0.045	0.027	792.190	0.074
TEXAS	LOW	All Vehicles	1.206	0.011	6.912	0.701	0.045	0.027	792.190	0.074
*****	HIGH	All Vehicles	1.223	0.011	10.810	0.780	0.045	0.027	792.190	0.074
UTAH	LOW	All Vehicles	1.230	0.011	8.528	0.664	0.045	0.027	792.190	0.074
VEDMONT	HIGH	All Vehicles	1.239	0.011	11.865	0.793	0.045	0.027	792.190	0.074
VERMONT	LOW	All Vehicles	1.246	0.011	9.505	0.678	0.045	0.027	792.190	0.074
VIRGIN ISLANDS	HIGH	All Vehicles	1.185	0.011	7.678	0.805	0.045	0.027	792.190	0.074
VIRGIN ISLANDS	LOW	All Vehicles	1.191	0.011	5.575	0.685	0.045	0.027	792.190	0.074
VIRGINIA	HIGH	All Vehicles	1.209	0.011	9.853	0.795	0.045	0.027	792.190	0.074
VIRGINIA	LOW	All Vehicles	1.216	0.011	7.643	0.679	0.045	0.027	792.190	0.074
WACHINGTON	HIGH	All Vehicles	1.225	0.011	11.041	0.780	0.045	0.027	792.190	0.074
WASHINGTON	LOW	All Vehicles	1.232	0.011	8.743	0.667	0.045	0.027	792.190	0.074
WEST MIDCING	HIGH	All Vehicles	1.216	0.011	10.403	0.790	0.045	0.027	792.190	0.074
WEST VIRGINIA	LOW	All Vehicles	1.223	0.011	8.152	0.675	0.045	0.027	792.190	0.074
WICCONGIN	HIGH	All Vehicles	1.240	0.011	11.881	0.804	0.045	0.027	792.190	0.074
WISCONSIN	LOW	All Vehicles	1.247	0.011	9.519	0.688	0.045	0.027	792.190	0.074
navor myc	HIGH	All Vehicles	1.238	0.011	11.789	0.786	0.045	0.027	792.190	0.074
WYOMING	LOW	All Vehicles	1.245	0.011	9,435	0.672	0.045	0.027	792.190	0.074

Table 5-20. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors - 2016 GOV

		Vehicle				mission Fa	Ű.			
State	Altitude	Type		(	Criteria Po	llutants a	nd Ozone	Precursor	s	
		Туре	NOx	SOx	co	VOC	PM 10	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
ALABAMA	HIGH	All Vehicles	1.072	0.011	8.846	0.770	0.043	0.025	792.230	0.074
ALABAMA	LOW	All Vehicles	1.078	0.011	6.711	0.656	0.043	0.025	792.230	0.074
ALASKA	HIGH	All Vehicles	1.150	0.011	13.925	0.790	0.043	0.025	792.230	0.074
ALASKA	LOW	All Vehicles	1.156	0.011	11.424	0.680	0.043	0.025	792.230	0.074
ARIZONA	HIGH	All Vehicles	1.076	0.011	9.095	0.776	0.043	0.025	792.230	0.074
AKIZONA	LOW	All Vehicles	1.082	0.011	6.942	0.661	0.043	0.025	792.230	0.074
ARKANSAS	HIGH	All Vehicles	1.078	0.011	9.202	0.777	0.043	0.025	792.230	0.074
AKKANSAS	LOW	All Vehicles	1.084	0.011	7.039	0.663	0.043	0.025	792.230	0.074
CALIFORNIA	HIGH	All Vehicles	1.073	0.011	8.971	0.755	0.043	0.025	792.230	0.074
CALIFORNIA	LOW	All Vehicles	1.078	0.011	6.850	0.644	0.043	0.025	792.230	0.074
COLORADO	HIGH	All Vehicles	1.101	0.011	10.952	0.734	0.043	0.025	792.230	0.074
COLOKADO	LOW	All Vehicles	1.107	0.011	8.679	0.624	0.043	0.025	792.230	0.074
CONNECTICUT	HIGH	All Vehicles	1.095	0.011	10.505	0.757	0.043	0.025	792.230	0.074
CONNECTICUT	LOW	All Vehicles	1.101	0.011	8.266	0.646	0.043	0.025	792.230	0.074
DELAWARE	HIGH	All Vehicles	1.082	0.011	9.570	0.759	0.043	0.025	792.230	0.074
DELAWARE	LOW	All Vehicles	1.088	0.011	7.401	0.647	0.043	0.025	792.230	0.074
ET ODED 4	HIGH	All Vehicles	1.063	0.011	8.121	0.764	0.043	0.025	792.230	0.074
FLORIDA	LOW	All Vehicles	1.069	0.011	6.033	0.650	0.043	0.025	792.230	0.074
	HIGH	All Vehicles	1.071	0.011	8.775	0.769	0.043	0.025	792.230	0.074
GEORGIA	LOW	All Vehicles	1.077	0.011	6.646	0.655	0.043	0.025	792.230	0.074
	HIGH	All Vehicles	1.055	0.011	7.809	0.739	0.043	0.025	792.230	0.074
HAWAII	LOW	All Vehicles	1.061	0.011	5.776	0.628	0.043	0.025	792.230	0.074
	HIGH	All Vehicles	1.103	0.011	11.136	0.734	0.043	0.025	792.230	0.074
IDAHO	LOW	All Vehicles	1.109	0.011	8.849	0.625	0.043	0.025	792.230	0.074
	HIGH	All Vehicles	1.091	0.011	10.130	0.768	0.043	0.025	792.230	0.074
ILLINOIS	LOW	All Vehicles	1.097	0.011	7.918	0.655	0.043	0.025	792.230	0.074
	HIGH	All Vehicles	1.090	0.011	10.104	0.761	0.043	0.025	792.230	0.074
INDIANA	LOW	All Vehicles	1.096	0.011	7.895	0.649	0.043	0.025	792.230	0.074
	HIGH	All Vehicles	1.101	0.011	10.785	0.754	0.043	0.025	792.230	0.074
IOWA	LOW	All Vehicles	1.107	0.011	8.524	0.642	0.043	0.025	792.230	0.074
	HIGH	All Vehicles	1.088	0.011	9.847	0.773	0.043	0.025	792.230	0.074
KANSAS	LOW	All Vehicles	1.088	0.011	7.643	0.658	0.043	0.025	792,250	0.074
	HIGH	All Vehicles	1.094	0.011	9.574	0.760	0.043	0.025	7,2.230	0.074
KENTUCKY	LOW	All Vehicles	1.088	0.011	7.403	0.760	0.043	0.025	792.230	0.074
			1.070	0.011			0.043	025		0.074
LOUISIANA	HIGH	All Vehicles	1.076	0.011	8.622	0.773	0.043		792.230 792.230	0.074
	LOW	All Vehicles			6.494	0.658				
MAINE	HIGH	All Vehicles	1.113	0.011	11.728	0.756	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.119	0.011	9.394	0.646	0.043	0.025	792.230	0.074
MARYLAND	HIGH	All Vehicles	1.084	0.011	9.706	0.752	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.090	0.011	7.528	0.640	0.043	0.025	792.230	0.074
MASSACHUSETTS	HIGH	All Vehicles	1.096	0.011	10 322	0.757	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.102	0.011	8.374	0.646	0.043	0.025	792.230	0.074
MICHIGAN	HIGH	All Vehicles	1.105	0611	11.183	0.744	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.111	0.011	8.891	0.634	0.043	0.025	792.230	0.074
MINNESOTA	HIGH	All Vehicles	1117	0.011	11.928	0.780	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.124	0.011	9.578	0.668	0.043	0.025	792.230	0.074
MISSISSIPPI	HIGH	All Vehices	1.073	0.011	8.858	0.773	0.043	0.025	792.230	0.074
	LOW	All ehicles	1.079	0.011	6.719	0.659	0.043	0.025	792.230	0.074
MISSOURI	HIGH	All Vehicles	1.087	0.011	9.818	0.767	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.093	0.011	7.623	0.653	0.043	0.025	792.230	0.074
MONTANA	AIGH	All Vehicles	1.109	0.011	11.472	0.748	0.043	0.025	792.230	0.074
MONTANA	LOW	All Vehicles	1.115	0.011	9.158	0.638	0.043	0.025	792.230	0.074
NEDD VA	HIGH	All Vehicles	1.095	0.011	10.391	0.749	0.043	0.025	792.230	0.074
NEBP .SKA	LOW	All Vehicles	1.101	0.011	8.160	0.637	0.043	0.025	792.230	0.074

					Eı	mission Fa	ctors (g/n	ni)		
State	Altitude	Vehicle			Criteria Po				\$	
State	Aititude	Type	NOx	sox	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO,	NH <sub>3</sub>
	HIGH	All Vehicles	1.090	0.011	10.156	0.751	0.043	0.025	792-230	0.02
NEVADA	LOW	All Vehicles	1.096	0.011	7.944	0.731	0.043	0.025	792.230	0.074
	HIGH	All Vehicles	1.106	0.011	11.324	0.746	0.043	0.025	792.230	0.074
NEW HAMPSHIRE	LOW	All Vehicles	1.113	0.011	9.022	0.746	0.043	0.025	192.230	0.074
	HIGH		1.113	0.011	9.022	0.636		0.025	792.230	0.074
NEW JERSEY		All Vehicles					0.043			
	LOW	All Vehicles	1.093	0.011	7.710	0.643	0.043	0.025	792.230	0.074
NEW MEXICO	HIGH	All Vehicles	1.084	0.011	9.782	0.747	0.042	0.025	792.230	0.074
	LOW	All Vehicles	1.090	0.011	7.599	0.636	.043	0.025	792.230	0.074
NEW YORK	HIGH	All Vehicles	1.102		11.028		0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.108	0.011	8.748	0.530	0.043	0.025	792.230	0.074
NORTH CAROLINA	HIGH	All Vehicles	1.076	0.011	9.125	0.765	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.082	0.011	6 84	0.653	0.043	0.025	792.230	0.074
NORTH DAKOTA	HIGH	All Vehicles	1.119	0.011	12.019	0.783	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.125	0.11	9.662	0.671	0.043	0.025	792.230	0.074
OHIO	HIGH	All Vehicles	1.091	0.011	10.227	0.757	0.043	0.025	792.230	0.074
	LOW	All Vehicles	107	0.011	8.009	0.646	0.043	0.025	792.230	0.074
OKLAHOMA	HIGH	All Vehicles	1.081	0.011	9.369	0.779	0.043	0.025	792.230	0.074
	LOW	All Vebi es	1.087	0.011	7.187	0.663	0.043	0.025	792.230	0.074
OREGON	HIGH	All ehicles	1.094	0.011	10.564	0.737	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.100	0.011	8.321	0.628	0.043	0.025	792.230	0.074
PACIFIC ISLANDS	HICA	All Vehicles	1.059	0.011	8.361	0.731	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.064	0.011	6.286	0.622	0.043	0.025	0.000	0.074
PENNSYLVAMA	HIGH	All Vehicles	1.094	0.011	10.475	0.755	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.100	0.011	8.239	0.644	0.043	0.025	792.230	0.074
PLEATO RICO	HIGH	All Vehicles	1.056	0.011	7.362	0.752	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.061	0.011	5.340	0.639	0.043	0.025	792.230	0.074
RHODE ISLAND	HIGH	All Vehicles	1.091	0.011	10.295	0.749	0.043	0.025	792.230	0.074
	LOW	All Vehicles	1.097	0.011	8.072	0.639	0.043	0.025	792.230	0.074
SOUTH CAROLINA	HIGH	All Vehicles	1.073	0.011	8.882	0.771	0.043	0.025	792.230	0.074
DOCTH CHROLING	LOW	All Vehicles	1.079	0.011	6.745	0.657	0.043	0.025	792.230	0.074
SOUTH DAKOTA	HIGH	All Vehicles	1.104	0.011	11.032	0.760	0.043	0.025	792.230	0.074
boom bimoin	LOW	All Vehicles	1.111	0.011	8.751	0.648	0.043	0.025	792.230	0.074
TENNESSEE	HIGH	All Vehicles	1.079	0.011	9.337	0.760	0.043	0.025	792.230	0.074
TENTILOGEE	LOW	All Vehicles	1.085	0.011	7.180	0.647	0.043	0.025	792.230	0.074
TEXAS	HIGH	All Vehicles	1.073	0.011	8.823	0.779	0.043	0.025	792.230	0.074
112415	LOW	All Vehicles	1.079	0.011	6.678	0.664	0.043	0.025	792.230	0.074
UTAH	HIGH	All Vehicles	1.095	0.011	10.463	0.739	0.043	0.025	792.230	0.074
017111	LOW	All Vehicles	1.101	0.011	8.227	0.628	0.043	0.025	792.230	0.074
VERMONT	HIGH	All Vehicles	1.109	0.011	11.476	0.751	0.043	0.025	792.230	0.074
VERWONT	LOW	All Vehicles	1.115	0.011	9.162	0.640	0.043	0.025	792.230	0.074
VIRGIN ISLANDS	HIGH	All Vehicles	1.061	0.011	7.453	0.764	0.043	0.025	792.230	0.074
TINOIN ISLANDS	LOW	All Vehicles	1.066	0.011	5.394	0.649	0.043	0.025	792.230	0.074
VIRGINIA	HIGH	All Vehicles	1.082	0.011	9.543	0.754	0.043	0.025	792.230	0.074
VIKUINIA	LOW	All Vehicles	1.088	0.011	7.378	0.642	0.043	0.025	792.230	0.074
WASHINGTON	HIGH	All Vehicles	1.096	0.011	10.685	0.739	0.043	0.025	792.230	0.074
"ASIIINGION	LOW	All Vehicles	1.102	0.011	8.433	0.631	0.043	0.025	792.230	0.074
WEST VIRGINIA	HIGH	All Vehicles	1.088	0.011	10.072	0.749	0.043	0.025	792.230	0.074
AIMIONIV 1631	LOW	All Vehicles	1.094	0.011	7.866	0.638	0.043	0.025	792.230	0.074
WISCONSIN	HIGH	All Vehicles	1.110	0.011	11.491	0.761	0.043	0.025	792.230	0.074
WISCONSIN	LOW	All Vehicles	1.116	0.011	9.175	0.649	0.043	0.025	792.230	0.074
WYOMING	HIGH	All Vehicles	1.108	0.011	11.404	0.744	0.043	0.025	792.230	0.074
WIOMING	LOW	All Vehicles	1.114	0.011	9.096	0.635	0.043	0.025	792.230	0.074

Table 5-21. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors - 2017 GOV

		Vehicle				mission Fa				
State	Altitude	Type		(	Criteria Po	llutants a	nd Ozone	Precursor	s	
		Туре	$NO_X$	$SO_X$	co	VOC	$PM_{10}$	PM 2.5	$CO_2$	NH <sub>3</sub>
AT ADAMA	HIGH	All Vehicles	0.963	0.011	8.622	0.733	0.041	0.024	792.140	0.074
ALABAMA	LOW	All Vehicles	0.968	0.011	6.530	0.623	0.041	0.024	792.140	0.074
AT ACT.	HIGH	All Vehicles	1.035	0.011	13.558	0.753	0.041	0.024	792.140	0.074
ALASKA	LOW	All Vehicles	1.040	0.011	11.102	0.648	0.041	0.024	792.140	0.074
, DIZONI,	HIGH	All Vehicles	0.967	0.011	8.865	0.738	0.041	0.024	792.140	0.074
ARIZONA	LOW	All Vehicles	0.972	0.011	6.754	0.628	0.041	0.024	792.140	0.074
10111111111	HIGH	All Vehicles	0.968	0.011	8.969	0.739	0.041	0.024	792.140	0.074
ARKANSAS	LOW	All Vehicles	0.973	0.011	6.848	0.629	0.041	0.024	792.140	0.074
	HIGH	All Vehicles	0.963	0.011	8.744	0.719	0.041	0.024	792.140	0.074
CALIFORNIA	LOW	All Vehicles	0.968	0.011	6.664	0.611	0.041	0.024	792.140	0.074
	HIGH	All Vehicles	0.989	0.011	10.670	0.700	0.041	0.024	792.140	0.074
COLORADO	LOW	All Vehicles	0.994	0.011	8.440	0.594	0.041	0.024	792.140	0.074
	HIGH	All Vehicles	0.984	0.011	10.235	0.721	0.041	0.024	792.140	0.074
CONNECTICUT	LOW	All Vehicles	0.989	0.011	8.039	0.614	0.041	0.024	792.140	0.074
	HIGH	All Vehicles	0.972	0.011	9.326	0.723	0.041	0.024	792.140	0.074
DELAWARE	LOW	All Vehicles	0.972	0.011	7.199	0.614	0.041	0.024	792.140	0.074
	HIGH	All Vehicles	0.955	0.011	7.199	0.726	0.041	0.024	792.140	0.074
FLORIDA	LOW	All Vehicles	0.959	0.011	5.871	0.617	0.041	0.024	792.140	0.074
	HIGH	All Vehicles	0.939	0.011	8.553	0.731	0.041	0.024	792.140	0.074
GEORGIA	LOW	All Vehicles	0.962	0.011	6.466	0.731	0.041	0.024	792.140	0.074
	HIGH	All Vehicles	0.967	0.011	7.613	0.622	0.041	0.024	792.140	0.074
HAWAII										
	LOW	All Vehicles	0.952	0.011	5.621	0.596	0.041	0.024	792.140	0.074
IDAHO	HIGH	All Vehicles	0.991	0.011	10.849	0.700	0.041	0.024	792.140	0.074
	LOW	All Vehicles	0.997	0.011	8.605	0.594	0.041	0.024	792.140	0.074
ILLINOIS	HIGH	All Vehicles	0.980	0.011	9.870	0.731	0.041	0.024	792.140	0.074
	LOW	All Vehicles	0.985	0.011	7.701	0.622	0.041	0.024	792.140	0.074
INDIANA	HIGH	All Vehicles	0.980	0.011	9.845	0.725	0.041	0.024	792.140	0.074
	LOW	All Vehicles	0.985	0.011	7.679	0.617	0.041	0.024	792.140	0.074
IOWA	HIGH	All Vehicles	0.989	0.011	10.507	0.719	0.041	0.024	792.140	0.074
	LOW	All Vehicles	0.995	0.011	8.288	0.610	0.041	0.024	792.140	0.07
KANSAS	HIGH	All Vehicles	0.977	0.011	9.595	0.735	0.041	0.024	792.140	0.074
	LOW	All Vehicles	0.982	0.011	7.434	0.625	0.041	0.024	792.1.0	0.074
KENTUCKY	HIGH	All Vehicles	0.972	0.011	9.330	0.724	0.041	0.024	2.140	0.074
	LOW	All Vehicles	0.977	0.011	7.201	0.615	0.041	0.024	792.140	0.074
LOUISIANA	HIGH	All Vehicles	0.961	0.011	8.404	0.735	0.041	024	792.140	0.074
LOCIDITION	LOW	All Vehicles	0.966	0.011	6.319	0.625	0.041	0.024	792.140	0.074
MAINE	HIGH	All Vehicles	1.001	0.011	11.424	0.720	.041	0.024	792.140	0.074
Minte	LOW	All Vehicles	1.006	0.011	9.134	0.614	0.041	0.024	792.140	0.074
MARYLAND	HIGH	All Vehicles	0.974	0.011	9.458	0.116	0.041	0.024	792.140	0.074
MAKTLAND	LOW	All Vehicles	0.979	0.011	7.322	0.608	0.041	0.024	792.140	0.074
MASSACHUSETTS	HIGH	All Vehicles	0.985	0.011	10 349	0.721	0.041	0.024	792.140	0.074
WASSACHUSETTS	LOW	All Vehicles	0.990	0.011	8.144	0.614	0.041	0.024	792.140	0.074
MICHIGAN	HIGH	All Vehicles	0.993	06.11	10.894	0.709	0.041	0.024	792.140	0.074
MICHIGAN	LOW	All Vehicles	0.998	0.011	8.646	0.603	0.041	0.024	792.140	0.074
MININECOTA	HIGH	All Vehicles	100	0.011	11.617	0.743	0.041	0.024	792.140	0.074
MINNESOTA	LOW	All Vehicles	1.010	0.011	9.311	0.635	0.041	0.024	792.140	0.074
Micciccippi	HIGH	All Vehi es	0.964	0.011	8.634	0.736	0.041	0.024	792.140	0.074
MISSISSIPPI	LOW	All ehicles	0.969	0.011	6.537	0.626	0.041	0.024	792.140	0.074
Magazini	HIGH	All Vehicles	0.977	0.011	9.567	0.730	0.041	0.024	792.140	0.074
MISSOURI	LOW	All Vehicles	0.982	0.011	7.414	0.621	0.041	0.024	792.140	0.074
	HIGH	All Vehicles	0.997	0.011	11.175	0.713	0.041	0.024	792.140	0.074
MONTANA	LOW	All Vehicles	1.002	0.011	8.905	0.607	0.041	0.024	792.140	0.074
	HIGH	All Vehicles	0.984	0.011	10.123	0.714	0.041	0.024	792.140	0.074
NEBP SKA	LOW	All Vehicles	0.989	0.011	7.935	0.605	0.041	0.024	792.140	0.074
	LUW	All venicles	0.707	0.011	1.733	0.003	0.041	0.024	174.140	0.074

					Eı	mission Fa	actors (g/n	ni)		
State	Altitude	Vehicle		(			nd Ozone		s	
		Type	NOx	SOx	co	VOC	PM 10	PM 2.5	CO <sub>2</sub>	NH <sub>3</sub>
	HIGH	All Vehicles	0.979	0.011	9.896	0.715	0.041	0.024	792,140	0.0
NEVADA	LOW	All Vehicles	0.984	0.011	7.726	0.608	0.041	0.024	792.140	0.074
	HIGH	All Vehicles	0.995	0.011	11.031	0.711	0.041	0.024	792.1.0	0.074
NEW HAMPSHIRE	LOW	All Vehicles	1.000	0.011	8.772	0.605	0.041	0.024	32.140	0.074
	HIGH	All Vehicles	0.976	0.011	9.649	0.718	0.041	0.02	792.140	0.074
NEW JERSEY	LOW	All Vehicles	0.981	0.011	7,499	0.611	0.041	J.024	792.140	0.07
	HIGH	All Vehicles	0.974	0.011	9.532	0.712	0.041	0.024	792.140	0.07
NEW MEXICO	LOW	All Vehicles	0.979	0.011	7.391	0.605	.041	0.024	792.140	0.07
	HIGH	All Vehicles	0.991	0.011	10.743	0.706	0.041	0.024	792.140	0.07
NEW YORK	LOW	All Vehicles	0.996	0.011	8.507	0.399	0.041	0.024	792.140	0.07
	HIGH	All Vehicles	0.966	0.011	8.893	0.728	0.041	0.024	792.140	0.07
NORTH CAROLINA	LOW	All Vehicles	0.971	0.011	6.05	0.620	0.041	0.024	792.140	0.07
	HIGH	All Vehicles	1.006	0.011	11.706	0.746	0.041	0.024	792.140	0.07
NORTH DAKOTA	LOW	All Vehicles	1.011	0.011	9.393	0.638	0.041	0.024	792.140	0.07
	HIGH	All Vehicles	0.981	0.011	9.965	0.722	0.041	0.024	792.140	0.07
OHIO	LOW	All Vehicles	0.981	0.011	7.789	0.614	0.041	0.024	792.140	0.07
	HIGH	All Vehicles	0.971	0.011	9.131	0.741	0.041	0.024	792.140	0.07
OKLAHOMA	LOW	All Vehicles	0.971	0.011	6.992	0.629	0.041	0.024	792.140	0.07
	HIGH		0.976	0.011	10.293		0.041	0.024	792.140	0.07
OREGON		All ehicles	~~~~~~~~		~~~~~~~~~	0.703		************		**********
	LOW	All Vehicles	0.988	0.011	8.094	0.598	0.041	0.024	792.140	0.07
PACIFIC ISLANDS	HICA	All Vehicles	0.950	0.011	8.151	0.696	0.041	0.024	792.140	0.07
	LOW	All Vehicles	0.955	0.011	6.118	0.591	0.041	0.024	0.000	0.07
PENNSYLVAMA	HIGH	All Vehicles	0.983	0.011	10.206	0.719	0.041	0.024	792.140	0.07
	LOW	All Vehicles	0.988	0.011	8.012	0.612	0.041	0.024	792.140	0.07
PLY ATO RICO	HIGH	All Vehicles	0.948	0.011	7.178	0.715	0.041	0.024	792.140	0.07
	LOW	All Vehicles	0.952	0.011	5.197	0.606	0.041	0.024	792.140	0.07
RHODE ISLAND	HIGH	All Vehicles	0.980	0.011	10.031	0.714	0.041	0.024	792.140	0.07
MIODE BELLIO	LOW	All Vehicles	0.985	0.011	7.851	0.608	0.041	0.024	792.140	0.07
SOUTH CAROLINA	HIGH	All Vehicles	0.964	0.011	8.657	0.733	0.041	0.024	792.140	0.07
SOCIII CAROLIVA	LOW	All Vehicles	0.968	0.011	6.563	0.623	0.041	0.024	792.140	0.07
SOUTH DAKOTA	HIGH	All Vehicles	0.993	0.011	10.747	0.724	0.041	0.024	792.140	0.07
300 III DAKOTA	LOW	All Vehicles	0.998	0.011	8.509	0.615	0.041	0.024	792.140	0.07
TENNESSEE	HIGH	All Vehicles	0.969	0.011	9.099	0.724	0.041	0.024	792.140	0.07
TENNESSEE	LOW	All Vehicles	0.974	0.011	6.985	0.615	0.041	0.024	792.140	0.07
TEN A	HIGH	All Vehicles	0.964	0.011	8.600	0.740	0.041	0.024	792.140	0.07
TEXAS	LOW	All Vehicles	0.969	0.011	6.498	0.630	0.041	0.024	792.140	0.07
	HIGH	All Vehicles	0.984	0.011	10.194	0.704	0.041	0.024	792,140	0.07
UTAH	LOW	All Vehicles	0.989	0.011	8.001	0.597	0.041	0.024	792.140	0.07
	HIGH	All Vehicles	0.997	0.011	11.179	0.715	0.041	0.024	792,140	0.07
VERMONT	LOW	All Vehicles	1.002	0.011	8.909	0.609	0.041	0.024	792.140	0.07
	HIGH	All Vehicles	0.952	0.011	7.267	0.726	0.041	0.024	792.140	0.07
VIRGIN ISLANDS	LOW	All Vehicles	0.957	0.011	5.250	0.615	0.041	0.024	792.140	0.07
	HIGH	All Vehicles	0.972	0.011	9.299	0.718	0.041	0.024	792.140	0.07
VIRGINIA	LOW	All Vehicles	0.972	0.011	7.176	0.610	0.041	0.024	792.140	0.07
	HIGH	All Vehicles	0.977	0.011	10.411	0.705	0.041	0.024	792.140	0.07
WASHINGTON	LOW	~~~~~	0.983	0.011	8.202	0.600	0.041	0.024	792.140	0.07
		All Vehicles								
WEST VIRGINIA	HIGH	All Vehicles	0.978	0.011	9.814	0.714	0.041	0.024	792.140	0.07
	LOW	All Vehicles	0.983	0.011	7.651	0.607	0.041	0.024	792.140	0.07
WISCONSIN	HIGH	All Vehicles	0.998	0.011	11.193	0.725	0.041	0.024	792.140	0.07
	LOW	All Vehicles	1.003	0.011	8.921	0.617	0.041	0.024	792.140	0.07
WYOMING	HIGH	All Vehicles	0.996	0.011	11.109	0.710	0.041	0.024	792.140	0.07
	LOW	All Vehicles	1.001	0.011	8.844	0.604	0.041	0.024	792.140	0.07

Table 5-22. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors - 2018 GOV

		Vehicle				mission Fa				
State	Altitude	Type						Precursor		
		-540	NOx	SOx	CO	VOC	PM 10	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
ALABAMA	HIGH	All Vehicles	0.858	0.011	8.389	0.698	0.038	0.021	792.140	0.074
ALADAMA	LOW	All Vehicles	0.862	0.011	6.325	0.593	0.038	0.021	792.140	0.074
ALASKA	HIGH	All Vehicles	0.924	0.011	13.155	0.716	0.038	0.021	792.140	0.074
ALASKA	LOW	All Vehicles	0.930	0.011	10.727	0.614	0.038	0.021	792.140	0.074
ARIZONA	HIGH	All Vehicles	0.861	0.011	8.623	0.703	0.038	0.021	792.140	0.074
AKIZONA	LOW	All Vehicles	0.866	0.011	6.541	0.597	0.038	0.021	792.140	0.074
A DIZ A NIC A C	HIGH	All Vehicles	0.863	0.011	8.724	0.704	0.038	0.021	792.140	0.074
ARKANSAS	LOW	All Vehicles	0.867	0.011	6.631	0.598	0.038	0.021	792.140	0.074
CALIFORNIA	HIGH	All Vehicles	0.858	0.011	8.504	0.685	0.038	0.021	792.140	0.074
CALIFORNIA	LOW	All Vehicles	0.862	0.011	6.453	0.582	0.038	0.021	792.140	0.074
COLOBADO	HIGH	All Vehicles	0.882	0.011	10.365	0.666	0.038	0.021	792.140	0.074
COLORADO	LOW	All Vehicles	0.887	0.011	8.163	0.564	0.038	0.021	792.140	0.074
	HIGH	All Vehicles	0.877	0.011	9.945	0.687	0.038	0.021	792.140	0.074
CONNECTICUT	LOW	All Vehicles	0.882	0.011	7.777	0.584	0.038	0.021	792.140	0.074
	HIGH	All Vehicles	0.866	0.011	9.067	0.688	0.038	0.021	792.140	0.074
DELAWARE	LOW	All Vehicles	0.871	0.011	6.968	0.584	0.038	0.021	792.140	0.074
	HIGH	All Vehicles	0.850	0.011	7.709	0.692	0.038	0.021	792.140	0.074
FLORIDA	LOW	All Vehicles	0.855	0.011	5.690	0.587	0.038	0.021	792.140	0.074
	HIGH	All Vehicles	0.857	0.011	8.322	0.697	0.038	0.021	792.140	0.074
GEORGIA	LOW	All Vehicles	0.862	0.011	6.264	0.697	0.038	0.021	792.140	0.074
	HIGH	All Vehicles	0.862	0.011	7.412	0.591	0.038	0.021	792.140	0.074
HAWAII										
	LOW	All Vehicles	0.847	0.011	5.449	0.568	0.038	0.021	792.140	0.074
IDAHO	HIGH	All Vehicles	0.884	0.011	10.539	0.667	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.889	0.011	8.323	0.565	0.038	0.021	792.140	0.074
ILLINOIS	HIGH	All Vehicles	0.874	0.011	9.593	0.696	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.878	0.011	7.452	0.591	0.038	0.021	792.140	0.074
INDIANA	HIGH	All Vehicles	0.873	0.011	9.568	0.691	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.878	0.011	7.430	0.586	0.038	0.021	792.140	0.074
IOWA	HIGH	All Vehicles	0.882	0.011	10.208	0.684	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.887	0.011	8.017	0.579	0.038	0.021	792.140	0.07
KANSAS	HIGH	All Vehicles	0.871	0.011	9.328	0.700	0.038	0.021	792.140	0.074
ICH I ION IO	LOW	All Vehicles	0.876	0.011	7.195	0.594	0.038	0.021	792.1.0	0.074
KENTUCKY	HIGH	All Vehicles	0.866	0.011	9.071	0.690	0.038	0.021	2.140	0.074
KENTOCKT	LOW	All Vehicles	0.871	0.011	6.971	0.585	0.038	0.021	792.140	0.074
LOUIGIANIA	HIGH	All Vehicles	0.856	0.011	8.179	0.700	0.038	.021	792.140	0.074
LOUISIANA	LOW	All Vehicles	0.861	0.011	6.122	0.594	0.038	0.021	792.140	0.074
MADE	HIGH	All Vehicles	0.892	0.011	11.093	0.686	.038	0.021	792.140	0.074
MAINE	LOW	All Vehicles	0.897	0.011	8.832	0.583	0.038	0.021	792.140	0.074
	HIGH	All Vehicles	0.868	0.011	9.194	P 582	0.038	0.021	792.140	0.074
MARYLAND	LOW	All Vehicles	0.873	0.011	7.087	0.579	0.038	0.021	792.140	0.074
	HIGH	All Vehicles	0.878	0.011	10 555	0.687	0.038	0.021	792.140	0.074
MASSACHUSETTS	LOW	All Vehicles	0.883	0.011	7.878	0.584	0.038	0.021	792.140	0.074
	HIGH	All Vehicles	0.885	0.011	10.582	0.675	0.038	0.021	792.140	0.074
MICHIGAN	LOW	All Vehicles	0.890	0.011	8.362	0.573	0.038	0.021	792.140	0.074
	HIGH	All Vehicles	0.890	0.011	11.280	0.707	0.038	0.021	792.140	0.074
MINNESOTA	LOW	All Vehicles	0.901	0.011	9.002	0.602	0.038	0.021	792.140	0.074
					9.002 8.401		0.038	0.021	792.140	
MISSISSIPPI	HIGH	All Vehices	0.859	0.011		0.701				0.074
	LOW	All ehicles	0.863	0.011	6.332	0.595	0.038	0.021	792.140	0.074
MISSOURI	HIGH	All Vehicles	0.870	0.011	9.301	0.695	0.038	0.021	792.140	0.074
	LCW	All Vehicles	0.875	0.011	7.176	0.590	0.038	0.021	792.140	0.074
MONTANA	AIGH	All Vehicles	0.889	0.011	10.853	0.679	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.894	0.011	8.611	0.576	0.038	0.021	792.140	0.074
NEBP .SKA	HIGH	All Vehicles	0.877	0.011	9.837	0.680	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.882	0.011	7.677	0.575	0.038	0.021	792.140	0.074

		** * * * *			Eı	mission Fa	actors (g/n	ni)		
State	Altitude	Vehicle		(	Criteria Po	llutants a	nd Ozone	Precursor	S	
		Type	NOx	SOx	co	voc	PM 10	PM 2.5	CO <sub>2</sub>	NH <sub>3</sub>
NEVADA	HIGH	All Vehicles	0.872	0.011	9.618	0.682	0.038	0.021	792.140	0.07
NEVADA	LOW	All Vehicles	0.877	0.011	7.476	0.579	0.038	0.021	792.140	0.074
NEW HAMPSHIRE	HIGH	All Vehicles	0.887	0.011	10.714	0.677	0.038	0.021	792.1.0	0.074
NEW HAMFSHIKE	LOW	All Vehicles	0.892	0.011	8.484	0.575	0.038	0.021	52.140	0.074
NEW JERSEY	HIGH	All Vehicles	0.870	0.011	9.379	0.684	0.038	0.027	792.140	0.074
NEW JEKSET	LOW	All Vehicles	0.875	0.011	7.257	0.581	0.038	o.021	792.140	0.074
NEW MEXICO	HIGH	All Vehicles	0.868	0.011	9.266	0.678	0.039	0.021	792.140	0.074
THE WILLIACO	LOW	All Vehicles	0.873	0.011	7.154	0.575	.038	0.021	792.140	0.074
NEW YORK	HIGH	All Vehicles	0.883	0.011	10.436	0.672	0.038	0.021	792.140	0.074
NEW TORK	LOW	All Vehicles	0.888	0.011	8.228	0.569	0.038	0.021	792.140	0.074
NORTH CAROLINA	HIGH	All Vehicles	0.861	0.011	8.649	0.694	0.038	0.021	792.140	0.074
TORTH CIMOLINI	LOW	All Vehicles	0.865	0.011	6 19	0.589	0.038	0.021	792.140	0.074
NORTH DAKOTA	HIGH	All Vehicles	0.897	0.011	11.366	0.709	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.902	0.11	9.081	0.605	0.038	0.021	792.140	0.074
OHIO	HIGH	All Vehicles	0.874	0.011	9.684	0.687	0.038	0.021	792.140	0.074
Onio	LOW	All Vehicles	08.9	0.011	7.537	0.584	0.038	0.021	792.140	0.074
OKLAHOMA	HIGH	All Vehicles	0.866	0.011	8.881	0.705	0.038	0.021	792.140	0.074
OILL III OILL	LOW	All Vehi les	0.870	0.011	6.770	0.598	0.038	0.021	792.140	0.074
OREGON	HIGH	All ehicles	0.876	0.011	10.002	0.670	0.038	0.021	792.140	0.074
OILEGOI!	LOW	All Vehicles	0.881	0.011	7.830	0.569	0.038	0.021	792.140	0.074
PACIFIC ISLANDS	HICA	All Vehicles	0.846	0.011	7.932	0.664	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.850	0.011	5.927	0.563	0.038	0.021	0.000	0.074
PENNSYLVATIA	HIGH	All Vehicles	0.876	0.011	9.918	0.685	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.881	0.011	7.752	0.582	0.038	0.021	792.140	0.074
PLY ATO RICO	HIGH	All Vehicles	0.844	0.011	6.993	0.682	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.848	0.011	5.041	0.577	0.038	0.021	792.140	0.074
RHODE ISLAND	HIGH	All Vehicles	0.874	0.011	9.748	0.680	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.878	0.011	7.596	0.578	0.038	0.021	792.140	0.074
SOUTH CAROLINA	HIGH	All Vehicles	0.858	0.011	8.422	0.698	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.863	0.011	6.356	0.593	0.038	0.021	792.140	0.074
SOUTH DAKOTA	HIGH	All Vehicles	0.885	0.011	10.439	0.689	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.890	0.011	8.230	0.585	0.038	0.021	792.140	0.074
TENNESSEE	HIGH	All Vehicles	0.864	0.011	8.849	0.689	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.868	0.011	6.762	0.585	0.038	0.021	792.140	0.074
TEXAS	HIGH	All Vehicles	0.859	0.011	8.368	0.705	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.863	0.011	6.294	0.599	0.038	0.021	792.140	0.074
UTAH	HIGH	All Vehicles	0.877	0.011	9.905	0.671	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.882	0.011	7.740	0.567	0.038	0.021	792.140	0.074
VERMONT	HIGH	All Vehicles	0.889	0.011	10.857	0.681	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.894	0.011	8.615	0.578	0.038	0.021	792.140	0.074
VIRGIN ISLANDS	HIGH	All Vehicles	0.848	0.011	7.081	0.692	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.853	0.011	5.092	0.585	0.038	0.021	792.140	0.074
VIRGINIA	HIGH	All Vehicles	0.866	0.011	9.041	0.684	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.870	0.011	6.947	0.580	0.038	0.021	792.140	0.074
WASHINGTON	HIGH	All Vehicles	0.877	0.011	10.115	0.672	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.882	0.011	7.934	0.571	0.038	0.021	792.140	0.074
WEST VIRGINIA	HIGH	All Vehicles	0.871	0.011	9.538	0.680	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.876	0.011	7.403	0.577	0.038	0.021	792.140	0.074
WISCONSIN	HIGH	All Vehicles	0.890	0.011	10.871	0.690	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.895	0.011	8.627	0.586	0.038	0.021	792.140	0.074
WYOMING	HIGH	All Vehicles	0.888	0.011	10.790	0.676	0.038	0.021	792.140	0.074
	LOW	All Vehicles	0.893	0.011	8.553	0.573	0.038	0.021	792.140	0.074

Table 5-23. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors - 2019 GOV

		Vahiala				mission Fa				
State	Altitude	Vehicle		(	Criteria Po	llutants a	nd Ozone	Precursor	s	
		Type	$NO_X$	$SO_X$	co	VOC	PM 10	$PM_{2.5}$	$CO_2$	NH <sub>3</sub>
AT ADAMA	HIGH	All Vehicles	0.783	0.011	8.218	0.669	0.037	0.020	792.170	0.074
ALABAMA	LOW	All Vehicles	0.786	0.011	6.187	0.567	0.037	0.020	792.170	0.074
ALASKA	HIGH	All Vehicles	0.845	0.011	12.849	0.690	0.037	0.020	792.170	0.074
ALASKA	LOW	All Vehicles	0.850	0.011	10.456	0.591	0.037	0.020	792.170	0.074
ARIZONA	HIGH	All Vehicles	0.786	0.011	8.446	0.674	0.037	0.020	792.170	0.074
AKIZONA	LOW	All Vehicles	0.790	0.011	6.396	0.571	0.037	0.020	792.170	0.074
ARKANSAS	HIGH	All Vehicles	0.787	0.011	8.544	0.675	0.037	0.020	792.170	0.074
AKKANSAS	LOW	All Vehicles	0.791	0.011	6.484	0.572	0.037	0.020	792.170	0.074
CALIFORNIA	HIGH	All Vehicles	0.782	0.011	8.329	0.657	0.037	0.020	792.170	0.074
CHEN ORIVIN	LOW	All Vehicles	0.786	0.011	6.310	0.557	0.037	0.020	792.170	0.074
COLORADO	HIGH	All Vehicles	0.805	0.011	10.138	0.641	0.037	0.020	792.170	0.074
СОДОКТЬО	LOW	All Vehicles	0.809	0.011	7.969	0.541	0.037	0.020	792.170	0.074
CONNECTICUT	HIGH	All Vehicles	0.800	0.011	9.730	0.660	0.037	0.020	792.170	0.074
CONNECTICOT	LOW	All Vehicles	0.804	0.011	7.595	0.559	0.037	0.020	792.170	0.074
DELAWARE	HIGH	All Vehicles	0.790	0.011	8.876	0.661	0.037	0.020	792.170	0.074
DELAWARE	LOW	All Vehicles	0.794	0.011	6.810	0.559	0.037	0.020	792.170	0.074
FLORIDA	HIGH	All Vehicles	0.775	0.011	7.558	0.663	0.037	0.020	792.170	0.074
TEORIDA	LOW	All Vehicles	0.779	0.011	5.572	0.561	0.037	0.020	792.170	0.074
GEORGIA	HIGH	All Vehicles	0.782	0.011	8.154	0.668	0.037	0.020	792.170	0.074
GEORGIA	LOW	All Vehicles	0.786	0.011	6.128	0.566	0.037	0.020	792.170	0.074
HAWAII	HIGH	All Vehicles	0.768	0.011	7.268	0.644	0.037	0.020	792.170	0.074
паман	LOW	All Vehicles	0.772	0.011	5.336	0.543	0.037	0.020	792.170	0.074
IDAHO	HIGH	All Vehicles	0.807	0.011	10.306	0.641	0.037	0.020	792.170	0.074
IDAHO	LOW	All Vehicles	0.811	0.011	8.124	0.542	0.037	0.020	792.170	0.074
II I INOIC	HIGH	All Vehicles	0.797	0.011	9.387	0.668	0.037	0.020	792.170	0.074
ILLINOIS	LOW	All Vehicles	0.801	0.011	7.279	0.566	0.037	0.020	792.170	0.074
INIDIANIA	HIGH	All Vehicles	0.797	0.011	9.363	0.663	0.037	0.020	792.170	0.074
INDIANA	LOW	All Vehicles	0.801	0.011	7.258	0.562	0.037	0.020	792.170	0.074
IOWA	HIGH	All Vehicles	0.805	0.011	9.985	0.657	0.037	0.020	792.170	0.074
IOWA	LOW	All Vehicles	0.810	0.011	7.828	0.555	0.037	0.020	792.170	0.07
L'ANICA C	HIGH	All Vehicles	0.795	0.011	9.131	0.672	0.037	0.020	792.170	0.074
KANSAS	LOW	All Vehicles	0.799	0.011	7.030	0.569	0.037	0.020	792,170	0.074
KENTHOKK	HIGH	All Vehicles	0.791	0.011	8.880	0.662	0.037	0.020	2.170	0.074
KENTUCKY	LOW	All Vehicles	0.795	0.011	6.812	0.560	0.037	0.020	792.170	0.074
LOUIGIANIA	HIGH	All Vehicles	0.781	0.011	8.016	0.671	0.037	.020	792.170	0.074
LOUISIANA	LOW	All Vehicles	0.785	0.011	5.991	0.568	0.037	0.020	792.170	0.074
MADE	HIGH	All Vehicles	0.815	0.011	10.846	0.659	0.037	0.020	792.170	0.074
MAINE	LOW	All Vehicles	0.819	0.011	8.618	0.559	0.037	0.020	792.170	0.074
MADAZI AND	HIGH	All Vehicles	0.792	0.011	9.000	0.55	0.037	0.020	792.170	0.074
MARYLAND	LOW	All Vehicles	0.796	0.011	6.925	0.554	0.037	0.020	792.170	0.074
MACCACILICETTO	HIGH	All Vehicles	0.801	0.011	9.57	0.660	0.037	0.020	792.170	0.074
MASSACHUSETTS	LOW	All Vehicles	0.806	0.011	7.693	0.560	0.037	0.020	792.170	0.074
MCHICAN	HIGH	All Vehicles	0.808	0011	10.349	0.649	0.037	0.020	792.170	0.074
MICHIGAN	LOW	All Vehicles	0.812	0.011	8.162	0.549	0.037	0.020	792.170	0.074
MININEGOTA	HIGH	All Vehicles	08.8	0.011	11.027	0.679	0.037	0.020	792.170	0.074
MINNESOTA	LOW	All Vehicles	0.823	0.011	8.783	0.578	0.037	0.020	792.170	0.074
Micciccippy	HIGH	All Vehics	0.783	0.011	8.230	0.672	0.037	0.020	792.170	0.074
MISSISSIPPI	LOW	All ehicles	0.787	0.011	6.194	0.569	0.037	0.020	792.170	0.074
A MOGOVIDA	HIGH	All Vehicles	0.794	0.011	9.104	0.667	0.037	0.020	792.170	0.074
MISSOURI	LOW	All Vehicles	0.798	0.011	7.012	0.565	0.037	0.020	792.170	0.074
MONTHANA	HIGH	All Vehicles	0.812	0.011	10.612	0.653	0.037	0.020	792.170	0.074
MONTANA	LOW	All Vehicles	0.816	0.011	8.404	0.553	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.801	0.011	9.625	0.652	0.037	0.020	792.170	0.074
NEBP SKA	LOW	All Vehicles	0.805	0.011	7.498	0.550	0.037	0.020	792.170	0.074
	2011	· CHICKS	0.000	V.VII	1.170	0.000	V. U.J.	0.040	1/4.110	U.U/T

					Eı	mission Fa	actors (g/n	ni)		
State	Altitude	Vehicle		(	Criteria Po	llutants a	nd Ozone	Precursor	rs .	
~		Type	$NO_X$	$SO_X$	co	VOC	PM 10	PM 2.5	CO <sub>2</sub>	NH <sub>3</sub>
MENTADA	HIGH	All Vehicles	0.796	0.011	9.411	0.655	0.037	0.020	792.170	0.07
NEVADA	LOW	All Vehicles	0.800	0.011	7.303	0.555	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.810	0.011	10.477	0.651	0.037	0.020	792.110	0.074
NEW HAMPSHIRE	LOW	All Vehicles	0.814	0.011	8,280	0.551	0.037	0.020	22.170	0.074
	HIGH	All Vehicles	0.794	0.011	9.179	0.657	0.037	0.026	792.170	0.074
NEW JERSEY	LOW	All Vehicles	0.798	0.011	7.090	0.556	0.037	J.020	792,170	0.074
NEW A FERRO	HIGH	All Vehicles	0.792	0.011	9.070	0.651	0.037	0.020	792.170	0.074
NEW MEXICO	LOW	All Vehicles	0.796	0.011	6,990	0.551	.037	0.020	792,170	0.074
NEW YORK	HIGH	All Vehicles	0.806	0.011	10.207	0.646	0.037	0.020	792.170	0.074
NEW YORK	LOW	All Vehicles	0.811	0.011	8.032	2.546	0.037	0.020	792,170	0.074
	HIGH	All Vehicles	0.785	0.011	8.470	0.665	0.037	0.020	792.170	0.074
NORTH CAROLINA	LOW	All Vehicles	0.789	0.011	6 ,53	0.564	0.037	0.020	792,170	0.074
	HIGH	All Vehicles	0.820	0.011	11.111	0.682	0.037	0.020	792.170	0.074
NORTH DAKOTA	LOW	All Vehicles	0.824	0″11	8,860	0.580	0.037	0.020	792,170	0.074
	HIGH	All Vehicles	0.798	0.011	9,476	0,660	0.037	0.020	792,170	0.074
OHIO	LOW	All Vehicles	0.8.52	0.011	7.362	0.559	0.037	0.020	792,170	0.074
	HIGH	All Vehicles		0.011	8.697	0.676	0.037	0.020	792.170	0.074
OKLAHOMA	LOW	All Vebi .es	0.794	0.011	6.619	0.572	0.037	0.020	792,170	0.074
	HIGH	All ehicles	0.799	0.011	9.785	0.644	0.037	0.020	792.170	0.074
OREGON	LOW	All Vehicles	0.803	0.011	7.646	0.545	0.037	0.020	792.170	0.074
	HV	All Vehicles	0.771	0.011	7.773	0.638	0.037	0.020	792,170	0.074
PACIFIC ISLANDS	LOW	All Vehicles	0.775	0.011	5.800	0.539	0.037	0.020	0.000	0.074
	HIGH	All Vehicles	0.800	0.011	9.703	0.658	0.037	0.020	792,170	0.074
PENNSYLVAMA	LOW	All Vehicles	0.804	0.011	7.570	0.558	0.037	0.020	792,170	0.074
	HIGH	All Vehicles	0.769	0.011	6,862	0.653	0.037	0.020	792,170	0.074
PU RTO RICO	LOW	All Vehicles	0.773	0.011	4.941	0.551	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.797	0.011	9,538	0.654	0.037	0.020	792.170	0.074
RHODE ISLAND	LOW	All Vehicles	0.801	0.011	7.419	0.554	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.783	0.011	8.251	0.669	0.037	0.020	792,170	0.074
SOUTH CAROLINA	LOW	All Vehicles	0.787	0.011	6.218	0.567	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.808	0.011	10.210	0.662	0.037	0.020	792.170	0.074
SOUTH DAKOTA	LOW	All Vehicles	0.812	0.011	8.034	0.560	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.788	0.011	8.664	0.661	0.037	0.020	792,170	0.074
TENNESSEE	LOW	All Vehicles	0.792	0.011	6.611	0.560	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.783	0.011	8,199	0,676	0.037	0.020	792,170	0.074
TEXAS	LOW	All Vehicles	0.787	0.011	6.158	0.572	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.800	0.011	9.691	0.644	0.037	0.020	792.170	0.074
UTAH	LOW	All Vehicles	0.804	0.011	7.559	0.544	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.812	0.011	10.616	0.655	0.037	0.020	792,170	0.074
VERMONT	LOW	All Vehicles	0.816	0.011	8,408	0.555	0.037	0.020	792,170	0.074
	HIGH	All Vehicles	0.774	0.011	6,949	0.662	0.037	0.020	792.170	0.074
VIRGIN ISLANDS	LOW	All Vehicles	0.778	0.011	4.992	0.559	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.790	0.011	8.851	0.657	0.037	0.020	792,170	0.074
VIRGINIA	LOW	All Vehicles	0.794	0.011	6,789	0.556	0.037	0.020	792,170	0.074
	HIGH	All Vehicles	0.801	0.011	9.895	0.646	0.037	0.020	792.170	0.074
WASHINGTON	LOW	All Vehicles	0.805	0.011	7.747	0.547	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.795	0.011	9.334	0.653	0.037	0.020	792.170	0.074
WEST VIRGINIA	LOW	All Vehicles	0.799	0.011	7.232	0.553	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.813	0.011	10.629	0.663	0.037	0.020	792.170	0.074
WISCONSIN	LOW	All Vehicles	0.817	0.011	8,419	0.562	0.037	0.020	792.170	0.074
	HIGH	All Vehicles	0.817	0.011	10.550	0.650	0.037	0.020	792.170	0.074
WYOMING	LOW	All Vehicles	0.811	0.011	8.347	0.550	0.037	0.020	792.170	0.074

Table 5-24. Air Force/State/Territory-Specific On-Road Composite Vehicle Emission Factors - 2020 GOV

		X7. 1.2.1.			E	nission Fa	actors (g/n	ni)		
State	Altitude	Vehicle		(	Criteria Po	llutants a	nd Ozone	Precursor	s	
		Type	NOx	SOx	co	VOC	PM 10	PM 2.5	CO <sub>2</sub>	NH <sub>3</sub>
AT ADAMA	HIGH	All Vehicles	0.720	0.011	8.086	0.632	0.036	0.019	792.080	0.074
ALABAMA	LOW	All Vehicles	0.724	0.011	6.075	0.532	0.036	0.019	792.080	0.074
17 1077 1	HIGH	All Vehicles	0.780	0.011	12.628	0.662	0.036	0.019	792.080	0.074
ALASKA	LOW	All Vehicles	0.784	0.011	10.257	0.566	0.036	0.019	792.080	0.074
ADIZONA	HIGH	All Vehicles	0.723	0.011	8.310	0.636	0.036	0.019	792.080	0.074
ARIZONA	LOW	All Vehicles	0.727	0.011	6.281	0.536	0.036	0.019	792.080	0.074
ARKANSAS	HIGH	All Vehicles	0.725	0.011	8.406	0.638	0.036	0.019	792.080	0.074
AKKANSAS	LOW	All Vehicles	0.728	0.011	6.367	0.537	0.036	0.019	792.080	0.074
CALIFORNIA	HIGH	All Vehicles	0.720	0.011	8.194	0.621	0.036	0.019	792.080	0.074
CALIFORNIA	LOW	All Vehicles	0.723	0.011	6.196	0.523	0.036	0.019	792.080	0.074
COLORADO	HIGH	All Vehicles	0.741	0.011	9.969	0.612	0.036	0.019	792.080	0.074
COLOKADO	LOW	All Vehicles	0.745	0.011	7.821	0.515	0.036	0.019	792.080	0.074
CONNECTICUT	HIGH	All Vehicles	0.737	0.011	9.568	0.628	0.036	0.019	792.080	0.074
CONNECTICUT	LOW	All Vehicles	0.741	0.011	7.455	0.530	0.036	0.019	792.080	0.074
DELAWARE	HIGH	All Vehicles	0.728	0.011	8.731	0.626	0.036	0.019	792.080	0.074
DELAWARE	LOW	All Vehicles	0.731	0.011	6.686	0.528	0.036	0.019	792.080	0.074
ET ODED 4	HIGH	All Vehicles	0.713	0.011	7.438	0.624	0.036	0.019	792.080	0.074
FLORIDA	LOW	All Vehicles	0.716	0.011	5.473	0.525	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.719	0.011	8.023	0.630	0.036	0.019	792.080	0.074
GEORGIA	LOW	All Vehicles	0.723	0.011	6.017	0.531	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.706	0.011	7.152	0.606	0.036	0.019	792.080	0.074
HAWAII	LOW	All Vehicles	0.710	0.011	5.241	0.509	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.743	0.011	10.134	0.613	0.036	0.019	792.080	0.074
IDAHO	LOW	All Vehicles	0.747	0.011	7.973	0.516	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.734	0.011	9.232	0.635	0.036	0.019	792.080	0.074
ILLINOIS	LOW	All Vehicles	0.738	0.011	7.145	0.536	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.734	0.011	9.208	0.630	0.036	0.019	792.080	0.074
INDIANA	LOW	All Vehicles	0.737	0.011	7.124	0.531	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.742	0.011	9.818	0.627	0.036	0.019	792.080	0.074
IOWA	LOW	All Vehicles	0.746	0.011	7.682	0.528	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.732	0.011	8.981	0.637	0.036	0.019	792.080	0.074
KANSAS	LOW	All Vehicles	0.736	0.011	6.902	0.537	0.036	0.019	792,000	0.074
	HIGH	All Vehicles	0.738	0.011	8.734	0.627	0.036	0.019	7,2.080	0.074
KENTUCKY	LOW	All Vehicles	0.728	0.011	6.688	0.528	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.731	0.011	7.887	0.632	0.036	2.019	792.080	0.074
LOUISIANA	LOW	All Vehicles	0.719	0.011	5.883	0.632	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.722	0.011	10.663	0.631	6.036	0.019	792.080	0.074
MAINE	LOW	All Vehicles	0.755	0.011	8.457	0.533	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.733	0.011	8.852	0.333	0.036	0.019	792.080	0.074
MARYLAND	LOW	All Vehicles	0.729	0.011	6.798	0.524	0.036	0.019	792.080	0.074
	HIGH		0.738	0.011			0.036	0.019	792.080	0.074
MASSACHUSETTS		All Vehicles	0.742		9.73 7.551	0.628	0.036	0.019	792.080	
	LOW	All Vehicles		0.011		0.531				0.074
MICHIGAN	HIGH	All Vehicles	0.744	0.011	10.175	0.621	0.036	0.019	792.080	0.074
	LOW	All Vehicles	0.748	0.011	8.010	0.523	0.036	0.019	792.080	0.074
MINNESOTA	HIGH	All Vehicles	07.5	0.011	10.841	0.649	0.036	0.019	792.080	0.074
	LOW	All Vehicles	0.758	0.011	8.618	0.551	0.036	0.019	792.080	0.074
MISSISSIPPI	HIGH	All Vehices	0.721	0.011	8.098	0.634	0.036	0.019	792.080	0.074
	LOW	All ehicles	0.724	0.011	6.082	0.534	0.036	0.019	792.080	0.074
MISSOURI	HIGH	All Vehicles	0.731	0.011	8.954	0.633	0.036	0.019	792.080	0.074
	LCW	All Vehicles	0.735	0.011	6.883	0.533	0.036	0.019	792.080	0.074
MONTANA	HIGH	All Vehicles	0.748	0.011	10.434	0.624	0.036	0.019	792.080	0.074
	LOW	All Vehicles	0.752	0.011	8.247	0.527	0.036	0.019	792.080	0.074
NEBP SKA	HIGH	All Vehicles	0.737	0.011	9.465	0.622	0.036	0.019	792.080	0.074
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	LOW	All Vehicles	0.741	0.011	7.359	0.523	0.036	0.019	792.080	0.074

					Eı	mission Fa	actors (g/n	ni)		
State	Altitude	Vehicle		(	Criteria Po				s	
State	Aititude	Type	NOx	sox	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	HIGH	All Vehicles	0.733	0.011	9.256	0.622	0.036	0.019	792.080	0.07
NEVADA	LOW	All Vehicles	0.737	0.011	7.168	0.525	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.746	0.011	10.302	0.623	0.036	0.019	792.000	0.074
NEW HAMPSHIRE	LOW	All Vehicles	0.750	0.011	8.126	0.525	0.036	0.019	12.080	0.074
	HIGH	All Vehicles	0.731	0.011	9.028	0.624	0.036	0.019	792.080	0.074
NEW JERSEY	LOW	All Vehicles	0.735	0.011	6.960	0.526	0.036	J.019	792.080	0.074
	HIGH	All Vehicles	0.729	0.011	8.921	0.619	0.036	0.019	792.080	0.074
NEW MEXICO	LOW	All Vehicles	0.733	0.011	6.862	0.521	.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.743	0.011	10.037	0.617	0.036	0.019	792.080	0.074
NEW YORK	LOW	All Vehicles	0.747	0.011	7.883	2 320	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.722	0.011	8.333	0.629	0.036	0.019	792.080	0.074
NORTH CAROLINA	LOW	All Vehicles	0.726	0.011	6 16	0.530	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.756	0.011	10.923	0.652	0.036	0.019	792.080	0.074
NORTH DAKOTA	LOW	All Vehicles	0.760	0/11	8.693	0.553	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.734	0.011	9.319	0.628	0.036	0.019	792.080	0.074
OHIO	LOW	All Vehicles	07.8	0.011	7.226	0.529	0.036	0.019	792.080	0.074
	HIGH	All Vehicles	0.727	0.011	8.556	0.639	0.036	0.019	792.080	0.074
OKLAHOMA	LOW	All Vebi .es	0.731	0.011	6,499	0.538	0.036	0.019	792.080	0.074
	HIGH	All ehicles	0.736	0.011	9.622	0.613	0.036	0.019	792.080	0.074
OREGON	LOW	All Vehicles	0.740	0.011	7.505	0.517	0.036	0.019	792.080	0.074
	HICA	All Vehicles	0.708	0.011	7.649	0.602	0.036	0.019	792.080	0.074
PACIFIC ISLANDS	LOW	All Vehicles	0.712	0.011	5.696	0.506	0.036	0.019	0.000	0.074
DEPARTMENT AND	HIGH	All Vehicles	0.736	0.011	9.542	0.626	0.036	0.019	792.080	0.074
PENNSYLVA IA	LOW	All Vehicles	0.740	0.011	7.430	0.529	0.036	0.019	792.080	0.074
DUT TO DICO	HIGH	All Vehicles	0.708	0.011	6.755	0.613	0.036	0.019	792.080	0.074
PLERTO RICO	LOW	All Vehicles	0.711	0.011	4.854	0.515	0.036	0.019	792.080	0.074
DHODE ISLAND	HIGH	All Vehicles	0.734	0.011	9.380	0.622	0.036	0.019	792.080	0.074
RHODE ISLAND	LOW	All Vehicles	0.738	0.011	7.282	0.524	0.036	0.019	792.080	0.074
SOUTH CAROLINA	HIGH	All Vehicles	0.720	0.011	8.118	0.632	0.036	0.019	792.080	0.074
300 IH CAROLINA	LOW	All Vehicles	0.724	0.011	6.106	0.532	0.036	0.019	792.080	0.074
SOUTH DAKOTA	HIGH	All Vehicles	0.745	0.011	10.039	0.632	0.036	0.019	792.080	0.074
300 III DAKOTA	LOW	All Vehicles	0.748	0.011	7.885	0.533	0.036	0.019	792.080	0.074
TENNESSEE	HIGH	All Vehicles	0.725	0.011	8.523	0.626	0.036	0.019	792.080	0.074
TENNESSEE	LOW	All Vehicles	0.729	0.011	6.490	0.527	0.036	0.019	792.080	0.074
TEXAS	HIGH	All Vehicles	0.721	0.011	8.068	0.637	0.036	0.019	792.080	0.074
TEAAS	LOW	All Vehicles	0.724	0.011	6.047	0.537	0.036	0.019	792.080	0.074
UTAH	HIGH	All Vehicles	0.737	0.011	9.530	0.615	0.036	0.019	792.080	0.074
UTAII	LOW	All Vehicles	0.741	0.011	7.419	0.517	0.036	0.019	792.080	0.074
VERMONT	HIGH	All Vehicles	0.748	0.011	10.438	0.626	0.036	0.019	792.080	0.074
VERMONT	LOW	All Vehicles	0.752	0.011	8.251	0.529	0.036	0.019	792.080	0.074
VIRGIN ISLANDS	HIGH	All Vehicles	0.712	0.011	6.841	0.621	0.036	0.019	792.080	0.074
VIRGIT IDEATED	LOW	All Vehicles	0.715	0.011	4.904	0.521	0.036	0.019	792.080	0.074
VIRGINIA	HIGH	All Vehicles	0.727	0.011	8.706	0.623	0.036	0.019	792.080	0.074
TROMIN	LOW	All Vehicles	0.731	0.011	6.665	0.524	0.036	0.019	792.080	0.074
WASHINGTON	HIGH	All Vehicles	0.737	0.011	9.731	0.615	0.036	0.019	792.080	0.074
	LOW	All Vehicles	0.741	0.011	7.604	0.519	0.036	0.019	792.080	0.074
WEST VIRGINIA	HIGH	All Vehicles	0.732	0.011	9.180	0.621	0.036	0.019	792.080	0.074
	LOW	All Vehicles	0.736	0.011	7.099	0.523	0.036	0.019	792.080	0.074
WISCONSIN	HIGH	All Vehicles	0.749	0.011	10.451	0.634	0.036	0.019	792.080	0.074
MISCONSIN	LOW	All Vehicles	0.753	0.011	8.262	0.535	0.036	0.019	792.080	0.074
WYOMING	HIGH	All Vehicles	0.747	0.011	10.374	0.621	0.036	0.019	792.080	0.074
11 TOME 10	LOW	All Vehicles	0.751	0.011	8.192	0.524	0.036	0.019	792.080	0.074

Table 5-25. On-Road Vehicle Emission Factors — 2013 POV

		Fuel				Er	nission F	actors (g/r	ni)		
State	Altitude	Fuel Type	Vehicle Type		C	rite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	$CO_2$	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.436	0.007	8.110	0.605	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.776	0.010	10.550	0.982	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.125	0.016	26.000	1.048	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.507
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
17.17.17.1		NA	MC Motorcycles	0.800	0.003	26.910	3.180	0.037	0.021	17,.400	0.011
ALABAMA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.436	0.007	8.110	0.600	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.776	0.010	10.550	0.963	0.025	0.01	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.372	0.016	8.180	0.819	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.06	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	2.065	0.049	787.100	0.027
		NA	MC Motorcycles	1.160	0.003	14.280	2.410	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.497	0.007	15.330	0.613	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.933	0.010	19.030	.060	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.200	0.016	31.130	0.954	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.868	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
ALASKA		NA	MC Motorcycles	0.980	0.003	31.650	2.760	0.037	0.021	177.400	0.011
ALASKA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.497	3.007	15.330	0.609	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.933	0.010	19.030	1.058	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.4 .3	0.016	9.800	0.673	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	5.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC Motorcycles	1.410	0.003	16.960	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passe ger Cars)	0.440	0.007	8.470	0.610	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8500 lbs)	0.784	0.010	10.960	0.993	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicle (8,501+ lbs)	1.129	0.016	26.260	1.053	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Tacks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Drey Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
ARIZONA		NA	MC Motor ycles	0.810	0.003	27.160	3.280	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.440	0.007	8.470	0.605	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.784	0.010	10.960	0.974	0.025	0.011	550.200	0.102
		Gasoline	HDCV Heavy-Duty Vehicles (8,501+ lbs)	1.376	0.016	8.270	0.819	0.048	0.032	877.900	0.045
	LOW	Diesel	DDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Die el	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NΑ	MC Motorcycles	1.170	0.003	14.420	2.480	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.442	0.007	8.620	0.612	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.787	0.010	11.130	0.996	0.025	0.011	550.200	0.102
	HICH	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.130	0.016	26.400	1.054	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
ARK MSAS		NA Gasoline	MC Motorcycles  LDGV Light-Duty Vehicles (Passenger Cars)	0.810	0.003	27.370	3.340 0.606	0.037	0.021	177.400	0.011
		Gasoline	LDGY Light-Duty Venicles (Passenger Cars)  LDGT Light-Duty Trucks (0-8,500 lbs)	0.442	0.007 0.010	8.620 11.130	0.000	0.025	0.011	368.100 550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.378	0.016	8.310	0.977	0.023	0.011	877.900	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.048	0.032	314.000	0.043
1	LOW	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.005	0.657	0.132	0.060	0.037	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.637	0.367	0.065	0.044	787.100	0.007
		NA	MC Motorcycles	1.170	0.007	14.540	2.530	0.003	0.049	177.400	0.027
L		INA	MC Monteyers	1.170	0.003	14.340	2.330	0.057	0.021	177.400	0.011

Table 5-25. On-Road Vehicle Emission Factors - 2013 POV (cont.)

		ъ.					En	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	M <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.430	0.007	8.320	0.589	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.777	0.010	10.810	0.959	0.025	0.011	550.203	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.129	0.016	25.820	1.014	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	14.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.0.9	787.100	0.027
CALIFORNIA		NA	MC	Motorcycles	0.820	0.003	26.280	2.880	0.037	.021	177.400	0.011
CALIFORNIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.430	0.007	8.320	0.585	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.777	0.010	10.810	0.945	0.02	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.377	0.016	8.130	0.787	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.135	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.180	0.003	13.960	2.160	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.449	0.007	11.120	0.554	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.834	0.010	14.0 0	0.938	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.158	0.016	2,940	0.932	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.00	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	0 .07	1.054	0.334	0.065	0.049	787.100	0.027
COLORADO		NA	MC	Motorcycles	0.880	0.003	28.240	2.710	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.449	0.007	11.120	0.552	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.874	0.010	14.090	0.930	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	.412	0.016	8.790	0.686	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.270	0.003	15.050	2.020	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446	0.007	10.490	0.588	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8 00 lbs)	0.821	0.010	13.350	0.973	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicle (8,501+ lbs)	1.152	0.016	27.470	0.986	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Dut Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
CONNECTICUT		NA	MC	Motorcy les	0.870	0.003	27.860	2.760	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light Duty Vehicles (Passenger Cars)	0.446	0.007	10.490	0.584	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.821	0.010	13.350	0.962	0.025	0.011	550.200	0.102
	1.011	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.404	0.016	8.640	0.743	0.048	0.032	877.900	0.045
	LOW	Diesel	LDD	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.250	0.003	14.840	2.060	0.037	0.021	177.400	0.011
		Gas line	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	9.180	0.592	0.025	0.011	368.100	0.102
		Casoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.796	0.010	11.800	0.970	0.025	0.011	550.200	0.102
	THE	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.138	0.016	26.490	1.010	0.048	0.032	877.900	0.045
	HIC	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
DELAWARE		NA	MC	Motorcycles	0.840	0.003	27.020	2.990	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	9.180	0.587	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.796	0.010	11.800	0.955	0.025	0.011	550.200	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.387	0.016	8.340	0.774	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.210	0.003	14.370	2.240	0.037	0.021	177.400	0.011

Table 5-25. On-Road Vehicle Emission Factors - 2013 POV (cont.)

							Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	rite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.432	0.007	7.060	0.599	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.757	0.010	9.320	0.965	0.025	0.011	550,230	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.114	0.016	25.360	1.054	0.048	0.032	87,900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.04	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0,49	787.100	0.027
TT OPTO		NA	MC	Motorcycles	0.770	0.003	26.730	2.990	0.037	0.021	177.400	0.011
FLORIDA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.432	0.007	7.060	0.595	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.757	0.010	9.320	0.945	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.358	0.016	7.980	0.833	5.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.38	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0 165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.110	0.003	14.160	2.270	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.436	0.007	8.000	0.604	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.774	0.010	10,30	0.979	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.124	0.016	25.930	1.047	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.00	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	£.007	1.054	0.334	0.065	0.049	787.100	0.027
GEORGIA		NA	MC	Motorcycles	0.800	0.003	26.850	3.160	0.037	0.021	177.400	0.011
GEORGIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.43	0.007	8.000	0.599	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.74	0.010	10.430	0.960	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.370	0.016	8.160	0.819	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.150	0.003	14.250	2.390	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.415	0.007	6.650	0.574	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-%,500 lbs)	0.742	0.010	8.890	0.924	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.112	0.016	24.580	1.009	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehides (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tacks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Dy y Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
HAWAII		NA	MC	Motore cles	0.790	0.003	25.120	2.810	0.037	0.021	177.400	0.011
IIAWAII		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.415	0.007	6.650	0.571	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Jught-Duty Trucks (0-8,500 lbs)	0.742	0.010	8.890	0.908	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.356	0.016	7.740	0.797	0.048	0.032	877.900	0.045
	LOW	Diesel	LDIV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.140	0.003	13.310	2.110	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.451	0.007	11.380	0.555	0.025	0.011	368.100	0.102
	_	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.839	0.010	14.390	0.941	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.161	0.016	28.140	0.930	0.048	0.032	877.900	0.045
	HUM	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
IDAHO		NA	MC	Motorcycles	0.890	0.003	28.410	2.690	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.451	0.007	11.380	0.553	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.839	0.010	14.390	0.933	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.416	0.016	8.860	0.682	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
<u> </u>		NA	MC	Motorcycles	1.280	0.003	15.140	2.000	0.037	0.021	177.400	0.011

Table 5-25. On-Road Vehicle Emission Factors - 2013 POV (cont.)

		E . I				Er	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel	Vehicle Type		C	crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	$CO_2$	$NH_3$
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.447	0.007	9.980	0.600	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.814	0.010	12.730	0.989	0.025	0.011	550,230	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.146	0.016	27.090	1.013	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.04	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0 .49	787.100	0.027
II I INOIC		NA	MC Motorcycles	0.860	0.003	27.670	3.060	0.037	0.021	177.400	0.011
ILLINOIS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.447	0.007	9.980	0.595	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.814	0.010	12.730	0.974	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.397	0.016	8.520	0.769	.048	0.032	877.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.38	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0 165	0.065	0.049	787.100	0.027
		NA	MC Motorcycles	1.230	0.003	14.730	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.446	0.007	9.940	0.594	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.812	0.010	12 ,90	0.978	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.146	0.016	27.040	1.002	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.0%	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.412	£.007	1.054	0.334	0.065	0.049	787.100	0.027
INDIANA		NA	MC Motorcycles	0.860	0.003	27.550	2.950	0.037	0.021	177.400	0.011
INDIANA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.44	0.007	9.940	0.589	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.512	0.010	12.690	0.964	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.397	0.016	8.510	0.761	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ 11)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC Motorcycles	1.230	0.003	14.670	2.220	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Pastenger Cars)	0.455	0.007	10.900	0.574	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-2,500 lbs)	0.834	0.010	13.820	0.973	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehic s (8,501+ lbs)	1.155	0.016	27.780	0.967	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty T dcks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Dy y Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
IOWA		NA	MC Motore cles	0.880	0.003	28.410	3.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.455	0.007	10.900	0.569	0.025	0.011	368.100	0.102
		Gasoline	LDGT Jight-Duty Trucks (0-8,500 lbs)	0.834	0.010	13.820	0.960	0.025	0.011	550.200	0.102
	1.011	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.409	0.016	8.740	0.715	0.048	0.032	877.900	0.045
	LOW	Diesel	LDIV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA.	MC Motorcycles	1.260	0.003	15.150	2.250	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.449	0.007	9.550	0.606	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.807	0.010	12.220	0.994	0.025	0.011	550.200	0.102
	нулн	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.140	0.016	26.980	1.032	0.048	0.032	877.900	0.045
	нин	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
	1	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
KANSAS		NA	MC Motorcycles	0.840	0.003	27.810	3.290	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.449	0.007	9.550	0.600	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.807	0.010	12.220	0.976	0.025	0.011	550.200	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.390	0.016	8.490	0.789	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)  MC Motorcycles	1.384	0.007	0.427	0.165	0.065	0.049	787.100 177.400	0.027
		NA	MC Motorcycles	1.200	0.003	14.800	2.490	0.037	0.021	177.400	0.011

Table 5-25. On-Road Vehicle Emission Factors - 2013 POV (cont.)

		ъ.					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	9.180	0.594	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.797	0.010	11.800	0.972	0.025	0.011	550,230	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.138	0.016	26.510	1.012	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0,49	787.100	0.027
***************************************		NA	MC	Motorcycles	0.840	0.003	27.070	3.010	0.037	0.021	177.400	0.011
KENTUCKY		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	9.180	0.589	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.797	0.010	11.800	0.957	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.387	0.016	8.340	0.776	5.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.38	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0 165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.210	0.003	14.390	2.260	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.438	0.007	7.770	0.609	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.771	0.010	10.750	0.984	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.121	0.016	5.910	1.062	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.00	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	£.007	1.054	0.334	0.065	0.049	787.100	0.027
LOUIGIANA		NA	MC	Motorcycles	0.790	0.003	27.220	3.260	0.037	0.021	177.400	0.011
LOUISIANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.439	0.007	7.770	0.603	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.71	0.010	10.150	0.964	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.367	0.016	8.150	0.833	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ ]	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.130	0.003	14.430	2.480	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.461	0.007	12.210	0.576	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-%,500 lbs)	0.859	0.010	15.380	0.983	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehic s (8,501+ lbs)	1.169	0.016	28.780	0.950	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Dy y Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
MAINE		NA	MC	Motore cles	0.910	0.003	29.210	2.730	0.037	0.021	177.400	0.011
WAINE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.461	0.007	12.210	0.574	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Jeght-Duty Trucks (0-8,500 lbs)	0.859	0.010	15.380	0.975	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.426	0.016	9.060	0.693	0.048	0.032	877.900	0.045
	LOW	Diesel	LD/ V	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.310	0.003	15.590	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	9.370	0.584	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.800	0.010	12.030	0.959	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.140	0.016	26.610	0.995	0.048	0.032	877.900	0.045
	HICH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
	ĺ	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
MARYLAND		NA	MC	Motorcycles	0.840	0.003	27.100	2.920	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	9.370	0.580	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.800	0.010	12.030	0.945	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.390	0.016	8.380	0.759	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.210	0.003	14.410	2.190	0.037	0.021	177.400	0.011

Table 5-25. On-Road Vehicle Emission Factors - 2013 POV (cont.)

		ъ.					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	$^{\wedge}\mathrm{H}_{3}$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.447	0.007	10.660	0.588	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.824	0.010	13.540	0.974	0.025	0.011	550,200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.154	0.016	27.590	0.984	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0,49	787.100	0.027
MAGGACITUGETE		NA	MC	Motorcycles	0.870	0.003	27.960	2.750	0.037	0.021	177.400	0.011
MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.447	0.007	10.660	0.585	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.824	0.010	13.540	0.964	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.406	0.016	8.680	0.740	5.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.38	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0 165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.260	0.003	14.900	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.453	0.007	11.450	0.565	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.841	0.010	14.70	0.958	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.162	0.016	28.200	0.943	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.0%	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	£.007	1.054	0.334	0.065	0.049	787.100	0.027
MICHIGAN		NA	MC	Motorcycles	0.890	0.003	28.590	2.730	0.037	0.021	177.400	0.011
MICHIGAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.457	0.007	11.450	0.562	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.41	0.010	14.470	0.949	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.416	0.016	8.870	0.693	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.280	0.003	15.250	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.467	0.007	12.500	0.600	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-2,500 lbs)	0.867	0.010	15.710	1.026	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.172	0.016	29.010	0.980	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehi es (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tacks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Dy y Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
MINNESOTA		NA	MC	Motore cles	0.910	0.003	29.750	2.840	0.037	0.021	177.400	0.011
111111111111111111111111111111111111111		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.467	0.007	12.500	0.596	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.867	0.010	15.710	1.016	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.428	0.016	9.130	0.716	0.048	0.032	877.900	0.045
	LOW	Diesel	LDVV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.310	0.003	15.900	2.120	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.438	0.007	8.120	0.609	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.777	0.010	10.560	0.987	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.125	0.016	26.070	1.055	0.048	0.032	877.900	0.045
	HICH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
MISSISSIPPI		NA	MC	Motorcycles	0.800	0.003	27.120	3.260	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.438	0.007	8.120	0.603	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.777	0.010	10.560	0.968	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.372	0.016	8.200	0.825	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.150	0.003	14.400	2.470	0.037	0.021	177.400	0.011

Table 5-25. On-Road Vehicle Emission Factors - 2013 POV (cont.)

		Fuel				Eı	mission Fa	actors (g/ı	ni)		
State	Altitude	Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precurso	rs	
		- JPC		NOx	SOx	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.446	0.007	9.520	0.600	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.805	0.010	12.190	0.985	0.025	0.011	550,200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.141	0.016	26.860	1.021	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.49	787.100	0.027
MISSOURI		NA	MC Motorcycles	0.840	0.003	27.560	3.170	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.446	0.007	9.520	0.594	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.805	0.010	12.190	0.968	0.025	0.011	550.200	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.391	0.016	8.450	0.780	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.38	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165 2.390	0.065	0.049	787.100	0.027
		NA Gasoline	MC Motorcycles  LDGV Light-Duty Vehicles (Passenger Cars)	1.210	0.003	14.660 11.850		0.037	0.021	177.400 368.100	0.011
				0.457	0.007		0.569				0.102
		Gasoline Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)  HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.850 1.166	0.016	14 50 28.510	0.967 0.944	0.025	0.011	550.200 877.900	0.102
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.018	0.808	0.132	0.048	0.032	314.000	0.043
	mon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.003	0.708	0.132	0.060	0.037	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.412	6.007	1.054	0.334	0.065	0.049	787.100	0.007
		NA	MC Motorcycles	0.900	0.003	28.890	2.710	0.037	0.021	177.400	0.011
MONTANA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.457	0.003	11.850	0.566	0.037	0.021	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.4.	0.007	14.950	0.959	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.421	0.016	8.970	0.691	0.048	0.032	877.900	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
	LO II	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lb.)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC Motorcycles	1.300	0.003	15.410	2.020	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Pastenger Cars)	0.451	0.007	10.350	0.569	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-2,500 lbs)	0.822	0.010	13.160	0.961	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.150	0.016	27.350	0.968	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehices (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Dy Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
NIEDD A GIZ A		NA	MC Motorg cles	0.860	0.003	27.940	3.040	0.037	0.021	177.400	0.011
NEBRASKA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.451	0.007	10.350	0.564	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.822	0.010	13.160	0.947	0.025	0.011	550.200	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.402	0.016	8.610	0.721	0.048	0.032	877.900	0.045
	LOW	Diesel	LDIV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LODT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC Motorcycles	1.240	0.003	14.890	2.280	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.442	0.007	10.000	0.583	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.811	0.010	12.770	0.961	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.147	0.016	27.090	0.984	0.048	0.032	877.900	0.045
	HUJH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
NEVADA		NA	MC Motorcycles	0.860	0.003	27.480	2.780	0.037	0.021	177.400	0.011
1,2,112,1		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.442	0.007	10.000	0.579	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.811	0.010	12.770	0.949	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.398	0.016	8.530	0.745	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC Motorcycles	1.240	0.003	14.620	2.070	0.037	0.021	177.400	0.011

Table 5-25. On-Road Vehicle Emission Factors - 2013 POV (cont.)

		E . I					Er	nission Fa	actors (g/r	mi)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	$CO_2$	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.455	0.007	11.640	0.567	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.845	0.010	14.710	0.963	0.025	0.011	550,230	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.164	0.016	28.350	0.944	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.49	787.100	0.027
NEW WARRANTE		NA	MC	Motorcycles	0.900	0.003	28.730	2.730	0.037	0.021	177.400	0.011
NEW HAMPSHIRE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.455	0.007	11.640	0.564	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.845	0.010	14.710	0.955	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.419	0.016	8.920	0.692	.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.38	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0 165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.290	0.003	15.330	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.442	0.007	9.650	0.587	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.806	0.010	12,50	0.965	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.143	0.016	6.820	0.995	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.0%	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	.007	1.054	0.334	0.065	0.049	787.100	0.027
MEM TEDGEN		NA	MC	Motorcycles	0.850	0.003	27.280	2.900	0.037	0.021	177.400	0.011
NEW JERSEY		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.442	0.007	9.650	0.583	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 306	0.010	12.350	0.951	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.394	0.016	8.440	0.757	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.220	0.003	14.520	2.170	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.439	0.007	9.480	0.579	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-2,500 lbs)	0.800	0.010	12.150	0.952	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.141	0.016	26.690	0.985	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Dry Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
NEW MEXICO		NA	MC	Motorg, cles	0.850	0.003	27.090	2.810	0.037	0.021	177.400	0.011
TIE W MEMCO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.439	0.007	9.480	0.576	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Jight-Duty Trucks (0-8,500 lbs)	0.800	0.010	12.150	0.939	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.392	0.016	8.400	0.750	0.048	0.032	877.900	0.045
	LOW	Diesel	LDVV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LODT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.220	0.003	14.410	2.100	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.452	0.007	11.230	0.561	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.837	0.010	14.220	0.950	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.159	0.016	28.030	0.940	0.048	0.032	877.900	0.045
	HV	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
NEW YORK		NA	MC	Motorcycles	0.890	0.003	28.410	2.720	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.452	0.007	11.230	0.558	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.837	0.010	14.220	0.941	0.025	0.011	550.200	0.102
	1.0***	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.414	0.016	8.820	0.692	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	······································	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.280	0.003	15.150	2.030	0.037	0.021	177.400	0.011

Table 5-25. On-Road Vehicle Emission Factors - 2013 POV (cont.)

		ъ.					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.435	0.007	8.530	0.599	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.783	0.010	11.050	0.977	0.025	0.011	550,250	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.131	0.016	26.090	1.030	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0,49	787.100	0.027
NORTH CAROLINA		NA	MC	Motorcycles	0.820	0.003	26.700	3.060	0.037	0.021	177.400	0.011
NORTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.435	0.007	8.530	0.595	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.783	0.010	11.050	0.961	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.379	0.016	8.210	0.799	5.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.38	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0 165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.180	0.003	14.180	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.468	0.007	12.630	0.603	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.870	0.010	15 560	1.033	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.173	0.016	29.110	0.982	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.0%	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	£.007	1.054	0.334	0.065	0.049	787.100	0.027
NORTH DAKOTA		NA	MC	Motorcycles	0.920	0.003	29.870	2.840	0.037	0.021	177.400	0.011
NORTH DAKOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.46	0.007	12.630	0.599	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 370	0.010	15.860	1.023	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.430	0.016	9.160	0.717	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ 11)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.320	0.003	15.970	2.120	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.445	0.007	10.110	0.589	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-2,500 lbs)	0.814	0.010	12.890	0.972	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.148	0.016	27.170	0.993	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehices (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Dy y Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
ОНЮ		NA	MC	Motorcycles	0.860	0.003	27.610	2.850	0.037	0.021	177.400	0.011
01110		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.445	0.007	10.110	0.585	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.814	0.010	12.890	0.960	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.399	0.016	8.550	0.752	0.048	0.032	877.900	0.045
	LOW	Diesel	LDVV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.240	0.003	14.700	2.130	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446	0.007	8.850	0.614	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.793	0.010	11.390	0.999	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.132	0.016	26.660	1.057	0.048	0.032	877.900	0.045
	HICH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
OKLAHOMA		NA	MC	Motorcycles	0.810	0.003	27.830	3.440	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446	0.007	8.850	0.607	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.793	0.010	11.390	0.979	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.380	0.016	8.390	0.818	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.170	0.003	14.790	2.610	0.037	0.021	177.400	0.011

Table 5-25. On-Road Vehicle Emission Factors - 2013 POV (cont.)

		E. J					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	$^{\wedge}\mathrm{H}_{3}$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.442	0.007	10.560	0.568	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.820	0.010	13.450	0.940	0.025	0.011	550,230	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.153	0.016	27.520	0.954	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.04	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0,49	787.100	0.027
oppos.		NA	MC	Motorcycles	0.870	0.003	27.650	2.690	0.037	0.021	177.400	0.011
OREGON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.442	0.007	10.560	0.566	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.820	0.010	13.450	0.932	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.406	0.016	8.660	0.715	5.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.38	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0 165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.260	0.003	14.710	2.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.409	0.007	7.390	0.565	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.750	0.010	9730	0.913	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.121	0.016	5.180	0.987	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.00	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	7.007	1.054	0.334	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	0.810	0.003	25.480	2.780	0.037	0.021	177.400	0.011
PACIFIC ISLANDS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.406	0.007	7.390	0.564	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.50	0.010	9.790	0.901	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.366	0.016	7.920	0.772	0.048	0.032	877.900	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles (oportion)	1.160	0.003	13.500	2.080	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.446	0.007	10.450	0.586	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-2,500 lbs)	0.820	0.010	13.300	0.969	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehic s (8,501+ lbs)	1.152	0.016	27.430	0.984	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tacks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Dy y Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
		NA	MC	Motoro cles	0.870	0.003	27.810	2.750	0.037	0.021	177.400	0.011
PENNSYLVANIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446	0.007	10.450	0.583	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.820	0.010	13.300	0.959	0.025	0.011	550.200	0.102
		Gasoline	~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	1.404	0.016	8.630	0.741	0.048	0.032	877.900	0.045
	LOW	Diesel	LDIV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.250	0.003	14.810	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.431	0.007	6.010	0.586	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.742	0.010	8.100	0.942	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.104	0.016	24.430	1.044	0.048	0.032	877.900	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	0.760	0.003	25.900	2.960	0.037	0.021	177.400	0.011
PUERTO RIC		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.431	0.007	6.010	0.583	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.742	0.010	8.100	0.921	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.346	0.016	7.690	0.832	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.032	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.005	0.657	0.132	0.060	0.037	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.090	0.007	13.710	2.260	0.037	0.021	177.400	0.011
		11/1	1,10		1.070	0.003	15.710	2.200	0.057	0.021	177.700	0.011

Table 5-25. On-Road Vehicle Emission Factors - 2013 POV (cont.)

		ъ.					Er	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.442	0.007	10.190	0.581	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.814	0.010	13.000	0.959	0.025	0.011	550,200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.149	0.016	27.240	0.979	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0,49	787.100	0.027
RHODE ISLAND		NA	MC	Motorcycles	0.860	0.003	27.580	2.740	0.037	0.021	177.400	0.011
KHODE ISLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.442	0.007	10.190	0.578	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.814	0.010	13.000	0.949	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.401	0.016	8.570	0.739	5.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.38	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0 165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.240	0.003	14.680	2.040	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.437	0.007	8.160	0.605	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.777	0.010	10 10	0.983	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.126	0.016	26.030	1.048	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.008	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	6.007	1.054	0.334	0.065	0.049	787.100	0.027
SOUTH CAROLINA		NA	MC	Motorcycles	0.800	0.003	26.920	3.190	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.437	0.007	8.160	0.600	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.77	0.010	10.610	0.964	0.025	0.011	550.200	0.102
	1.011	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.372	0.016	8.190	0.818	0.048	0.032	877.900	0.045
	LOW	Diesel	~~~~~~	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lb.)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA C "	MC	Motorcycles	1.160	0.003	14.290	2.410	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.457	0.007	11.250	0.580	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-9,500 lbs)	0.841	0.010	14.230	0.985	0.025	0.011	550.200	0.102
	HIGH	Gasoline Diesel	HDGV LDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.159 0.200	0.016	28.050 0.808	0.971	0.048	0.032	877.900 314.000	0.045 0.007
	поп	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars) Light-Duty Tacks (0-8,500 lbs)	0.460	0.003	0.708	0.132	0.055	0.037	599.200	0.007
		Diesel	HDDV	Heavy-Dy y Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.044	787.100	0.007
		NA	MC	Motorcycles	0.880	0.007	28.690	2.980	0.003	0.049	177.400	0.027
SOUTH DAKOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.457	0.003	11.250	0.575	0.037	0.021	368.100	0.102
		Gasoline	LDGV	Light-Duty Venicles (Fassenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.437	0.007	14.230	0.972	0.025	0.011	550.200	0.102
		Gasoline	~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	1.413	0.016	8.830	0.716	0.023	0.011	877.900	0.102
	LOW	Diesel	LDIV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.048	0.032	314.000	0.007
	LOW	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.005	0.657	0.132	0.060	0.037	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.270	0.007	15.310	2.230	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.438	0.003	8.840	0.594	0.025	0.021	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.790	0.010	11.400	0.970	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.134	0.016	26.320	1.018	0.048	0.032	877.900	0.045
	нин	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.032	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	0.830	0.007	26.940	3.060	0.037	0.021	177.400	0.011
TENNESSEE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.438	0.003	8.840	0.589	0.037	0.021	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.790	0.010	11.400	0.954	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.382	0.016	8.280	0.784	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.032	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.005	0.657	0.132	0.060	0.037	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.190	0.003	14.320	2.300	0.037	0.021	177.400	0.011
		2.723			1.170	0.005	1520	2.500	0.007	0.021	1,,,,,,,,,	0.011

Table 5-25. On-Road Vehicle Emission Factors - 2013 POV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	8.050	0.615	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.777	0.010	10.480	0.995	0.025	0.011	550,230	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.124	0.016	26.140	1.069	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0,49	787.100	0.027
TEVAC		NA	MC	Motorcycles	0.790	0.003	27.500	3.370	0.037	0.021	177.400	0.011
TEXAS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	8.050	0.609	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.777	0.010	10.480	0.974	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.371	0.016	8.230	0.837	5.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.38	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0 165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.140	0.003	14.590	2.560	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.447	0.007	10.440	0.559	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.821	0.010	13 280	0.944	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.151	0.016	27.420	0.950	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.0%	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	7.007	1.054	0.334	0.065	0.049	787.100	0.027
UTAH		NA	MC	Motorcycles	0.870	0.003	27.870	2.830	0.037	0.021	177.400	0.011
UIAII		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.447	0.007	10.440	0.555	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 321	0.010	13.280	0.933	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.403	0.016	8.630	0.706	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.250	0.003	14.850	2.110	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.457	0.007	11.860	0.571	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-2,500 lbs)	0.851	0.010	14.960	0.972	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.166	0.016	28.510	0.947	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehices (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tacks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Dy y Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
VERMONT		NA	MC	Motoro cles	0.900	0.003	28.930	2.720	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.457	0.007	11.860	0.568	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Inght-Duty Trucks (0-8,500 lbs)	0.851	0.010	14.960	0.963	0.025	0.011	550.200	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.421	0.016	8.970	0.693	0.048	0.032	877.900	0.045
	LOW	Diesel	LDIV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.300	0.003	15.440	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.443	0.007	6.100	0.598	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.751	0.010	8.170	0.960	0.025	0.011	550.200	0.102
	,,,,,,	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.107	0.016	24.950	1.072	0.048	0.032	877.900	0.045
	HILH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
	[	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
VIRGIN ISLANDS		NA	MC LDCV	Motorcycles	0.730	0.003	27.660	3.060	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.443	0.007	6.100	0.595	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.751	0.010	8.170	0.937	0.025	0.011	550.200	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.349	0.016	7.850	0.857	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
<u> </u>		NA	MC	Motorcycles	1.060	0.003	14.620	2.350	0.037	0.021	177.400	0.011

Table 5-25. On-Road Vehicle Emission Factors - 2013 POV (cont.)

		Fuel							actors (g/ı	•		
State	Altitude	Type		Vehicle Type	NO		riteria Po					NITT
		- · ·	I D CIL	Transport of the second	NO <sub>X</sub>	SOX	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV LDGT	Light-Duty Vehicles (Passenger Cars)	0.438 0.795	0.007 0.010	9.140 11.760	0.587 0.961	0.025 0.025	0.011	368.100 550.200	0.102
		Gasoline Gasoline		Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	1.138	0.016	26.430	1.001	0.025	0.011	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.032	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599 .00	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	7,37.100	0.027
VIRGINIA		NA	MC	Motorcycles	0.840	0.003	26.900	2.900	0.037	0.021	177.400	0.011
VIKGINIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.438	0.007	9.140	0.583	0.025	0.01	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.795	0.010	11.760	0.948	0.025	0 511	550.200	0.102
	1.011/	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.387	0.016	8.320	0.767	0.048	0.032	877.900	0.045
	LOW	Diesel Diesel		Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.200	0.003	0.808 0.657	0.132 0.387	0.053	0.037 0.044	314.000 599.200	0.007 0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.367	0.065	0.049	787.100	0.007
		NA	MC	Motorcycles	1.210	0.003	14.300	2.170	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.444	0.007	10.740	0.570	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.824	0.010	13.650	9.945	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.155	0.016	27.650	0.956	0.048	0.032	877.900	0.045
	HIGH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.809	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.08	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
WASHINGTON		NA Gasoline	MC LDGV	Motorcycles Light-Duty Vehicles (Passenger Cars)	0.880	0.003	27.780 10.740	2.690 0.568	0.037	0.021	177.400 368.100	0.011
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.824	3.010	13.650	0.938	0.025	0.011	550.200	0.102
		Gasoline	**************	Heavy-Duty Vehicles (8,501+ lbs)	1.408	0.016	8.700	0.715	0.023	0.032	877.900	0.102
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.20	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	MC	Motorcycles	1.260	0.003	14.790	2.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.441	0.007	9.880	0.581	0.025	0.011	368.100	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs	0.808	0.010	12.630	0.957	0.025	0.011	550.200	0.102
	IIICII	Gasoline		Heavy-Duty Vehicles (8,501, lbs)	1.146	0.016	27.000	0.982	0.048	0.032	877.900	0.045
	HIGH	Diesel		Light-Duty Vehicles (Partenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037 0.044	314.000	0.007
		Diesel Diesel		Light-Duty Trucks (0,500 lbs) Heavy-Duty Vehices (8,501+ lbs)	0.460 1.412	0.006	0.708 1.054	0.393	0.060	0.044	599.200 787.100	0.007
		NA	MC	Motorcycles	0.860	0.007	27.370	2.770	0.037	0.049	177.400	0.027
WEST VIRGINIA		Gasoline	LDGV	Light-Duty Yehicles (Passenger Cars)	0.441	0.003	9.880	0.577	0.037	0.021	368.100	0.102
		Gasoline	LDGT	Light-Dut, Trucks (0-8,500 lbs)	0.808	0.010	12.630	0.945	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy Duty Vehicles (8,501+ lbs)	1.397	0.016	8.500	0.745	0.048	0.032	877.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	ight-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.027
		NA	M.C.	Motorcycles	1.230	0.003	14.560	2.070	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.460	0.007	11.890	0.581	0.025 0.025	0.011	368.100	0.102
		Gasoline Gasoline		Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	0.853 1.166	0.010	14.990 28.540	0.989	0.025	0.011	550.200 877.900	0.102
	HIGH	Lesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.032	314.000	0.043
	111011	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
WISCONSIN		NA	MC	Motorcycles	0.900	0.003	29.090	2.780	0.037	0.021	177.400	0.011
WISCONSIN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.460	0.007	11.890	0.577	0.025	0.011	368.100	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.853	0.010	14.990	0.979	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.421	0.016	8.980	0.705	0.048	0.032	877.900	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	0.460 1.384	0.006	0.657	0.387	0.060	0.044	599.200 787.100	0.007
		NA	MC	Motorcycles	1.290	0.007	15.530	2.080	0.037	0.049	177.400	0.027
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.455	0.003	11.760	0.565	0.037	0.021	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.433	0.007	14.840	0.960	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.165	0.016	28.430	0.940	0.048	0.032	877.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.412	0.007	1.054	0.334	0.065	0.049	787.100	0.027
WYOMING		NA	MC	Motorcycles	0.900	0.003	28.760	2.710	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.455	0.007	11.760	0.563	0.025	0.011	368.100	0.102
		Gasoline Gasoline	~~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501+ lbs)	0.848 1.420	0.010	14.840 8.950	0.953 0.688	0.025 0.048	0.011	550.200 877.900	0.102
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.016	0.808	0.088	0.048	0.032	314.000	0.045
	2511	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.003	0.657	0.132	0.060	0.037	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.384	0.007	0.427	0.165	0.065	0.049	787.100	0.007
				Motorcycles	1.290	0.003	15.340	2.020	0.037	0.021	177.400	0.011

Table 5-26. On-Road Vehicle Emission Factors — 2014 POV

		E.al				Eı	nission Fa	ectors (g/i	ni)		
State	Altitude	Fuel Type	Vehicle Type			riteria Po	llutants a	nd Ozone	Precurso	rs	
		Турс		NOx	SO <sub>X</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	$\sqrt{H_3}$
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.399	0.007	7.830	0.557	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.725	0.010	10.140	0.924	0.025	0.011	550,600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.952	0.016	25.180	0.955	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.42	786.800	0.027
ALABAMA		NA	MC Motorcycles	0.800	0.003	26.910	3.180	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.399	0.007	7.830	0.553	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.725	0.010	10.140	0.907	0.025	0.011	550.600	0.102
	1.011/	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.161	0.016	7.920	0.747	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.36	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA Gasoline	MC Motorcycles  LDGV Light-Duty Vehicles (Passenger Cars)	1.160 0.453	0.003	14.280	2.410 0.564	0.037	0.021	177.400 368.100	0.011
					0.007	18,00	0.364	0.025	0.011		***************************************
		Gasoline Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)  HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.869 1.016	0.016	0.140	0.999	0.025	0.011	550.600 877.300	0.102 0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (0,501+108)	0.163	0.003	0.774	0.119	0.043	0.029	314.100	0.043
	mon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.003	0.774	0.368	0.049	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.220	.007	0.933	0.318	0.058	0.042	786.800	0.007
		NA	MC Motorcycles	0.980	0.003	31.650	2.760	0.037	0.042	177.400	0.011
ALASKA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.452	0.003	14.940	0.563	0.037	0.021	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.45	0.010	18.300	0.996	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.238	0.016	9.480	0.613	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786,800	0.027
		NA	MC Motorcycles	1.410	0.003	16.960	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Pastenger Cars)	0.402	0.007	8.190	0.562	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-2500 lbs)	0.732	0.010	10.540	0.935	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehic (8,501+ lbs)	0.955	0.016	25.430	0.959	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV Light-Duty Vehices (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Dy Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
ARIZONA		NA	MC Motor cles	0.810	0.003	27.160	3.280	0.037	0.021	177.400	0.011
ARIZONA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.402	0.007	8.190	0.557	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.732	0.010	10.540	0.917	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.165	0.016	8.000	0.747	0.045	0.029	877.300	0.045
	LOW	Diesel	LDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC Motorcycles	1.170	0.003	14.420	2.480	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.404	0.007	8.330	0.563	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.735	0.010	10.710	0.938	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.957	0.016	25.570	0.960	0.045	0.029	877.300	0.045
	HUH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
	ĺ	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
ARKANSAS		NA	MC Motorcycles	0.810	0.003	27.370	3.340	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.404	0.007	8.330	0.558	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.735	0.010	10.710	0.920	0.025	0.011	550.600	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.167	0.016	8.040	0.747	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC Motorcycles	1.170	0.003	14.540	2.530	0.037	0.021	177.400	0.011

Table 5-26. On-Road Vehicle Emission Factors - 2014 POV (cont.)

State							Eı	nission Fa	actors (g/i	ni)		
State	Altitude	Fuel		Vehicle Type		C	rite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.393	0.007	8.060	0.543	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.725	0.010	10.400	0.903	0.025	0.011	550,00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.956	0.016	25.000	0.923	0.045	0.029	87/.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0,42	786.800	0.027
CALIEODNIA		NA	MC	Motorcycles	0.820	0.003	26.280	2.880	0.037	0.021	177.400	0.011
CALIFORNIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.393	0.007	8.060	0.540	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.725	0.010	10.400	0.890	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.166	0.016	7.870	0.718	3.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.36	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0 157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.180	0.003	13.960	2.160	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.410	0.007	10.810	0.512	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.778	0.010	13.50	0.885	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.981	0.016	27.060	0.848	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.0%	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	£.007	0.933	0.318	0.058	0.042	786.800	0.027
COLORADO		NA	MC	Motorcycles	0.880	0.003	28.240	2.710	0.037	0.021	177.400	0.011
COLORADO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.416	0.007	10.810	0.509	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.78	0.010	13.550	0.877	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.196	0.016	8.510	0.625	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lb)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.270	0.003	15.050	2.020	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.407	0.007	10.200	0.543	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-2,500 lbs)	0.766	0.010	12.840	0.917	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehic s (8,501+ lbs)	0.975	0.016	26.600	0.898	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tacks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Dry Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
CONNECTICUT		NA	MC	Motoro cles	0.870	0.003	27.860	2.760	0.037	0.021	177.400	0.011
CONNECTICOL		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.407	0.007	10.200	0.540	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.766	0.010	12.840	0.907	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.016	8.370	0.677	0.045	0.029	877.300	0.045
	LOW	Diesel	LDIV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.250	0.003	14.840	2.060	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	8.900	0.546	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.743	0.010	11.350	0.914	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.963	0.016	25.650	0.920	0.045	0.029	877.300	0.045
	HV	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
DELAWARE		NA	MC	Motorcycles	0.840	0.003	27.020	2.990	0.037	0.021	177.400	0.011
DELITITARE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	8.900	0.542	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.743	0.010	11.350	0.900	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.175	0.016	8.070	0.706	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
<b>//</b>		NA	MC	Motorcycles	1.210	0.003	14.370	2.240	0.037	0.021	177.400	0.011

Table 5-26. On-Road Vehicle Emission Factors - 2014 POV (cont.)

		E . I					Er	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.395	0.007	6.800	0.552	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.707	0.010	8.970	0.908	0.025	0.011	550,00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.943	0.016	24.550	0.960	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.046	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0,42	786.800	0.027
TT OPTO		NA	MC	Motorcycles	0.770	0.003	26.730	2.990	0.037	0.021	177.400	0.011
FLORIDA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.395	0.007	6.800	0.548	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.707	0.010	8.970	0.890	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.150	0.016	7.730	0.759	3.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.36	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0 157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.110	0.003	14.160	2.270	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.398	0.007	7.740	0.556	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.723	0.010	10 30	0.922	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.951	0.016	5.100	0.954	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.003	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	************************	Heavy-Duty Vehicles (8,501+ lbs)	1.220	£.007	0.933	0.318	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	0.800	0.003	26.850	3.160	0.037	0.021	177,400	0.011
GEORGIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.39	0.007	7.740	0.552	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 23	0.010	10.030	0.905	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.160	0.016	7.900	0.747	0.045	0.029	877.300	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lb)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.150	0.003	14.250	2.390	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.379	0.007	6.410	0.529	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-2,500 lbs)	0.693	0.010	8.550	0.870	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehic s (8,501+ lbs)	0.941	0.016	23.800	0.919	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehi es (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tacks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Dy y Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
		NA	MC	Motoro cles	0.790	0.003	25.120	2.810	0.037	0.021	177.400	0.011
HAWAII		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.379	0.007	6.410	0.527	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.693	0.010	8.550	0.855	0.025	0.011	550.600	0.102
		Gasoline	~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	1.148	0.016	7.490	0.726	0.045	0.029	877.300	0.045
	LOW	Diesel	LDIV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.140	0.003	13.310	2.110	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.411	0.007	11.070	0.512	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.782	0.010	13.850	0.887	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.983	0.016	27.250	0.846	0.045	0.029	877.300	0.045
	HUM	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	0.890	0.003	28.410	2.690	0.037	0.021	177.400	0.011
IDAHO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.411	0.007	11.070	0.510	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.782	0.010	13.850	0.880	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.199	0.016	8.570	0.621	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.280	0.007	15.140	2.000	0.037	0.042	177.400	0.011
	1	11/1	1110		1.200	0.005	15.170	2.000	0.057	0.021	177.700	0.011

Table 5-26. On-Road Vehicle Emission Factors - 2014 POV (cont.)

		E . I					En	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel	Vehicle	Туре		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	$CO_2$	$NH_3$
		Gasoline	LDGV Light-Duty Veh	icles (Passenger Cars)	0.408	0.007	9.680	0.553	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty True		0.759	0.010	12.240	0.932	0.025	0.011	550,00	0.102
		Gasoline	HDGV Heavy-Duty Ve	hicles (8,501+ lbs)	0.970	0.016	26.230	0.922	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV Light-Duty Veh	cles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty True	ks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.046	598.600	0.007
		Diesel	HDDV Heavy-Duty Ve	hicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0,42	786.800	0.027
II I INOIC		NA	MC Motorcycles		0.860	0.003	27.670	3.060	0.037	0.021	177.400	0.011
ILLINOIS		Gasoline	LDGV Light-Duty Veh	icles (Passenger Cars)	0.408	0.007	9.680	0.549	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty True	ks (0-8,500 lbs)	0.759	0.010	12.240	0.918	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Ve	hicles (8,501+ lbs)	1.183	0.016	8.250	0.701	1.045	0.029	877.300	0.045
	LOW	Diesel	LDDV Light-Duty Veh	cles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty True	ks (0-8,500 lbs)	0.416	0.006	0.631	0.36	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Ve	hicles (8,501+ lbs)	1.197	0.007	0.378	0 157	0.058	0.042	786.800	0.027
		NA	MC Motorcycles		1.230	0.003	14.730	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Veh	cles (Passenger Cars)	0.407	0.007	9.650	0.547	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty True	ks (0-8,500 lbs)	0.758	0.010	12,200	0.921	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Ve	hicles (8,501+ lbs)	0.970	0.016	26.180	0.913	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV Light-Duty Veh	cles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty True	ks (0-8,500 lbs)	0.416	0.0%	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Ve		1.220	£.007	0.933	0.318	0.058	0.042	786.800	0.027
*******		NA	MC Motorcycles		0.860	0.003	27.550	2.950	0.037	0.021	177.400	0.011
INDIANA		Gasoline		icles (Passenger Cars)	0.407	0.007	9.650	0.543	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty True		0.58	0.010	12.200	0.909	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Ve		1.183	0.016	8.240	0.693	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV Light-Duty Veh		0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty True	<del></del>	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Ve		1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC Motorcycles		1.230	0.003	14.670	2.220	0.037	0.021	177.400	0.011
		Gasoline	<del></del>	icles (Pastenger Cars)	0.415	0.007	10.590	0.529	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty True		0.778	0.010	13.290	0.917	0.025	0.011	550.600	0.102
		Gasoline		hicks (8,501+ lbs)	0.978	0.016	26.900	0.880	0.045	0.029	877.300	0.045
	HIGH	Diesel		es (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Tax	/X	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Dy y Ve		1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
		NA	MC Motor cles	(0,001+105)	0.880	0.003	28.410	3.000	0.037	0.021	177.400	0.011
IOWA		Gasoline		icles (Passenger Cars)	0.415	0.007	10.590	0.525	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty True		0.778	0.010	13.290	0.904	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Ve		1.193	0.016	8.460	0.651	0.045	0.029	877.300	0.045
	LOW	Diesel	LDI V Light-Duty Veh		0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
	20	Diesel	LODT Light-Duty True		0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Ve		1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC Motorcycles	1110.103 (0,501 + 103)	1.260	0.007	15.150	2.250	0.037	0.042	177.400	0.011
		Gasoline		icles (Passenger Cars)	0.410	0.003	9.260	0.559	0.037	0.021	368.100	0.102
		gasoline	LDGT Light-Duty True		0.753	0.007	11.760	0.936	0.025	0.011	550.600	0.102
		Gasoline		hicles (8,501+ lbs)	0.965	0.016	26.120	0.940	0.045	0.029	877.300	0.045
	нин	Diesel		cles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.023	314.100	0.007
	11	Diesel	LDDT Light-Duty True		0.416	0.003	0.676	0.368	0.049	0.033	598.600	0.007
		Diesel	HDDV Heavy-Duty Ve		1.220	0.007	0.070	0.318	0.058	0.040	786.800	0.007
	]	NA	MC Motorcycles	IIICICS (0,501± 108)	0.840	0.007	27.810	3.290	0.038	0.042	177.400	0.027
KANSAS		Gasoline		icles (Passenger Cars)	0.410	0.003	9.260	0.553	0.037	0.021	368.100	0.102
		Gasoline	LDGV Light-Duty Ven		0.410	0.010	11.760	0.555	0.025	0.011	550.600	0.102
					***************************************	0.016	8.220			0.011	***************************************	
	LOW	Gasoline	HDGV Heavy-Duty Veh		1.177			0.719	0.045	***************************************	877.300	0.045
	LOW	Diesel		cles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Truc		0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Ve	nicies (8,501+ ibs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
<b>*</b>		NA	MC Motorcycles		1.200	0.003	14.800	2.490	0.037	0.021	177.400	0.011

Table 5-26. On-Road Vehicle Emission Factors - 2014 POV (cont.)

		D . 1					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	$CO_2$	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	8.900	0.547	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.744	0.010	11.350	0.916	0.025	0.011	550,00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.963	0.016	25.670	0.922	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0,42	786.800	0.027
ZENITLICIZY		NA	MC	Motorcycles	0.840	0.003	27.070	3.010	0.037	0.021	177.400	0.011
KENTUCKY		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	8.900	0.543	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.744	0.010	11.350	0.902	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.175	0.016	8.080	0.708	3.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.36	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0 157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.210	0.003	14.390	2.260	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.400	0.007	7.500	0.561	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.720	0.010	9760	0.926	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.949	0.016	25.080	0.967	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.0%	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	£.007	0.933	0.318	0.058	0.042	786.800	0.027
LOUISIANA		NA	MC	Motorcycles	0.790	0.003	27.220	3.260	0.037	0.021	177.400	0.011
LOUISIANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.400	0.007	7.500	0.556	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0/20	0.010	9.760	0.907	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.158	0.016	7.890	0.760	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.130	0.003	14.430	2.480	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.420	0.007	11.890	0.532	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-2,500 lbs)	0.801	0.010	14.790	0.926	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehic s (8,501+ lbs)	0.990	0.016	27.870	0.864	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Dry Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
MAINE		NA	MC	Motoro cles	0.910	0.003	29.210	2.730	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.420	0.007	11.890	0.530	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.801	0.010	14.790	0.919	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.207	0.016	8.770	0.631	0.045	0.029	877.300	0.045
	LOW	Diesel	LDIV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.310	0.003	15.590	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	9.090	0.539	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.747	0.010	11.570	0.904	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.965	0.016	25.770	0.906	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
MARYLAND		NA	MC	Motorcycles	0.840	0.003	27.100	2.920	0.037	0.021	177.400	0.011
MARILAM		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	9.090	0.535	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.747	0.010	11.570	0.891	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.177	0.016	8.110	0.692	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.210	0.003	14.410	2.190	0.037	0.021	177.400	0.011

Table 5-26. On-Road Vehicle Emission Factors - 2014 POV (cont.)

		F1					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	$CO_2$	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	10.360	0.543	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.769	0.010	13.030	0.918	0.025	0.011	550,00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.977	0.016	26.720	0.896	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0 42	786.800	0.027
MAGGACITUGETETE		NA	MC	Motorcycles	0.870	0.003	27.960	2.750	0.037	0.021	177.400	0.011
MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	10.360	0.540	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.769	0.010	13.030	0.909	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.191	0.016	8.410	0.674	.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.36	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0 157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.260	0.003	14.900	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.414	0.007	11.140	0.521	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.785	0.010	13 20	0.903	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.983	0.016	27.300	0.858	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.003	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	£.007	0.933	0.318	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	0.890	0.003	28.590	2.730	0.037	0.021	177.400	0.011
MICHIGAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.41	0.007	11.140	0.518	0.025	0.011	368,100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.85	0.010	13.920	0.895	0.025	0.011	550.600	0.102
		Gasoline	HDGV		1.199	0.016	8.590	0.631	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles (oportion)	1.280	0.003	15.250	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.426	0.007	12.160	0.553	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-2,500 lbs)	0.809	0.010	15.110	0.967	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehic s (8,501+ lbs)	0.992	0.016	28.090	0.891	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
	111011	Diesel	LDDT	Light-Duty Tacks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Dy y Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
		NA	MC	Motoro cles	0.910	0.003	29.750	2.840	0.037	0.021	177.400	0.011
MINNESOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.426	0.007	12.160	0.549	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Venices (Lassenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.809	0.007	15.110	0.957	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.210	0.016	8.840	0.652	0.045	0.029	877.300	0.045
	LOW	Diesel	LDIV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
	20	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.310	0.007	15.900	2.120	0.037	0.042	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.401	0.003	7.840	0.560	0.025	0.021	368.100	0.102
		gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.726	0.007	10.150	0.929	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.952	0.016	25.240	0.961	0.045	0.029	877.300	0.045
	нин	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.023	314.100	0.007
	11	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.049	0.033	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.007
		NA	MC	Motorcycles	0.800	0.007	27.120	3.260	0.038	0.042	177.400	0.027
MISSISSIPPI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.401	0.003	7.840	0.555	0.037	0.021	368.100	0.102
		Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.726	0.007	10.150	0.555	0.025	0.011	550.600	0.102
				Heavy-Duty Vehicles (8,501+ lbs)		0.010				0.011		
	LOW	Gasoline	HDGV		1.161		7.940	0.752	0.045		877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Heavy-Duty Vehicles (8,501+ lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600 786.800	0.007
		Diesel			1.197	0.007	0.378	0.157	0.058	0.042		0.027
		NA	MC	Motorcycles	1.150	0.003	14.400	2.470	0.037	0.021	177.400	0.011

Table 5-26. On-Road Vehicle Emission Factors - 2014 POV (cont.)

							Er	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	9.230	0.553	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.752	0.010	11.730	0.927	0.025	0.011	550,00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.966	0.016	26.000	0.930	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.046	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0,42	786.800	0.027
		NA	MC	Motorcycles	0.840	0.003	27.560	3.170	0.037	0.021	177.400	0.011
MISSOURI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	9.230	0.548	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.752	0.010	11.730	0.912	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.178	0.016	8.180	0.711	3.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.36	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0 157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.210	0.003	14.660	2.390	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.417	0.007	11.540	0.525	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.793	0.010	1480	0.912	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.987	0.016	27.600	0.858	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.00	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	£.007	0.933	0.318	0.058	0.042	786.800	0.027
MONTEANA		NA	MC	Motorcycles	0.900	0.003	28.890	2.710	0.037	0.021	177.400	0.011
MONTANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.417	0.007	11.540	0.522	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.93	0.010	14.380	0.904	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.203	0.016	8.690	0.629	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ ]	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.300	0.003	15.410	2.020	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.411	0.007	10.050	0.524	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-%,500 lbs)	0.767	0.010	12.660	0.906	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.973	0.016	26.490	0.880	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehides (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Dy y Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
NEBRASKA		NA	MC	Motore cles	0.860	0.003	27.940	3.040	0.037	0.021	177.400	0.011
NEDKASKA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.411	0.007	10.050	0.520	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Jeght-Duty Trucks (0-8,500 lbs)	0.767	0.010	12.660	0.892	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.187	0.016	8.330	0.656	0.045	0.029	877.300	0.045
	LOW	Diesel	LD/ V	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.240	0.003	14.890	2.280	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.404	0.007	9.710	0.538	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.757	0.010	12.290	0.905	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.971	0.016	26.230	0.896	0.045	0.029	877.300	0.045
	HUM	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
NEVADA		NA	MC	Motorcycles	0.860	0.003	27.480	2.780	0.037	0.021	177.400	0.011
1,2,112,1		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.404	0.007	9.710	0.535	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.757	0.010	12.290	0.895	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.184	0.016	8.250	0.679	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.240	0.003	14.620	2.070	0.037	0.021	177.400	0.011

Table 5-26. On-Road Vehicle Emission Factors - 2014 POV (cont.)

		E . I					Er	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.415	0.007	11.330	0.523	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.789	0.010	14.150	0.908	0.025	0.011	550,00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.985	0.016	27.450	0.859	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0,42	786.800	0.027
MENTILAMBOTTER		NA	MC	Motorcycles	0.900	0.003	28.730	2.730	0.037	0.021	177.400	0.011
NEW HAMPSHIRE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.415	0.007	11.330	0.521	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.789	0.010	14.150	0.900	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.201	0.016	8.640	0.630	3.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.36	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0 157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.290	0.003	15.330	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.404	0.007	9.370	0.541	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.752	0.010	11 .80	0.909	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.968	0.016	25.970	0.906	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.0%	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	£.007	0.933	0.318	0.058	0.042	786.800	0.027
NEW JERSEY		NA	MC	Motorcycles	0.850	0.003	27.280	2.900	0.037	0.021	177.400	0.011
NEW JERSEI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.40	0.007	9.370	0.537	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.52	0.010	11.880	0.897	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.180	0.016	8.170	0.690	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ 🎼)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.220	0.003	14.520	2.170	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.400	0.007	9.200	0.535	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-2,500 lbs)	0.747	0.010	11.690	0.897	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.966	0.016	25.840	0.897	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Dy y Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
NEW MEXICO		NA	MC	Motore cles	0.850	0.003	27.090	2.810	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.400	0.007	9.200	0.531	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Jught-Duty Trucks (0-8,500 lbs)	0.747	0.010	11.690	0.885	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.178	0.016	8.130	0.684	0.045	0.029	877.300	0.045
	LOW	Diesel	LDVV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.220	0.003	14.410	2.100	0.037	0.021	177.400	0.011
		Ga soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.412	0.007	10.920	0.517	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.781	0.010	13.670	0.896	0.025	0.011	550.600	0.102
	,,,,,,	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.982	0.016	27.140	0.855	0.045	0.029	877.300	0.045
	HUH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
	[	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
NEW YORK		NA	MC	Motorcycles	0.890	0.003	28.410	2.720	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.412	0.007	10.920	0.514	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.781	0.010	13.670	0.887	0.025	0.011	550.600	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.016	8.540	0.630	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
<b>*</b>		NA	MC	Motorcycles	1.280	0.003	15.150	2.030	0.037	0.021	177.400	0.011

Table 5-26. On-Road Vehicle Emission Factors - 2014 POV (cont.)

		F1					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	$CO_2$	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.398	0.007	8.260	0.552	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.731	0.010	10.630	0.920	0.025	0.011	550,00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.957	0.016	25.260	0.938	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0 42	786.800	0.027
NODELL CAROLINA		NA	MC	Motorcycles	0.820	0.003	26.700	3.060	0.037	0.021	177.400	0.011
NORTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.398	0.007	8.260	0.548	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.731	0.010	10.630	0.905	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.167	0.016	7.950	0.729	.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.36	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0 157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.180	0.003	14.180	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.427	0.007	12.290	0.556	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.811	0.010	15, 250	0.973	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.993	0.016	8.190	0.893	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.00	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	£.007	0.933	0.318	0.058	0.042	786.800	0.027
NORTH DAKOTA		NA	MC	Motorcycles	0.920	0.003	29.870	2.840	0.037	0.021	177.400	0.011
NORTH DAKOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.427	0.007	12.290	0.552	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.311	0.010	15.250	0.963	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.016	8.870	0.653	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.320	0.003	15.970	2.120	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.406	0.007	9.820	0.544	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-%,500 lbs)	0.760	0.010	12.400	0.916	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.972	0.016	26.310	0.904	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Dy y Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
ОНЮ		NA	MC	Motoro cles	0.860	0.003	27.610	2.850	0.037	0.021	177.400	0.011
OHIO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.406	0.007	9.820	0.540	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Jight-Duty Trucks (0-8,500 lbs)	0.760	0.010	12.400	0.905	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.185	0.016	8.280	0.686	0.045	0.029	877.300	0.045
	LOW	Diesel	LDIV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.240	0.003	14.700	2.130	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	8.560	0.565	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.741	0.010	10.960	0.940	0.025	0.011	550.600	0.102
	****	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.959	0.016	25.810	0.963	0.045	0.029	877.300	0.045
	HVH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
OKLAHOMA		NA	MC	Motorcycles	0.810	0.003	27.830	3.440	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	8.560	0.559	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.741	0.010	10.960	0.922	0.025	0.011	550.600	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.169	0.016	8.120	0.746	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.170	0.003	14.790	2.610	0.037	0.021	177.400	0.011

Table 5-26. On-Road Vehicle Emission Factors - 2014 POV (cont.)

		ъ.					Er	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.403	0.007	10.270	0.525	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.765	0.010	12.940	0.886	0.025	0.011	550,00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.976	0.016	26.640	0.868	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.046	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0,42	786.800	0.027
oppos.		NA	MC	Motorcycles	0.870	0.003	27.650	2.690	0.037	0.021	177.400	0.011
OREGON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.403	0.007	10.270	0.523	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.765	0.010	12.940	0.879	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.190	0.016	8.380	0.652	3.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.36	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0 157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.260	0.003	14.710	2.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.373	0.007	7.160	0.522	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.700	0.010	9/30	0.860	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.949	0.016	4.380	0.898	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.00	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	7.007	0.933	0.318	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	0.810	0.003	25.480	2.780	0.037	0.021	177.400	0.011
PACIFIC ISLANDS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.372	0.007	7.160	0.520	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.00	0.010	9.430	0.849	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.157	0.016	7.670	0.704	0.045	0.029	877.300	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.160	0.003	13.500	2.080	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.407	0.007	10.160	0.541	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-2,500 lbs)	0.766	0.010	12.790	0.914	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehic s (8,501+ lbs)	0.975	0.016	26.560	0.896	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tacks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Dry Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
		NA	MC	Motoro cles	0.870	0.003	27.810	2.750	0.037	0.021	177.400	0.011
PENNSYLVANIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.407	0.007	10.160	0.538	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.766	0.010	12.790	0.904	0.025	0.011	550.600	0.102
		Gasoline	~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.016	8.360	0.675	0.025	0.029	877.300	0.102
	LOW	Diesel	LDIV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.005	0.631	0.363	0.056	0.033	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.363	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.250	0.003	14.810	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.394	0.007	5.760	0.539	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.693	0.010	7.790	0.886	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.935	0.016	23.660	0.950	0.045	0.029	877.300	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.005	0.676	0.368	0.056	0.033	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.040	786.800	0.007
		NA	MC	Motorcycles	0.760	0.007	25.900	2.960	0.037	0.042	177.400	0.027
PUERTO RIC		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.394	0.003	5.760	0.537	0.037	0.021	368.100	0.102
		Gasoline	LDGV	Light-Duty Venicles (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.693	0.007	7.790	0.867	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.140	0.016	7.440	0.758	0.025	0.011	877.300	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.029	314.100	0.043
	LOW	Diesel	LDDT	Light-Duty Venicles (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.416	0.005	0.631	0.363	0.049	0.033	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.031	0.363	0.058	0.040	786.800	0.007
		NA	MC	Motorcycles	1.090	0.007	13.710	2.260	0.037	0.042	177.400	0.027
		11/1	IVIC	1.10.010 years	1.050	0.003	15.710	2.200	0.037	0.021	177.400	0.011

Table 5-26. On-Road Vehicle Emission Factors - 2014 POV (cont.)

		ъ.					Er	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.404	0.007	9.900	0.536	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.760	0.010	12.510	0.904	0.025	0.011	550,00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.973	0.016	26.370	0.891	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.046	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0,42	786.800	0.027
RHODE ISLAND		NA	MC	Motorcycles	0.860	0.003	27.580	2.740	0.037	0.021	177.400	0.011
KHODE ISLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.404	0.007	9.900	0.533	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.760	0.010	12.510	0.894	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.186	0.016	8.300	0.674	1.045	0.029	877.300	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.36	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0 157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.240	0.003	14.680	2.040	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.399	0.007	7.890	0.558	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.726	0.010	10 200	0.925	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.953	0.016	25.200	0.955	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	~~~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.416	0.0%	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.220	£.007	0.933	0.318	0.058	0.042	786.800	0.027
SOUTH CAROLINA		NA	MC	Motorcycles	0.800	0.003	26.920	3.190	0.037	0.021	177.400	0.011
SOCIII CHROLINII		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.396	0.007	7.890	0.553	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.726	0.010	10.200	0.908	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.162	0.016	7.930	0.746	0.045	0.029	877.300	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lb.)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC	Motorcycles	1.160	0.003	14.290	2.410	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Pastenger Cars)	0.417	0.007	10.930	0.535	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-9,500 lbs)	0.785	0.010	13.680	0.928	0.025	0.011	550.600	0.102
	THOU	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.981	0.016	27.160	0.883	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehices (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tacks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Dry Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
SOUTH DAKOTA		NA C "	MC	Motore cles	0.880	0.003	28.690	2.980	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.417	0.007	10.930	0.530	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Jught-Duty Trucks (0-8,500 lbs)	0.785	0.010	13.680	0.916	0.025	0.011	550.600	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.196	0.016	8.540	0.652	0.045	0.029	877.300	0.045
	LOW	Diesel	LDIV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel NA	MC	Heavy-Duty Vehicles (8,501+ lbs)  Motorcycles	1.197	0.007	0.378	0.157 2.230	0.058	0.042	786.800	0.027
		Gasoline			0.400	0.003	15.310 8.560	0.547	0.037	0.021	177.400	0.011
		gasoline	LDGV LDGT	Light-Duty Vehicles (Passenger Cars)	0.400	0.007	10.970	0.913	0.025	0.011	368.100 550.600	0.102
		Gasoline	HDGV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	0.737	0.016	25.480	0.913	0.025	0.011	877.300	0.102
	нин	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.029	314.100	0.007
	111111	Diesel		Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.103	0.003	0.774	0.368	0.049	0.033	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.040	786.800	0.007
		NA	MC	Motorcycles	0.830	0.007	26.940	3.060	0.037	0.042	177.400	0.027
TENNESSEF		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.400	0.003	8.560	0.543	0.037	0.021	368.100	0.102
		Gasoline	LDGV	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.400	0.007	10.970	0.343	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+lbs)	1.171	0.016	8.020	0.715	0.025	0.011	877.300	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.016	0.774	0.713	0.045	0.029	314.100	0.043
	LOW	Diesel	LDDV	Light-Duty Trucks (0-8,500 lbs)	0.163	0.003	0.774	0.119	0.049	0.033	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+lbs)	1.197	0.006	0.031	0.363	0.058	0.040	786.800	0.007
		NA	MC	Motorcycles	1.197	0.007	14.320	2.300	0.038	0.042	177.400	0.027
<u> </u>		11/1	IVIC		1.170	0.003	17.320	2.300	0.057	0.021	177.400	0.011

Table 5-26. On-Road Vehicle Emission Factors - 2014 POV (cont.)

		Engl	<del></del>				Er	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel	Vel	nicle Type		C	crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	$CO_2$	$NH_3$
		Gasoline	LDGV Light-Duty	Vehicles (Passenger Cars)	0.402	0.007	7.780	0.566	0.025	0.011	368.100	0.102
		Gasoline		Trucks (0-8,500 lbs)	0.726	0.010	10.080	0.936	0.025	0.011	550,00	0.102
		Gasoline	HDGV Heavy-Du	y Vehicles (8,501+ lbs)	0.952	0.016	25.320	0.974	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV Light-Duty	Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty	Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Du	y Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0,42	786.800	0.027
TEXAS		NA	MC Motorcycle	es .	0.790	0.003	27.500	3.370	0.037	0.021	177.400	0.011
IEAAS		Gasoline	LDGV Light-Duty	Vehicles (Passenger Cars)	0.402	0.007	7.780	0.560	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty	Trucks (0-8,500 lbs)	0.726	0.010	10.080	0.917	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Du	y Vehicles (8,501+ lbs)	1.161	0.016	7.970	0.763	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV Light-Duty	Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty	Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.36	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Du	y Vehicles (8,501+ lbs)	1.197	0.007	0.378	0 157	0.058	0.042	786.800	0.027
		NA	MC Motorcycle	s S	1.140	0.003	14.590	2.560	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty	Vehicles (Passenger Cars)	0.408	0.007	10.140	0.516	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty	Trucks (0-8,500 lbs)	0.766	0.010	12/70	0.890	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Du	y Vehicles (8,501+ lbs)	0.975	0.016	26.550	0.864	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV Light-Duty	Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty	Trucks (0-8,500 lbs)	0.416	0.0%	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Du	y Vehicles (8,501+ lbs)	1.220	7.007	0.933	0.318	0.058	0.042	786.800	0.027
UTAH		NA	MC Motorcycle	S	0.870	0.003	27.870	2.830	0.037	0.021	177.400	0.011
UIAH		Gasoline	LDGV Light-Duty	Vehicles (Passenger Cars)	0.40°	0.007	10.140	0.512	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty	Trucks (0-8,500 lbs)	0.66	0.010	12.770	0.879	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Du	y Vehicles (8,501+ lbs)	1.188	0.016	8.360	0.643	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV Light-Duty	Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty	Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Du	y Vehicles (8,501+ lb)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC Motorcycle	es	1.250	0.003	14.850	2.110	0.037	0.021	177.400	0.011
		Gasoline		Vehicles (Pastenger Cars)	0.417	0.007	11.540	0.527	0.025	0.011	368.100	0.102
		Gasoline		Trucks (0-2,500 lbs)	0.793	0.010	14.390	0.916	0.025	0.011	550.600	0.102
		Gasoline		y Vehicles (8,501+ lbs)	0.987	0.016	27.610	0.862	0.045	0.029	877.300	0.045
	HIGH	Diesel		Vehites (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		y Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
VERMONT		NA	MC Motore ck		0.900	0.003	28.930	2.720	0.037	0.021	177.400	0.011
		Gasoline		Vehicles (Passenger Cars)	0.417	0.007	11.540	0.524	0.025	0.011	368.100	0.102
		Gasoline		Trucks (0-8,500 lbs)	0.793	0.010	14.390	0.908	0.025	0.011	550.600	0.102
	1.011/	Gasoline		y Vehicles (8,501+ lbs)	1.203	0.016	8.690	0.631	0.045	0.029	877.300	0.045
	LOW	Diesel		Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	<del>//</del>	Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		y Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA II	MC Motorcyck		1.300	0.003	15.440	2.030	0.037	0.021	177.400	0.011
		Gasoline		Vehicles (Passenger Cars)	0.406	0.007	5.830	0.550	0.025	0.011	368.100	0.102
		Gasoline		Trucks (0-8,500 lbs)	0.702	0.010	7.860	0.903	0.025	0.011	550.600	0.102
	нилн	Gasoline		y Vehicles (8,501+ lbs)	0.937	0.016	24.160	0.976	0.045	0.029	877.300	0.045
	нин	Diesel		Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		y Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
VIRGIN ISLANOS		NA	MC Motorcyck	Vehicles (Passenger Cars)	0.730	0.003	27.660	3.060	0.037	0.021	177.400	0.011
		Gasoline			0.406	0.007	5.830	0.547	0.025	0.011	368.100	0.102
		Gasoline		Trucks (0-8,500 lbs)	0.702	0.010	7.860	0.881	0.025	0.011	550.600	0.102
	LOW	Gasoline		y Vehicles (8,501+ lbs)	1.142	0.016	7.600	0.781	0.045	0.029	877.300	0.045
	LOW	Diesel		Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100 598.600	0.007
		Diesel		Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040		0.007
		Diesel		y Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC Motorcycle	3	1.060	0.003	14.620	2.350	0.037	0.021	177.400	0.011

Table 5-26. On-Road Vehicle Emission Factors - 2014 POV (cont.)

State Altitude		Fuel						actors (g/i			
State	Altitude	Type	Vehicle Type	NOx	SO <sub>x</sub>	CO CO	VOC	nd Ozone PM <sub>10</sub>	Precurso PM <sub>2.5</sub>	CO <sub>2</sub>	N/A
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.400	0.007	8.870	0.541	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.742	0.007	11.310	0.906	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.963	0.016	25.600	0.912	0.045	0.029	877.3.0	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	31 .100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	98.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
VIRGINIA		NA	MC Motorcycles	0.840	0.003	26.900	2.900	0.037	0.021	177.400	0.011
, III (III (III		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.400	0.007	8.870	0.538	0.025	0/11	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.742	0.010	11.310	0.893	0.025	0.011	550.600	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.175 0.163	0.016	8.050 0.774	0.700 0.119	0.045	0.029	877.300 314.100	0.045
	LOW	Diesel Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.103	0.003	0.774	0.119	0.049	0.033	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	.058	0.042	786.800	0.007
		NA	MC Motorcycles	1.210	0.003	14.300	2.170	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.405	0.007	10.440	0.527	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.769	0.010	13.130	0.871	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.978	0.016	26.770	9.870	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.975	0.318	0.058	0.042	786.800	0.027
WASHINGTON		NA	MC Motorcycles	0.880	0.003	27,780	2.690	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.405	0.007	10.440	0.525	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.769	0.010	13.130	0.884	0.025	0.011	550.600	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.192	0.01	8.420	0.652	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.163	0.003	0.774 0.631	0.119	0.049	0.033	314.100 598.600	0.007
		Diesel Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.416 1.197	0.007	0.378	0.363	0.058	0.042	786.800	0.007
		NA	MC Motorcycles	1.197	0.007	14.790	2.000	0.037	0.042	177.400	0.027
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.02	0.003	9.600	0.536	0.025	0.021	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	3.754	0.010	12.150	0.902	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.970	0.016	26.140	0.895	0.045	0.029	877.300	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lb)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
WEST VIDCINIA		NA	MC Motorcycles	0.860	0.003	27.370	2.770	0.037	0.021	177.400	0.011
WEST VIRGINIA		Gasoline	LDGV Light-Duty Vehicles (Passe ger Cars)	0.402	0.007	9.600	0.533	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.754	0.010	12.150	0.891	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (5,501+ lbs)	1.183	0.016	8.230	0.679	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Truck (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty V hicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC Motorcycles  LDGV Light-Dut Vehicles (Passenger Cars)	1.230	0.003	14.560	2.070	0.037	0.021	177.400	0.011
		Gasoline Gasoline	LDGV Light-Dut Vehicles (Passenger Cars)  LDGT Light-Daty Trucks (0-8,500 lbs)	0.419 0.795	0.007	11.560 14.410	0.536 0.932	0.025 0.025	0.011	368.100 550.600	0.102 0.102
		Gasoline	HDGV Hear Duty Vehicles (8,501+ lbs)	0.793	0.016	27.630	0.932	0.045	0.029	877.300	0.102
	HIGH	Diesel	LDDV Lint-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.023	314.100	0.043
	mon	Diesel	LDDT zight-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDY Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.027
WEGGONGIN		NA	M Motorcycles	0.900	0.003	29.090	2.780	0.037	0.021	177.400	0.011
WISCONSIN		Gasoline	IJGV Light-Duty Vehicles (Passenger Cars)	0.419	0.007	11.560	0.532	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.795	0.010	14.410	0.923	0.025	0.011	550.600	0.102
		Gasolin	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.203	0.016	8.690	0.642	0.045	0.029	877.300	0.045
	LOW	Diegel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Desel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
		NA	MC Motorcycles	1.290	0.003	15.530	2.080	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.415	0.007	11.440	0.522	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.791	0.010	14.270	0.905	0.025	0.011	550.600	0.102
	HIGH	Gasoline Diesel	HDGV Heavy-Duty Vehicles (8,501+ lbs)  LDDV Light-Duty Vehicles (Passenger Cars)	0.986 0.163	0.016	27.530 0.774	0.855 0.119	0.045	0.029	877.300 314.100	0.045
	111011	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.103	0.003	0.774	0.119	0.049	0.033	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.220	0.007	0.933	0.318	0.058	0.042	786.800	0.007
		NA	MC Motorcycles	0.900	0.007	28.760	2.710	0.037	0.042	177.400	0.027
WYOMD G		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.415	0.003	11.440	0.519	0.025	0.021	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.791	0.010	14.270	0.898	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.203	0.016	8.660	0.627	0.045	0.029	877.300	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.007	0.378	0.157	0.058	0.042	786.800	0.027
							2.020	0.037	0.021	177.400	0.011

Table 5-27. On-Road Vehicle Emission Factors — 2015 POV

		ъ.				E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type	Vehicle Type		(	Criteria Po	llutants aı	nd Ozone	Precursor	S	
		Туре		$NO_X$	SOx	CO	VOC	PM <sub>10</sub>	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.366	0.007	7.610	0.517	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.681	0.010	9.820	0.873	0.025	0.011	550 00	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.828	0.016	24.870	0.873	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0 36	786.500	0.027
ALABAMA		NA	MC Motorcycles	0.800	0.003	26.910	3.180	0.037	0.021	177.400	0.011
ALADAMA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.366	0.007	7.610	0.513	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.681	0.010	9.820	0.857	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.010	0.016	7.820	0.682	3.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.34	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.751	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.160	0.003	14.280	2.410	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.415	0.007	14.630	0.527	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.816	0.010	17710	0.949	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.883	0.016	9.780	0.795	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.00	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
ALASKA		NA	MC Motorcycles	0.980	0.003	31.650	2.760	0.037	0.021	177.400	0.011
ALAGRA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.415	0.007	14.630	0.526	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0%16	0.010	17.710	0.947	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.077	0.016	9.370	0.560	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lb)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.410	0.003	16.960	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.369	0.007	7.960	0.522	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8-00 lbs)	0.687	0.010	10.200	0.883	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.831	0.016	25.120	0.877	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Dv Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
ARIZONA		NA	MC Motoro cles	0.810	0.003	27.160	3.280	0.037	0.021	177.400	0.011
		Gasoline	LDGV Ligh Duty Vehicles (Passenger Cars)	0.369	0.007	7.960	0.517	0.025	0.011	368.000	0.102
		Gasoline	LDGT Ught-Duty Trucks (0-8,500 lbs)	0.687	0.010	10.200	0.867	0.025	0.011	550.600	0.102
	Y 077	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.013	0.016	7.900	0.682	0.042	0.027	876.800	0.045
	LOW	Diesel	LDFV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.170	0.003	14.420	2.480	0.037	0.021	177.400	0.011
		Ga oline	LDGV Light-Duty Vehicles (Passenger Cars)	0.370	0.007	8.110	0.523	0.025	0.011	368.000	0.102
	4	Sasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.690	0.010	10.360	0.886	0.025	0.011	550.600	0.102
	,,,,	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.832	0.016	25.260	0.878	0.042	0.027	876.800	0.045
	HICA	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
ARKANSAS		NA	MC Motorcycles	0.810	0.003	27.370	3.340	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.370	0.007	8.110	0.518	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.690	0.010	10.360	0.870	0.025	0.011	550.600	0.102
	Y 077	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.015	0.016	7.950	0.682	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
<u> </u>		NA	MC Motorcycles	1.170	0.003	14.540	2.530	0.037	0.021	177.400	0.011

Table 5-27. On-Road Vehicle Emission Factors - 2015 POV (cont.)

		Б. 1	·			E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	S	
		Турс		$NO_X$	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV Light-Duty Vehicles (	Passenger Cars) 0.360	0.007	7.850	0.504	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-	8,500 lbs) 0.681	0.010	10.070	0.854	0.025	0.011	550,600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles	(8,501+ lbs) 0.832	0.016	24.700	0.845	0.042	0.027	76.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (	Passenger Cars) 0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-		0.006	0.659	0.350	0.053	0.078	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles		0.007	0.782	0.307	0.051	.036	786.500	0.027
CALIFORNIA		NA	MC Motorcycles	0.820	0.003	26.280	2.880	0.037	0.021	177.400	0.011
CALIFORNIA		Gasoline	LDGV Light-Duty Vehicles (		0.007	7.850	0.501	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-	8,500 lbs) 0.681	0.010	10.070	0.842	0 325	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles	(8,501+ lbs) 1.014	0.016	7.770	0.656	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (	Passenger Cars) 0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-	8,500 lbs) 0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles	(8,501+ lbs) 1.027	0.007	0.317	.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.180	0.003	13.960	2.160	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (		0.007	10.57	0.476	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-	8,500 lbs) 0.730	0.010	12.120	0.839	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles	(8,501+ lbs) 0.853	0.016	26.730	0.776	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (	Passenger Cars) 0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-	8,500 lbs) 0.383	0.056	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles	······································	5.007	0.782	0.307	0.051	0.036	786.500	0.027
COLORADO		NA	MC Motorcycles	0.880	0.003	28.240	2.710	0.037	0.021	177.400	0.011
COLORADO		Gasoline	LDGV Light-Duty Vehicles (		0.007	10.570	0.474	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	0.010	13.120	0.832	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles		0.016	8.410	0.571	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (	Passenger Cars 0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-		0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles		0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.270	0.003	15.050	2.020	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (		0.007	9.960	0.505	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0		0.010	12.430	0.869	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles		0.016	26.280	0.822	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (		0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-	8,500 lbs) 0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles		0.007	0.782	0.307	0.051	0.036	786.500	0.027
CONNECTICUT		NA	MC Motor ycles	0.870	0.003	27.860	2.760	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (		0.007	9.960	0.502	0.025	0.011	368.000	0.102
		Gasoline	LDGT Zight-Duty Trucks (0-	······································	0.010	12.430	0.859	0.025	0.011	550.600	0.102
	Y 0777	Gasoline	HDGY Heavy-Duty Vehicles		0.016	8.270	0.619	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (		0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-		0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles		0.007	0.317	0.151	0.051	0.036	786.500	0.027
		N/I	MC Motorcycles	1.250	0.003	14.840	2.060	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (		0.007	8.670	0.507	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-		0.010	10.980	0.864	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles	······································	0.016	25.340	0.842	0.042	0.027	876.800	0.045
	HYGH	Diesel	LDDV Light-Duty Vehicles (		0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-		0.006	0.659	0.350	0.053	0.038	598.600	0.007
	1	Diesel	HDDV Heavy-Duty Vehicles	······································	0.007	0.782	0.307	0.051	0.036	786.500	0.027
DELAWARI		NA	MC Motorcycles	0.840	0.003	27.020	2.990	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (		0.007	8.670	0.504	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-	······································	0.010	10.980	0.852	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles	······································	0.016	7.970	0.645	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (		0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-		0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles	<u> </u>	0.007	0.317	0.151	0.051	0.036	786.500	0.027
•		NA	MC Motorcycles	1.210	0.003	14.370	2.240	0.037	0.021	177.400	0.011

Table 5-27. On-Road Vehicle Emission Factors - 2015 POV (cont.)

		Fuel				•		mission Fa			•	
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс			NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.363	0.007	6.580	0.512	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.665	0.010	8.680	0.857	0.025	0.011	550,600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.821	0.016	24.260	0.877	0.042	0.027	76.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.078	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	.036	786.500	0.027
FLORIDA		NA	MC	Motorcycles	0.770	0.003	26.730	2.990	0.037	0.021	177.400	0.011
FLORIDA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.363	0.007	6.580	0.508	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.665	0.010	8.680	0.840	0 325	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.000	0.016	7.630	0.693	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	s.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.110	0.003	14.160	2.270	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.365	0.007	7.51	0.516	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.679	0.010	9/10	0.871	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.828	0.016	24.800	0.872	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.036	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	3.007	0.782	0.307	0.051	0.036	786.500	0.027
~=~~		NA	MC	Motorcycles	0.800	0.003	26.850	3.160	0.037	0.021	177.400	0.011
GEORGIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.36	0.007	7.510	0.512	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 579	0.010	9.710	0.855	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.009	0.016	7.800	0.682	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+11s)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.150	0.003	14.250	2.390	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.348	0.007	6.220	0.491	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0.500 lbs)	0.651	0.010	8.280	0.821	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+lbs)	0.819	0.016	23.520	0.840	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
	111011	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.053	0.036	786.500	0.007
		NA	MC	Motor ycles	0.790	0.003	25.120	2.810	0.037	0.021	177.400	0.011
HAWAII		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.348	0.007	6.220	0.489	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.651	0.007	8.280	0.489	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.031	0.016	7.400	0.663	0.023	0.011	876.800	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.003	0.042	0.027	314.100	0.043
	LOW	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.137	0.003	0.748	0.111	0.043	0.030	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.343	0.053	0.036	786.500	0.007
		N	MC	Motorcycles	1.140	0.007	13.310	2.110	0.037	0.030	177.400	0.027
		Casoline	LDGV		0.377	0.003	10.820	0.477	0.037	0.021	368.000	0.102
			LDGV	Light-Duty Vehicles (Passenger Cars)	0.377	0.007	13.400	0.477	0.025	0.011	550.600	0.102
		Gasoline Gasoline	HDGV	Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501+ lbs)	0.734	0.010	26.920	0.841	0.025	0.011	876.800	0.102
	HZH			· · · · · · · · · · · · · · · · · · ·			***************************************					
	поп	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
	1	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
IDAHO		NA C. J.	MC	Motorcycles	0.890	0.003	28.410	2.690	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.377	0.007	10.820	0.475	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.734	0.010	13.400	0.835	0.025	0.011	550.600	0.102
	Y 6***	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.043	0.016	8.470	0.568	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
<u> </u>		NA	MC	Motorcycles	1.280	0.003	15.140	2.000	0.037	0.021	177.400	0.011

Table 5-27. On-Road Vehicle Emission Factors - 2015 POV (cont.)

		Fuel					mission Fa				
State	Altitude	Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Type		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.374	0.007	9.450	0.515	0.025	0.011	368.00 3	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.713	0.010	11.850	0.882	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.844	0.016	25.910	0.844	0.042	0.027	76.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.078	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	.036	786.500	0.027
ILLINOIS		NA	MC Motorcycles	0.860	0.003	27.670	3.060	0.037	0.021	177.400	0.011
ILLINOIS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.374	0.007	9.450	0.510	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.713	0.010	11.850	0.869	0 325	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.029	0.016	8.150	0.641	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	s.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.230	0.003	14.730	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.373	0.007	9.41	0.509	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.712	0.010	11.810	0.872	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.844	0.016	25.870	0.835	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.036	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.048	5.007	0.782	0.307	0.051	0.036	786.500	0.027
INDIANA		NA	MC Motorcycles	0.860	0.003	27.550	2.950	0.037	0.021	177.400	0.011
II (DIII) (II		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.37	0.007	9.410	0.506	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0/12	0.010	11.810	0.861	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.029	0.016	8.140	0.634	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.230	0.003	14.670	2.220	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.381	0.007	10.350	0.492	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.730	0.010	12.860	0.869	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.851	0.016	26.570	0.805	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
IOWA		NA	MC Motor ycles	0.880	0.003	28.410	3.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.381	0.007	10.350	0.488	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.730	0.010	12.860	0.857	0.025	0.011	550.600	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.038	0.016	8.360	0.595	0.042	0.027	876.800	0.045
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		N/I	MC Motorcycles	1.260	0.003	15.150	2.250	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.376	0.007	9.020	0.519	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.707	0.010	11.380	0.885	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.840	0.016	25.810	0.860	0.042	0.027	876.800	0.045
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
KANSAS		NA	MC Motorcycles	0.840	0.003	27.810	3.290	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.376	0.007	9.020	0.514	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.707	0.010	11.380	0.870	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.024	0.016	8.120	0.657	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.200	0.003	14.800	2.490	0.037	0.021	177.400	0.011

Table 5-27. On-Road Vehicle Emission Factors - 2015 POV (cont.)

		Fuel			•		mission Fa			•	
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс		NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.369	0.007	8.680	0.508	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.698	0.010	10.990	0.866	0.025	0.011	550,600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.838	0.016	25.360	0.844	0.042	0.027	76.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.078	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	.036	786.500	0.027
KENTUCKY		NA	MC Motorcycles	0.840	0.003	27.070	3.010	0.037	0.021	177.400	0.011
KENTOCKI		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.369	0.007	8.680	0.505	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.698	0.010	10.990	0.853	0 325	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.022	0.016	7.980	0.647	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	1.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.210	0.003	14.390	2.260	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.367	0.007	7.28	0.520	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.677	0.010	9 450	0.874	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.826	0.016	24.780	0.884	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.036	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.048	3.007	0.782	0.307	0.051	0.036	786.500	0.027
LOUISIANA		NA	MC Motorcycles	0.790	0.003	27.220	3.260	0.037	0.021	177.400	0.011
LOUISIANA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.36	0.007	7.280	0.515	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	2 677	0.010	9.450	0.857	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.007	0.016	7.800	0.694	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ 1/s)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.130	0.003	14.430	2.480	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.385	0.007	11.630	0.496	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.752	0.010	14.310	0.878	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.861	0.016	27.530	0.791	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vel cles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
		NA	MC Motor ycles	0.910	0.003	29.210	2.730	0.037	0.021	177.400	0.011
MAINE		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.385	0.007	11.630	0.493	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.752	0.010	14.310	0.872	0.025	0.011	550.600	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.050	0.016	8.660	0.577	0.042	0.027	876.800	0.045
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598,600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.053	0.036	786.500	0.027
		N	MC Motorcycles	1.310	0.007	15.590	2.030	0.037	0.030	177.400	0.027
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.369	0.003	8.870	0.501	0.025	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.701	0.007	11.200	0.855	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.840	0.016	25.460	0.833	0.042	0.027	876.800	0.102
	H <sup>r</sup> 5H	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.829	0.042	0.027	314.100	0.043
	John	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.005	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.039	0.307	0.053	0.036	786.500	0.007
		NA	MC Motorcycles	0.840	0.007	27.100	2.920	0.031	0.036	177.400	0.027
MARYLAN		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.369	0.003	8.870	0.498	0.037	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.369	0.007	11.200	0.498	0.025	0.011	550.600	0.102
		~~~~~~~~~		~~~~~~~~~~	***************************************		~~~~~~~~~~	0.025	0.011	***************************************	~~~~~~~
	LOW	Gasoline Diesel	HDGV Heavy-Duty Vehicles (8,501+ lbs)  LDDV Light-Duty Vehicles (Passenger Cars)	1.024 0.137	0.016	8.010 0.748	0.632	0.042	0.027	876.800 314.100	0.045
	LOW		LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.137	0.003	0.748	0.111	0.045	0.030	598.600	0.007
		Diesel	9 3	***************************************		***************************************					
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.210	0.003	14.410	2.190	0.037	0.021	177.400	0.011

Table 5-27. On-Road Vehicle Emission Factors - 2015 POV (cont.)

							E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	ollutants a	nd Ozone	Precursor	s	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	10.120	0.505	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.722	0.010	12.610	0.870	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.850	0.016	26.400	0.820	0.042	0.027	76.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.078	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	.036	786.500	0.027
MASSACHUSETTS		NA	MC	Motorcycles	0.870	0.003	27.960	2.750	0.037	0.021	177.400	0.011
MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	10.120	0.503	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.722	0.010	12.610	0.861	0 325	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.036	0.016	8.300	0.616	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	s.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.260	0.003	14.900	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.379	0.007	10.89	0.485	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.737	0.010	12,470	0.856	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.855	0.016	26.970	0.785	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.036	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	5.007	0.782	0.307	0.051	0.036	786.500	0.027
MICHIGAN		NA	MC	Motorcycles	0.890	0.003	28.590	2.730	0.037	0.021	177.400	0.011
MICHIGAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.37	0.007	10.890	0.482	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 /37	0.010	13.470	0.849	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.043	0.016	8.480	0.576	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+11/s)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.280	0.003	15.250	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.390	0.007	11.900	0.515	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.759	0.010	14.620	0.917	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.863	0.016	27.750	0.816	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vel cles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Daty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
MINNESOTA		NA	MC	Motor ycles	0.910	0.003	29.750	2.840	0.037	0.021	177.400	0.011
MINIESOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.390	0.007	11.900	0.512	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.759	0.010	14.620	0.908	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.052	0.016	8.730	0.595	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		N/	MC	Motorcycles	1.310	0.003	15.900	2.120	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.368	0.007	7.620	0.520	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.682	0.010	9.820	0.878	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.828	0.016	24.940	0.879	0.042	0.027	876.800	0.045
	HV JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
	1	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
MISSISSIPP		NA	MC	Motorcycles	0.800	0.003	27.120	3.260	0.037	0.021	177.400	0.011
W11001001F		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.368	0.007	7.620	0.515	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.682	0.010	9.820	0.861	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.010	0.016	7.840	0.687	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.150	0.003	14.400	2.470	0.037	0.021	177.400	0.011

Table 5-27. On-Road Vehicle Emission Factors - 2015 POV (cont.)

		Б. 1				E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс		$NO_X$	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV Light-Duty Vehicles (Passo	enger Cars) 0.374	0.007	9.000	0.514	0.025	0.011	368.003	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500	) lbs) 0.706	0.010	11.350	0.877	0.025	0.011	550,600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50	0.840 (0.840)	0.016	25.690	0.851	0.042	0.027	76.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passe	enger Cars) 0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500		0.006	0.659	0.350	0.053	0.078	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50		0.007	0.782	0.307	0.051	.036	786.500	0.027
MISSOURI		NA	MC Motorcycles	0.840	0.003	27.560	3.170	0.037	0.021	177.400	0.011
MISSOCKI		Gasoline	LDGV Light-Duty Vehicles (Passe		0.007	9.000	0.510	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500	······································	0.010	11.350	0.863	0 325	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50		0.016	8.080	0.650	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passe		0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500		0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50	·····	0.007	0.317	.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.210	0.003	14.660	2.390	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passe		0.007	11.28	0.489	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500		0.010	12.920	0.865	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50		0.016	27.270	0.786	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passe		0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500	i	0.036	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50		5.007	0.782	0.307	0.051	0.036	786.500	0.027
MONTANA		NA	MC Motorcycles	0.900	0.003	28.890	2.710	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passe		0.007	11.280	0.487	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500	·····	0.010	13.920	0.858	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50		0.016	8.580	0.574	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passe	·····X············ <del>/ /</del> ·······················	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500		0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50		0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.300	0.003	15.410	2.020	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Page		0.007	9.810	0.487	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0.5,500		0.010	12.250	0.858	0.025	0.011	550.600	0.102
	HIGH	Gasoline	HDGV Heavy-Duty Vehicles (8,50		0.016	26.170	0.805	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passo		0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel Diesel	LDDT Light-Duty Trucks (0-8,500 HDDV Heavy-Daty Vehicles (8,50	0.383 01+ lbs) 0.383	0.006	0.659 0.782	0.350	0.053 0.051	0.038	598.600 786.500	0.007 0.027
		NA	HDDV Heavy-D ty Vehicles (8,50 MC Motor ycles	0.860	0.007	27.940	3.040	0.031	0.036	177.400	0.027
NEBRASKA			LDGV Light-Duty Vehicles (Passe		0.003	9.810	0.483	0.037	0.021	368.000	0.102
		Gasoline Gasoline	LDGT Light-Duty Trucks (0-8,500		0.007	12.250	0.483	0.025	0.011	550.600	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,50		0.016	8.230	0.843	0.023	0.011	876.800	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (Passe	<del> </del>	0.003	0.748	0.399	0.042	0.027	314.100	0.043
	LOW	Diesel	LDDT Light-Duty Trucks (0-8,500		0.003	0.748	0.345	0.043	0.030	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50		0.007	0.317	0.343	0.053	0.036	786.500	0.007
		N	MC Motorcycles	1.240	0.007	14.890	2.280	0.031	0.030	177.400	0.027
		Casoline	LDGV Light-Duty Vehicles (Passe		0.003	9.480	0.500	0.037	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500		0.007	11.890	0.857	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50		0.016	25.920	0.820	0.023	0.027	876.800	0.102
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passe		0.003	0.748	0.820	0.042	0.027	314.100	0.043
	11 311	Diesel	LDDT Light-Duty Trucks (0-8,500		0.005	0.659	0.350	0.043	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50		0.007	0.039	0.307	0.053	0.036	786,500	0.007
		NA	MC Motorcycles	0.860	0.007	27.480	2.780	0.031	0.036	177.400	0.027
NEVADA		Gasoline	LDGV Light-Duty Vehicles (Passe		0.003	9.480	0.498	0.037	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500		0.007	11.890	0.498	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50	·····	0.016	8.150	0.621	0.023	0.011	876.800	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (Passe		0.016	0.748	0.621	0.042	0.027	314.100	0.043
	LOW	Diesel	LDDT Light-Duty Trucks (0-8,500		0.003	0.748	0.345	0.043	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50		0.007	0.317	0.343	0.053	0.036	786.500	0.007
		NA	MC Motorcycles	1.240	0.007	14.620	2.070	0.031	0.036	177.400	0.027
	1	INA	IVIC IVIOLOTE YELES	1.240	0.003	14.020	2.070	0.057	0.021	1//.400	0.011

Table 5-27. On-Road Vehicle Emission Factors - 2015 POV (cont.)

		Е. 1					Eı	mission Fa	ctors (g/n	ni)		
State	Altitude	Fuel Type		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precursor	S	
		Туре			NOx	SOx	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light	-Duty Vehicles (Passenger Cars)	0.380	0.007	11.080	0.487	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light	-Duty Trucks (0-8,500 lbs)	0.740	0.010	13.690	0.861	0.025	0.011	550,600	0.102
		Gasoline		y-Duty Vehicles (8,501+ lbs)	0.857	0.016	27.120	0.786	0.042	0.027	76.800	0.045
	HIGH	Diesel	LDDV Light	-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.078	598.600	0.007
		Diesel	HDDV Heav	y-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	.036	786.500	0.027
NEW HAMPSHIRE		NA	MC Motor	rcycles	0.900	0.003	28.730	2.730	0.037	0.021	177.400	0.011
NEW HANII SHIKE		Gasoline	LDGV Light	-Duty Vehicles (Passenger Cars)	0.380	0.007	11.080	0.485	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light	-Duty Trucks (0-8,500 lbs)	0.740	0.010	13.690	0.853	0 325	0.011	550.600	0.102
		Gasoline		y-Duty Vehicles (8,501+ lbs)	1.045	0.016	8.530	0.576	0.042	0.027	876.800	0.045
	LOW	Diesel		-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light	-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel		y-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	.151	0.051	0.036	786.500	0.027
		NA		rcycles	1.290	0.003	15.330	2.030	0.037	0.021	177.400	0.011
		Gasoline		-Duty Vehicles (Passenger Cars)	0.370	0.007	9.14	0.503	0.025	0.011	368.000	0.102
		Gasoline		-Duty Trucks (0-8,500 lbs)	0.706	0.010	11.500	0.860	0.025	0.011	550.600	0.102
	l	Gasoline	······	y-Duty Vehicles (8,501+ lbs)	0.842	0.016	25.660	0.829	0.042	0.027	876.800	0.045
	HIGH	Diesel		-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		-Duty Trucks (0-8,500 lbs)	0.383	0.0.6	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel		y-Duty Vehicles (8,501+ lbs)	1.048	5.007	0.782	0.307	0.051	0.036	786.500	0.027
NEW JERSEY		NA		rcycles	0.850	0.003	27.280	2.900	0.037	0.021	177.400	0.011
NEW SERSET		Gasoline		-Duty Vehicles (Passenger Cars)	0.37	0.007	9.140	0.500	0.025	0.011	368.000	0.102
		Gasoline		-Duty Trucks (0-8,500 lbs)	0 /06	0.010	11.500	0.849	0.025	0.011	550.600	0.102
		Gasoline		y-Duty Vehicles (8,501+ lbs)	1.026	0.016	8.070	0.631	0.042	0.027	876.800	0.045
	LOW	Diesel		-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		y-Duty Vehicles (8,501+14s)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA		orcycles	1.220	0.003	14.520	2.170	0.037	0.021	177.400	0.011
		Gasoline		-Duty Vehicles (Pausenger Cars)	0.367	0.007	8.970	0.497	0.025	0.011	368.000	0.102
		Gasoline		-Duty Trucks (0, 3,500 lbs)	0.702	0.010	11.320	0.849	0.025	0.011	550.600	0.102
		Gasoline		y-Duty Vehicles (8,501+ lbs)	0.841	0.016	25.530	0.821	0.042	0.027	876.800	0.045
	HIGH	Diesel		-Duty Vel cles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light	-Duty 7 rucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel		y-Daty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
NEW MEXICO		NA		ycles	0.850	0.003	27.090	2.810	0.037	0.021	177.400	0.011
		Gasoline		-Duty Vehicles (Passenger Cars)	0.367	0.007	8.970	0.494	0.025	0.011	368.000	0.102
		Gasoline		-Duty Trucks (0-8,500 lbs)	0.702	0.010	11.320	0.838	0.025	0.011	550.600	0.102
		Gasoline		y-Duty Vehicles (8,501+ lbs)	1.025	0.016	8.030	0.625	0.042	0.027	876.800	0.045
	LOW	Diesel		-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		y-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		N/		rcycles	1.220	0.003	14.410	2.100	0.037	0.021	177.400	0.011
		Casoline		-Duty Vehicles (Passenger Cars)	0.378	0.007	10.680	0.481	0.025	0.011	368.000	0.102
		Gasoline		-Duty Trucks (0-8,500 lbs)	0.733	0.010	13.230	0.849	0.025	0.011	550.600	0.102
		Gasoline		y-Duty Vehicles (8,501+ lbs)	0.854	0.016	26.810	0.783	0.042	0.027	876.800	0.045
	HUGH	Diesel		-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
NEW YORK	]	Diesel		ry-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
		NA		rcycles	0.890	0.003	28.410	2.720	0.037	0.021	177.400	0.011
		Gasoline		-Duty Vehicles (Passenger Cars)	0.378	0.007	10.680	0.479	0.025	0.011	368.000	0.102
		Gasoline		-Duty Trucks (0-8,500 lbs)	0.733	0.010	13.230	0.841	0.025	0.011	550.600	0.102
		Gasoline		y-Duty Vehicles (8,501+ lbs)	1.041	0.016	8.430	0.575	0.042	0.027	876.800	0.045
	LOW	Diesel		-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	V	-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		y-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC Motor	rcycles	1.280	0.003	15.150	2.030	0.037	0.021	177.400	0.011

Table 5-27. On-Road Vehicle Emission Factors - 2015 POV (cont.)

		Е. 1					E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Туре			NOx	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.365	0.007	8.040	0.513	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.687	0.010	10.280	0.870	0.025	0.011	550,600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.833	0.016	24.950	0.858	0.042	0.027	76.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.078	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	.036	786.500	0.027
NORTH CAROLINA		NA	MC	Motorcycles	0.820	0.003	26.700	3.060	0.037	0.021	177.400	0.011
NORTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.365	0.007	8.040	0.509	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.687	0.010	10.280	0.856	0 325	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.015	0.016	7.850	0.666	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	s.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.180	0.003	14.180	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.391	0.007	12.02	0.518	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.761	0.010	14.760	0.923	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.864	0.016	27.850	0.818	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.036	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	5.007	0.782	0.307	0.051	0.036	786.500	0.027
NORTH DAKOTA		NA	MC	Motorcycles	0.920	0.003	29.870	2.840	0.037	0.021	177.400	0.011
NORTH DAROTH		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.39	0.007	12.020	0.514	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 /61	0.010	14.760	0.914	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.053	0.016	8.760	0.597	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+11s)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.320	0.003	15.970	2.120	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.372	0.007	9.580	0.506	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0, 5,500 lbs)	0.714	0.010	12.000	0.868	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.845	0.016	25.990	0.828	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
ОНЮ		NA	MC	Motor ycles	0.860	0.003	27.610	2.850	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.372	0.007	9.580	0.503	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.714	0.010	12.000	0.857	0.025	0.011	550.600	0.102
	Y 6	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.031	0.016	8.180	0.627	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		N/	MC	Motorcycles	1.240	0.003	14.700	2.130	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	8.320	0.524	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.696	0.010	10.600	0.889	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.834	0.016	25.500	0.881	0.042	0.027	876.800	0.045
	HYGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
OKLAHOM		NA	MC	Motorcycles	0.810	0.003	27.830	3.440	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	8.320	0.519	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.696	0.010	10.600	0.871	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.017	0.016	8.020	0.681	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.170	0.003	14.790	2.610	0.037	0.021	177.400	0.011

Table 5-27. On-Road Vehicle Emission Factors - 2015 POV (cont.)

		F1				•	E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Туре			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	10.040	0.489	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.718	0.010	12.520	0.840	0.025	0.011	550,600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.849	0.016	26.320	0.795	0.042	0.027	76.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.078	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	.036	786.500	0.027
OREGON		NA	MC	Motorcycles	0.870	0.003	27.650	2.690	0.037	0.021	177.400	0.011
OKEGON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	10.040	0.487	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.718	0.010	12.520	0.833	0 325	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.035	0.016	8.280	0.596	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.260	0.003	14.710	2.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.342	0.007	6.96	0.485	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.658	0.010	9 130	0.813	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.825	0.016	24.080	0.822	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.936	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	5.007	0.782	0.307	0.051	0.036	786.500	0.027
PACIFIC ISLANDS		NA	MC	Motorcycles	0.810	0.003	25.480	2.780	0.037	0.021	177.400	0.011
THEIR IS ISLANDS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.34	0.007	6.960	0.483	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 658	0.010	9.130	0.803	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.006	0.016	7.580	0.643	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+11s)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.160	0.003	13.500	2.080	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.373	0.007	9.920	0.503	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,3,500 lbs)	0.719	0.010	12.380	0.865	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.848	0.016	26.240	0.820	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Daty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
PENNSYLVANIA		NA	MC	Motor ycles	0.870	0.003	27.810	2.750	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.373	0.007	9.920	0.501	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Zight-Duty Trucks (0-8,500 lbs)	0.719	0.010	12.380	0.856	0.025	0.011	550.600	0.102
	Y 0377	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.034	0.016	8.260	0.617	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		N.	MC	Motorcycles	1.250	0.003	14.810	2.050	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.362	0.007	5.550	0.500	0.025	0.011	368.000	0.102
		Gasoline	************************	Light-Duty Trucks (0-8,500 lbs)	0.652	0.010	7.530	0.835	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.813	0.016	23.370	0.868	0.042	0.027	876.800	0.045
	HYGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
PUERTO RIGO		NA	MC	Motorcycles	0.760	0.003	25.900	2.960	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.362	0.007	5.550	0.498	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.652	0.010	7.530	0.818	0.025	0.011	550.600	0.102
	Y 6	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.992	0.016	7.350	0.692	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.090	0.003	13.710	2.260	0.037	0.021	177.400	0.011

Table 5-27. On-Road Vehicle Emission Factors - 2015 POV (cont.)

				•		•	E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type			Criteria Po				S	
		Type		•	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.370	0.007	9.670	0.499	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.713	0.010	12.100	0.856	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.846	0.016	26.060	0.816	0.042	0.027	76.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.078	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	.036	786.500	0.027
DITODE ICI AND		NA	MC	Motorcycles	0.860	0.003	27.580	2.740	0.037	0.021	177.400	0.011
RHODE ISLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.370	0.007	9.670	0.497	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.713	0.010	12.100	0.847	0 325	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.032	0.016	8.200	0.616	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.240	0.003	14.680	2.040	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.366	0.007	7.67	0.517	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.682	0.010	9,570	0.874	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.829	0.016	24.900	0.873	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.056	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	5.007	0.782	0.307	0.051	0.036	786.500	0.027
SOUTH CAROLINA		NA	MC	Motorcycles	0.800	0.003	26.920	3.190	0.037	0.021	177.400	0.011
SOUTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.36	0.007	7.670	0.513	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.682	0.010	9.870	0.858	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.011	0.016	7.830	0.681	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1 s)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.160	0.003	14.290	2.410	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.383	0.007	10.680	0.497	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.736	0.010	13.240	0.880	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.853	0.016	26.830	0.808	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Velicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty 7 tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
SOUTH DAKOTA		NA	MC	Motor ycles	0.880	0.003	28.690	2.980	0.037	0.021	177.400	0.011
SOUTH DAKOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.383	0.007	10.680	0.493	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.736	0.010	13.240	0.868	0.025	0.011	550.600	0.102
		Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	1.041	0.016	8.440	0.596	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		N/	MC	Motorcycles	1.270	0.003	15.310	2.230	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.367	0.007	8.340	0.508	0.025	0.011	368.000	0.102
	4	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.692	0.010	10.610	0.864	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.835	0.016	25.170	0.848	0.042	0.027	876.800	0.045
	HYGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
TENNESSE		NA	MC	Motorcycles	0.830	0.003	26.940	3.060	0.037	0.021	177.400	0.011
LENNESSE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.367	0.007	8.340	0.504	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.692	0.010	10.610	0.850	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.018	0.016	7.920	0.653	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
<b>/</b>		NA	MC	Motorcycles	1.190	0.003	14.320	2.300	0.037	0.021	177.400	0.011

Table 5-27. On-Road Vehicle Emission Factors - 2015 POV (cont.)

		Fuel			•		mission Fa			•	
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс		NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.369	0.007	7.550	0.525	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.682	0.010	9.750	0.884	0.025	0.011	550,600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.828	0.016	25.010	0.890	0.042	0.027	76.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.078	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	.036	786.500	0.027
TEXAS		NA	MC Motorcycles	0.790	0.003	27.500	3.370	0.037	0.021	177.400	0.011
ILAAS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.369	0.007	7.550	0.520	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.682	0.010	9.750	0.866	0 325	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.009	0.016	7.870	0.697	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	1.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.140	0.003	14.590	2.560	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.374	0.007	9.90	0.479	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.720	0.010	12.360	0.843	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.848	0.016	26.230	0.791	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.036	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.048	5.007	0.782	0.307	0.051	0.036	786.500	0.027
UTAH		NA	MC Motorcycles	0.870	0.003	27.870	2.830	0.037	0.021	177.400	0.011
Cimi		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.37	0.007	9.900	0.476	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	9/20	0.010	12.360	0.833	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.034	0.016	8.250	0.587	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.250	0.003	14.850	2.110	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.382	0.007	11.290	0.491	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.745	0.010	13.930	0.868	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.858	0.016	27.280	0.789	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
VERMONT		NA	MC Motor ycles	0.900	0.003	28.930	2.720	0.037	0.021	177.400	0.011
,		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.382	0.007	11.290	0.488	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.745	0.010	13.930	0.861	0.025	0.011	550.600	0.102
		Gasoline	HDG Heavy-Duty Vehicles (8,501+ lbs)	1.047	0.016	8.580	0.577	0.042	0.027	876.800	0.045
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		N/	MC Motorcycles	1.300	0.003	15.440	2.030	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.373	0.007	5.610	0.510	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.660	0.010	7.600	0.851	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.815	0.016	23.870	0.891	0.042	0.027	876.800	0.045
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
VIRGIN ISLAY OS		NA	MC Motorcycles	0.730	0.003	27.660	3.060	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.373	0.007	5.610	0.507	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.660	0.010	7.600	0.831	0.025	0.011	550.600	0.102
	Y 6	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.994	0.016	7.510	0.712	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC Motorcycles	1.060	0.003	14.620	2.350	0.037	0.021	177.400	0.011

Table 5-27. On-Road Vehicle Emission Factors - 2015 POV (cont.)

		Fuel							actors (g/r	-		
State	Altitude	Type		Vehicle Type			Criteria Po					
			I D CI	Till D. Will D. G.	NO <sub>X</sub>	SOX	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.367	0.007	8.640	0.503	0.025	0.011	368.000	0.1/2
		Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs)	0.697 0.838	0.010	10.950 25.290	0.857 0.834	0.025 0.042	0.011	550.600 876.800	0.045
	HIGH	Gasoline Diesel	LDDV	Heavy-Duty Vehicles (8,501+ lbs) Light-Duty Vehicles (Passenger Cars)	0.838	0.003	0.748	0.834	0.042	0.027	314.100	0.043
	IIIGII	Diesel	LDDV	Light-Duty Trucks (0-8,500 lbs)	0.137	0.003	0.748	0.350	0.043	0.038	598.	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.053	0.036	78 3.500	0.007
		NA	MC	Motorcycles	0.840	0.003	26.900	2.900	0.037	0.021	77.400	0.011
VIRGINIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.367	0.007	8.640	0.500	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.697	0.010	10.950	0.845	0.025	0.01	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.022	0.016	7.950	0.639	0.042	0/,027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.05	0.036	786.500	0.027
		NA	MC	Motorcycles	1.210	0.003	14.300	2.170	0/37	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.371	0.007	10.210	0.491	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.721	0.010	12.710	0.844	0.025	0.011	550.600	0.102
	шсп	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.850	0.016	26.450	0.796	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV LDDT	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0 11	0.045	0.030	314.100 598.600	0.007
		Diesel Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.006	0.639	0.350	0.053	0.036	786.500	0.007
		NA	MC	Motorcycles	0.880	0.003	27.78	2.690	0.037	0.021	177.400	0.027
WASHINGTON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.371	0.003	10/10	0.489	0.037	0.021	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.721	0.010	12.710	0.838	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.037	0.016	8.320	0.596	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.0.6	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.260	0.003	14.790	2.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	9.370	0.499	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.7/8	0.010	11.760	0.854	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	844	0.016	25.830	0.819	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
WEST VIRGINIA		NA	MC	Motorcycles	0.860	0.003	27.370	2.770	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenge Cars)	0.369	0.007	9.370	0.496	0.025	0.011	368.000	0.102
		Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 bs)	0.708 1.029	0.010	11.760 8.120	0.844	0.025	0.011	550.600 876.800	0.102 0.045
	LOW	Gasoline Diesel	LDDV	Heavy-Duty Vehicles (8, 01+ lbs) Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.621	0.042	0.027	314.100	0.043
	LOW	Diesel	LDDT	Light-Duty Trucks (-8,500 lbs)	0.137	0.003	0.748	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.053	0.036	786.500	0.007
		NA	MC	Motorcycles	1.230	0.003	14.560	2.070	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Chicles (Passenger Cars)	0.384	0.007	11.310	0.499	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Dut Trucks (0-8,500 lbs)	0.747	0.010	13.950	0.884	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy Outy Vehicles (8,501+ lbs)	0.858	0.016	27.300	0.800	0.042	0.027	876.800	0.045
	HIGH	Diesel	LDDV	Ligh Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Lant-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
WISCONSIN		NA	MC	Motorcycles	0.900	0.003	29.090	2.780	0.037	0.021	177.400	0.011
112000110211		Gasoline	LD V	Light-Duty Vehicles (Passenger Cars)	0.384	0.007	11.310	0.496	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.747	0.010	13.950	0.875	0.025	0.011	550.600	0.102
	1.077	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.047	0.016	8.590	0.586	0.042	0.027	876.800	0.045
	LOW	Diese	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT HDDV	Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501+ lbs)	0.383 1.027	0.006	0.614	0.345	0.053	0.038	598.600 786.500	0.007
		NA NA	MC	Motorcycles	1.027	0.007	15.530	0.151 2.080	0.031	0.030	177.400	0.027
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.381	0.003	11.190	0.486	0.037	0.021	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.742	0.010	13.810	0.480	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.858	0.016	27.200	0.782	0.042	0.027	876.800	0.102
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.007	0.782	0.307	0.051	0.036	786.500	0.027
WYOMING	L	NA	MC	Motorcycles	0.900	0.003	28.760	2.710	0.037	0.021	177.400	0.011
WYOMING		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.381	0.007	11.190	0.484	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.742	0.010	13.810	0.852	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.046	0.016	8.560	0.572	0.042	0.027	876.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.027	0.007	0.317	0.151	0.051	0.036	786.500	0.027
		NA	MC	Motorcycles	1.290	0.003	15.340	2.020	0.037	0.021	177.400	0.011

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV

Gasoline   LDCV   Light Dary Vehicles (Passenger Care)   0.377   0.077   7.430   0.884   0.025   0.011   5.860   1.11			Б. 1				E	mission Fa	actors (g/r	ni)		
Casoline   LDGV   Light-Duy Vehicles (Passenger Cars)   O. 10, 27   O. 10, 28   O. 10, 38   O. 10, 3	State	Altitude		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
Gasioline   DIOT   Light-Duy Trucks (08.500 lbs)   0.676   0.010   9.470   0.834   0.025   0.011   0.586   0.010   0.026   6.400   0.026   0.640   0.026   0.640   0.026   0.640   0.026   0.026   0.026   0.026   0.027   0.016   0.257   0.016   0.026   0.026   0.026   0.027   0.016   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0			Турс		NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
Casoline   HIGH   Hosel   LIDPY   Light-Duy Vehicks (R501-bps)   0.727   0.016   0.026   0.014   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.041   0.026   0.0			Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.337	0.007	7.430	0.484	0.025	0.011		0.102
HIGH   Diesel   LIDDY   Light-Dary Vehicks (Passenger Cars)   0.108   0.003   0.715   0.097   0.014   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005			Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.636	0.010	9.470	0.824		0.011	551,000	0.102
Diesel   LIDDY   Light-Day Trucks (0.8300 hs)   0.342   0.006   0.614   0.320   0.049   0.07   5938 800   0.007   NA   NA   MC   Mocorcycks   0.800   0.003   0.003   2.510   3.180   0.037   0.021   177.400   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.00			Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.727		24.570					0.045
Dissel   HIDDV   Henry-Dury Vehicks (RS01-b)   D.889   0.007   0.094   0.296   0.047   0.22   78.010   0.007		HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097				0.007
ALABAMA			Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	***************************************	0.614	0.320			598.600	0.007
ALASKA   Gasoline   LDCV   Light-Day Vehicks (Passenger Carp.)   0.337   0.077   7.436   0.045   0.055   0.011   358,000   0.11   0.056   0.016   0.056   0.016   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.011   0.055   0.			Diesel							.032		0.027
Casoline   LDCV   Light-Duty Vehicks (Passenger Cars)   0.337   0.007   7.450   0.880   0.955   0.011   358,000   0.15	ALARAMA			, , , , , , , , , , , , , , , , , , ,								0.011
LOW   Diesel   LIDDY   Light-Duy Vehicks (Sci01+ Bo)   0.886   0.016   7.730   0.054   0.017   0.026   376.400   0.00												0.102
LOW   Desel   LDDV   Light-Duy Yehicks (Passenger Carry)   0.108   0.033   0.715   0.077   0.041   0.026   341.00   0.005   0.099   0.034   0.094   0.034   0.094   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005						***************************************		***************************************		***************************************		0.102
Diesel   HDDV   Heavy-Duty Vehicks (S.501 hB)   0.342   0.005   0.579   0.365   0.099   0.034   986.600   0.005     Diesel   HDDV   Heavy-Duty Vehicks (S.501 hB)   0.881   0.007   0.281   0.486   0.047   0.022   786.100   0.007     Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.881   0.007   1.436   0.495   0.025   0.011   358.000   0.11     Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.881   0.007   1.436   0.495   0.025   0.011   358.000   0.11     Gasoline   HDGV   Light-Duty Vehicks (S.01 hB)   0.775   0.016   2.95410   0.739   0.044   0.026   374.100   0.003     HGH   Diesel   LDDV   Light-Duty Vehicks (S.601 hB)   0.003   0.715   0.016   2.9410   0.739   0.041   0.026   374.00   0.004     Diesel   LDDV   Light-Duty Frencks (0.8500 lbs)   0.322   0.036   0.037   0.041   0.026   374.00   0.004     Diesel   LDDV   Light-Duty Frencks (0.8500 lbs)   0.322   0.036   0.037   0.041   0.026   374.00   0.004     Diesel   LDDV   Light-Duty Frencks (0.8500 lbs)   0.322   0.036   0.037   0.041   0.032   0.040   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0.032   0		Y 0337	******************		************		*****					
Diesel   HDDV   Heavy-Duty Vehicles (8,501+8s)   0.881   0.007   0.281   1.46   0.047   0.032   786,100   0.00		LOW	***********************	and the contract of the contra							000000000000000000000000000000000000000	000000000000000000000000000000000000000
NA							***************************************	0.376				
Gasoline   LDCV   Light-Duty Yehckes (Passenger Cars)   0.381   0.007   14.37   0.496   0.025   0.011   368.000   0.011			~~~~~~~~~			***************************************				***************************************		
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.759   0.010   2500   0.889   0.025   0.011   551,000   0.16   0.001   0.001   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002												
HIGH Diesel LDDV Light-Duty Vehicles (R3601+ hs)							**************************************					
HIGH   Diesel   LDDV   Light-Duty Verbicks (Passenger Cars)   0.108   0.034   0.715   0.097   0.041   0.026   314.100   0.007												
ALASKA    Dissel   LDDT   Light-Duty Trucks (0-8.500 lbs)   0.342   0.966   0.614   0.320   0.049   0.034   598.600   0.005		шси				***************************************	<del></del>			***************************************		
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ bs)   0.989		HIGH										
ALASKA    NA   MC   Motorcycles   Motorcycle						***************************************						
ALASKA   Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.35   0.007   14,360   0.495   0.025   0.011   368,000   0.15												
Casoline   LDGV   Heavy-Duty Vehicks (8,501+ hs)   Disest   LDDV   Light-Duty Thicks (0,8501 hs)   Disest   LDGV   Light-Duty Vehicks (Rasoline hs)   Disest   LDGV   Light-Duty Vehicks (Rasoline hs)   Disest   LDGV   Light-Duty Vehicks (Rasoline hs)   Disest   D	ALASKA											
LOW   Diesel   LDDV   Light-Duty Vehicles (RS01+Bs)   0.945   0.016   9.250   0.521   0.041   0.026   876.400   0.04				· · · · · · · · · · · · · · · · · · ·			***************************************					***************************************
LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Car)   0.108   0.003   0.715   0.097   0.041   0.026   314.100   0.006   0.008   0.008   0.008   0.008   0.009   0.034   0.006   0.008   0.009   0.034   0.006   0.008   0.009   0.034   0.006   0.008   0.009   0.034   0.006   0.008   0.008   0.009   0.008   0.008   0.009   0.008   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009												
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598,600   0.006     Diesel   HDDV   Heavy-Duty Vehicles (8,501+15)   0.881   0.007   0.281   0.146   0.047   0.032   786,100   0.006     NA   MC   Motorcycles   1.410   0.003   16,960   2.050   0.037   0.021   177,400   0.01     Gasoline   LDGV   Light-Duty Vehicles (Pasenger Cars)   0.340   0.007   7.770   0.488   0.025   0.011   368,000   0.107     Gasoline   HDGV   Light-Duty Vehicles (Pasenger Cars)   0.340   0.007   7.770   0.488   0.025   0.011   551,000   0.167     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+lbs)   0.729   0.016   24,810   0.816   0.041   0.026   374,000   0.040     Diesel   LDDV   Light-Duty Vehicles (8,501+lbs)   0.342   0.006   0.614   0.320   0.049   0.034   598,600   0.007     NA   MC   Motorcycles   0.850   lbs   0.898   0.007   0.694   0.296   0.047   0.032   786,100   0.020     NA   MC   Motorcycles   0.850   lbs   0.898   0.007   0.770   0.484   0.025   0.011   368,000   0.160     Gasoline   LDGV   Light-Duty Vehicles (8,501+lbs)   0.898   0.007   0.770   0.484   0.025   0.011   368,000   0.160     Gasoline   LDGV   Light-Duty Vehicles (8,501+lbs)   0.889   0.016   7,800   0.635   0.041   0.026   876,400   0.040     LOW   Diesel   LDDV   Light-Duty Vehicles (8,501+lbs)   0.889   0.016   7,800   0.635   0.041   0.026   876,400   0.040     Diesel   LDDV   Light-Duty Vehicles (8,501+lbs)   0.881   0.007   0.281   0.146   0.047   0.032   786,100   0.020     Diesel   LDDV   Light-Duty Vehicles (8,501+lbs)   0.881   0.007   0.281   0.146   0.047   0.032   786,100   0.020     Diesel   LDDV   Light-Duty Vehicles (8,501+lbs)   0.881   0.007   0.281   0.146   0.047   0.032   0.049   0.044   0.026   0.044     Diesel   LDDV   Light-Duty Vehicles (8,501+lbs)   0.881   0.007   0.281   0.146   0.047   0.032   0.049   0.044   0.026   0.047   0.032   0.049   0.044   0.026   0.047   0.032   0.049   0.044   0.026   0.047   0.032   0.049   0.044   0.026   0.047   0.041   0.026   0.047   0.041   0.02		LOW			/							
Diesel   HDDV   Heavy-Duty Vehicles (8.501+ 85)   0.881   0.007   0.281   0.146   0.047   0.032   786.100   0.02     NA   MC   Motorcycles   1.410   0.003   16.960   2.050   0.037   0.021   177.400   0.01     Gasoline   LDGV   Light-Duty Vehicles (Pasenger Cars)   0.340   0.007   7.770   0.488   0.025   0.011   386.000   0.16     Gasoline   LDGV   Light-Duty Trucks (9.500 lbs)   0.642   0.010   9.830   0.834   0.025   0.011   551.000   0.16     Gasoline   LDGV   Light-Duty Electron (2.500 lbs)   0.642   0.010   9.830   0.834   0.025   0.011   551.000   0.16     Gasoline   LDDV   Light-Duty Electron (2.500 lbs)   0.342   0.006   0.614   0.320   0.049   0.034   598.600   0.00     Diesel   LDDV   Light-Duty Electron (2.500 lbs)   0.342   0.006   0.614   0.320   0.049   0.034   598.600   0.00     NA   MC   Motorcycles   0.810   0.003   27.160   3.280   0.037   0.021   177.400   0.01     Gasoline   LDGT   Light-Duty Vehicles (8.501+ lbs)   0.898   0.007   0.077   0.484   0.025   0.011   368.000   0.16     Gasoline   LDGT   Light-Duty Trucks (0.8500 lbs)   0.849   0.007   7.770   0.484   0.025   0.011   368.000   0.16     Gasoline   HDGT   Heavy-Duty Vehicles (8.501+ lbs)   0.889   0.016   7.800   0.635   0.041   0.026   876.400   0.04     LOW   Diesel   LDDV   Light-Duty Trucks (0.8500 lbs)   0.842   0.003   0.715   0.097   0.041   0.026   876.400   0.04     LOW   Diesel   LDDV   Light-Duty Vehicles (8.501+ lbs)   0.889   0.016   7.800   0.635   0.041   0.026   876.400   0.04     LOW   Diesel   LDDV   Light-Duty Trucks (0.8500 lbs)   0.842   0.006   0.579   0.316   0.049   0.034   598.600   0.00     NA   Mc   Motorcycles   0.041   0.026   0.047   0.032   0.046   0.047   0.032   0.046   0.047   0.032   0.046   0.047   0.032   0.046   0.047   0.032   0.046   0.047   0.032   0.046   0.047   0.032   0.046   0.047   0.032   0.046   0.047   0.032   0.046   0.047   0.032   0.046   0.047   0.032   0.046   0.047   0.044   0.046   0.047   0.044   0.046   0.047   0.044   0.046   0.047   0.044   0.046   0.047   0.044   0.046		LOW				***************************************					~~~~~~~~~~	
NA   MC   Motorcycles   1.410   0.003   16.960   2.050   0.037   0.021   177.400   0.01												
ARIZONA   Gasoline   LDGV   Light-Duty Vehicles (Pasenger Cars)   0.340   0.007   7.770   0.488   0.025   0.011   368.000   0.10			~~~~~~									
ARIZONA    Gasoline   LDGT   Light-Duty Trucks (0.500 lbs)   0.642   0.010   9.830   0.834   0.025   0.011   551.000   0.10												
ARIZONA    HIGH   Diesel   LDDV   Light-Duty Vehicles (8,501+ lbs)   0.729   0.016   24,810   0.816   0.041   0.026   876,400   0.04												
ARIZONA  HIGH Diesel LDDV Light-Duty Velicles (Passenger Cars) 0.108 0.003 0.715 0.097 0.041 0.026 314.100 0.00   Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.342 0.006 0.614 0.320 0.049 0.034 598.600 0.00   Diesel HDDV Heavy-Diff Velicles (8,501 lbs) 0.898 0.007 0.694 0.296 0.047 0.032 786.100 0.02   NA MC Motory cles 0.810 0.003 27.160 3.280 0.037 0.021 177.400 0.01   Gasoline LDGV Light-Duty Trucks (0-8,500 lbs) 0.42 0.010 9.830 0.819 0.025 0.011 368.000 0.10   Gasoline LDGY Light-Duty Velicles (Passenger Cars) 0.340 0.007 7.770 0.484 0.025 0.011 351.000 0.10   Gasoline LDGY Light-Duty Velicles (Respendent Cars) 0.899 0.016 7.800 0.635 0.041 0.026 314.100 0.00   Diesel LDGY Light-Duty Velicles (Respendent Cars) 0.108 0.03 0.715 0.097 0.041 0.026 314.100 0.00   Diesel LDGY Light-Duty Velicles (Respendent Cars) 0.108 0.03 0.715 0.097 0.041 0.026 314.100 0.00   Diesel HDDV Heavy-Duty Velicles (Respendent Cars) 0.108 0.003 0.715 0.097 0.041 0.026 314.100 0.00   NA MC Motorcycles 1.170 0.003 14.420 0.489 0.037 0.021 177.400 0.01   Gasoline LDGV Light-Duty Velicles (Respendent Cars) 0.341 0.007 0.281 0.146 0.047 0.032 786.100 0.02   Gasoline LDGV Light-Duty Velicles (Passenger Cars) 0.341 0.007 7.920 0.489 0.025 0.011 368.000 0.10   Gasoline LDGV Light-Duty Velicles (Respendent Cars) 0.730 0.016 0.499 0.836 0.025 0.011 368.000 0.10   Gasoline LDGV Light-Duty Velicles (Respendent Cars) 0.730 0.016 0.499 0.836 0.025 0.011 551.000 0.02   Diesel LDDV Light-Duty Velicles (Respendent Cars) 0.730 0.016 0.499 0.034 598.600 0.00   Diesel LDDV Light-Duty Velicles (Respendent Cars) 0.341 0.007 7.920 0.489 0.025 0.011 368.000 0.10   Diesel LDDV Light-Duty Velicles (Respendent Cars) 0.730 0.016 0.499 0.034 0.034 598.600 0.00   Diesel LDDV Light-Duty Velicles (Respendent Cars) 0.341 0.007 7.920 0.485 0.025 0.011 368.000 0.10   Diesel LDDV Light-Duty Velicles (Respendent Cars) 0.341 0.007 7.920 0.485 0.025 0.011 368.000 0.10   Gasoline LDGG Light-Duty Velicles (Respendent Cars) 0.341 0.007 7.920 0.485 0.025 0.011 368.000 0.10												
ARIZONA    Diesel   LDDT   Light-Duty Pucks (0-8,500 lbs)   0.342   0.006   0.614   0.320   0.049   0.034   598,600   0.00		HIGH				***************************************				***************************************		
ARIZONA    Diesel   HDDV   Heavy-Diffy Vehicles (8,501+lbs)   0.898   0.007   0.694   0.296   0.047   0.032   786.100   0.02     NA   MC   Motor-Veles   0.810   0.003   27.160   3.280   0.037   0.021   177.400   0.01     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.340   0.007   7.770   0.484   0.025   0.011   368.000   0.10     Gasoline   LDGT   Light-Duty Trucks (0-8.500 lbs)   0.642   0.010   9.830   0.819   0.025   0.011   551.000   0.10     Gasoline   HDGY   Heavy-Duty Vehicles (Robert Cars)   0.108   0.003   0.715   0.097   0.041   0.026   876.400   0.00     Diesel   LDGV   Light-Duty Trucks (0-8.500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598.600   0.00     Diesel   LDGV   Light-Duty Vehicles (Robert Cars)   0.108   0.007   0.281   0.146   0.047   0.032   786.100   0.02     NA   MC   Motor-veles   1.170   0.003   14.420   2.480   0.037   0.021   177.400   0.01     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.341   0.007   7.920   0.489   0.025   0.011   368.000   0.10     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.341   0.007   7.920   0.489   0.025   0.011   368.000   0.10     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.341   0.007   7.920   0.489   0.025   0.011   368.000   0.10     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.341   0.007   7.920   0.489   0.025   0.011   368.000   0.10     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.104   0.006   0.614   0.320   0.049   0.034   598.600   0.00     NA   MC   Motor-veles   0.006   0.045   0.006   0.614   0.320   0.049   0.034   598.600   0.00     NA   MC   Motor-veles   0.006   0.045   0.006   0.614   0.320   0.049   0.034   598.600   0.00     NA   MC   Motor-veles   0.006   0.045   0.006   0.614   0.026   0.047   0.032   786.100   0.00     NA   MC   Motor-veles   0.006   0.006   0.614   0.320   0.049   0.034   598.600   0.00     NA   MC   Motor-veles   0.006   0.006   0.006   0.007   0.006   0.006   0.007   0.001   0.006   0.006   0.006   0.007   0.001		mon			***************************************							0.007
ARIZONA    NA   MC   Motorycles   0.810   0.003   27.160   3.280   0.037   0.021   177.400   0.01			~~~~~~~									0.007
ARIZONA    Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.340   0.007   7.770   0.484   0.025   0.011   368.000   0.10												0.011
Casoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.642   0.010   9.830   0.819   0.025   0.011   551.000   0.10	ARIZONA											0.102
Casoline   HDG/   Heavy-Duty Vehicles (8,501+ lbs)   0.889   0.016   7.800   0.635   0.041   0.026   876.400   0.040							***************************************					0.102
LOW   Diesel   LDOV   Light-Duty Vehicles (Passenger Cars)   0.108   0.003   0.715   0.097   0.041   0.026   314.100   0.006			******************		***************************************		*****					0.045
Diesel   ADDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598,600   0.006     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.881   0.007   0.281   0.146   0.047   0.032   786,100   0.025     N		LOW										0.007
Diese  HDDV Heavy-Duty Vehicles (8,501+ lbs)   0.881   0.007   0.281   0.146   0.047   0.032   786,100   0.02			~~~~~~					***************************************		***************************************		0.007
New MC   Motorcycles   1.170   0.003   14.420   2.480   0.037   0.021   177.400   0.01							***************************************					0.027
ARKANSAS    Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.341   0.007   7.920   0.489   0.025   0.011   368.000   0.10			***********************		***************************************		***************************************					0.011
ARKANSAS    Casoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.645   0.010   9.990   0.836   0.025   0.011   551.000   0.10												0.102
ARKANSAS    Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.730   0.016   24.950   0.817   0.041   0.026   876.400   0.04												0.102
ARKANSAS    H.GH												0.045
ARKANSAS    Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.614   0.320   0.049   0.034   598.600   0.006		HLPH			***************************************							0.007
ARKANSAS    Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.898   0.007   0.694   0.296   0.047   0.032   786,100   0.02     NA   MC   Motorcycles   0.810   0.003   27,370   3.340   0.037   0.021   177,400   0.01     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.341   0.007   7.920   0.485   0.025   0.011   368,000   0.16     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.645   0.010   9.990   0.821   0.025   0.011   551,000   0.16     Gasoline   HDGV   Heavy-Duty Vehicles (R,501+ lbs)   0.890   0.016   7.850   0.634   0.041   0.026   876,400   0.04     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598,600   0.006     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598,600   0.006     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598,600   0.006     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598,600   0.006     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598,600   0.006     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598,600   0.006     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598,600   0.006     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598,600   0.006     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598,600   0.006     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598,600   0.006     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.044   0.026   0.044     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.044   0.026   0.044   0.026   0.044   0.026   0.044   0.026   0.044   0.0					***************************************							0.007
ARKANSAS    NA   MC   Motorcycles   0.810   0.003   27.370   3.340   0.037   0.021   177.400   0.01						***************************************		***************************************		***************************************		0.027
ARKANSA    Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.341   0.007   7.920   0.485   0.025   0.011   368.000   0.10					***************************************		***************************************					0.011
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.645   0.010   9.990   0.821   0.025   0.011   551.000   0.10	ARKANSAS			•								0.102
LOW         Gasoline         HDGV         Heavy-Duty Vehicles (8,501+ lbs)         0.890         0.016         7.850         0.634         0.041         0.026         876.400         0.04           LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.108         0.003         0.715         0.097         0.041         0.026         314.100         0.00           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.342         0.006         0.579         0.316         0.049         0.034         598.600         0.00							***************************************		***************************************			0.102
LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.108         0.003         0.715         0.097         0.041         0.026         314.100         0.00           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.342         0.006         0.579         0.316         0.049         0.034         598.600         0.00			~~~~~~~		~~~~~~~~~~	***************************************		***************************************	***************************************	***************************************	~~~~~~~~~~	0.045
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.342 0.006 0.579 0.316 0.049 0.034 598,600 0.00		LOW	*****		************	***************************************	*****************				*****************	0.007
												0.007
				9 3			***************************************					0.027
	<u> </u>											0.011

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV (cont.)

		т				Eı	mission Fa	actors (g/n	ni)		
State Ala	ltitude	Fuel Type	Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precursor	s	
		Туре		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV Light-Duty Vehicles (Passenger C	ars) 0.332	0.007	7.670	0.472	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.636	0.010	9.700	0.806	0.025	0.011	551.000	0.102
		Gasoline	HDGV   Heavy-Duty Vehicles (8,501+ lbs)	0.729	0.016	24.400	0.786	0.041	0.026	76.400	0.045
H	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger C	ars) 0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	.032	786.100	0.027
CALIFORNIA		NA	MC Motorcycles	0.820	0.003	26.280	2.880	0.037	0.021	177.400	0.011
CALIFORNIA		Gasoline	LDGV Light-Duty Vehicles (Passenger C	ars) 0.332	0.007	7.670	0.470	0.025	0.011	368.000	0.102
	L.	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.636	0.010	9.700	0.795	0 325	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.890	0.016	7.670	0.610	0.041	0.026	876.400	0.045
L	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger C	ars) 0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
	L.	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	3.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	1.180	0.003	13.960	2.160	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger C		0.007	10.36	0.447	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.681	0.010	12.620	0.790	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.748	0.016	26.400	0.721	0.041	0.026	876.400	0.045
H	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger C	ars) 0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.056	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)		5.007	0.694	0.296	0.047	0.032	786.100	0.027
COLORADO		NA	MC Motorcycles	0.880	0.003	28.240	2.710	0.037	0.021	177.400	0.011
COLORADO		Gasoline	LDGV Light-Duty Vehicles (Passenger C		0.007	10.360	0.445	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0 681	0.010	12.620	0.783	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.912	0.016	8.300	0.530	0.041	0.026	876.400	0.045
L	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger C		0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)		0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	1.270	0.003	15.050	2.020	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger C		0.007	9.760	0.474	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (05,500 lbs)	0.671	0.010	11.960	0.819	0.025	0.011	551.000	0.102
	L	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)		0.016	25.950	0.765	0.041	0.026	876.400	0.045
H	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger C		0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)		0.007	0.694	0.296	0.047	0.032	786.100	0.027
CONNECTICUT		NA	MC Motor ycles	0.870	0.003	27.860	2.760	0.037	0.021	177.400	0.011
CONNECTICET	_	Gasoline	LDGV Light-Duty Vehicles (Passenger C		0.007	9.760	0.471	0.025	0.011	368.000	0.102
	_	Gasoline	LDGT Zight-Duty Trucks (0-8,500 lbs)	0.671	0.010	11.960	0.810	0.025	0.011	551.000	0.102
		Gasoline	HDG Heavy-Duty Vehicles (8,501+ lbs)		0.016	8.160	0.576	0.041	0.026	876.400	0.045
L	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger C		0.003	0.715	0.097	0.041	0.026	314.100	0.007
	_	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
	_	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		N/	MC Motorcycles	1.250	0.003	14.840	2.060	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger C		0.007	8.480	0.475	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.652	0.010	10.580	0.815	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.735	0.016	25.030	0.783	0.041	0.026	876.400	0.045
H	Hr GH	Diesel	LDDV Light-Duty Vehicles (Passenger C		0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
	L	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)		0.007	0.694	0.296	0.047	0.032	786.100	0.027
DELAWAR		NA	MC Motorcycles	0.840	0.003	27.020	2.990	0.037	0.021	177.400	0.011
DELAWAR		Gasoline	LDGV Light-Duty Vehicles (Passenger C		0.007	8.480	0.472	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.652	0.010	10.580	0.804	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.896	0.016	7.870	0.600	0.041	0.026	876.400	0.045
I	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger C	ars) 0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146 2.240	0.047	0.032	786.100	0.027

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV (cont.)

		Fuel				•			actors (g/n		•	
State	Altitude	Type		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precursor	S	
		Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.335	0.007	6.410	0.479	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.621	0.010	8.380	0.810	0.025	0.011	551,000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.720	0.016	23.960	0.816	0.041	0.026	76.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	.032	786.100	0.027
		NA		Motorcycles	0.770	0.003	26.730	2.990	0.037	0.021	177.400	0.011
FLORIDA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.335	0.007	6.410	0.476	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.621	0.010	8.380	0.794	0 325	0.011	551.000	0.102
		Gasoline	~~~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.877	0.016	7.530	0.644	0.041	0.026	876.400	0.045
	LOW	Diesel	*********	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	*******************	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	1.146	0.047	0.032	786,100	0.027
		NA		Motorcycles	1.110	0.003	14.160	2.270	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.337	0.007	7.33	0.483	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.634	0.007	9.360	0.483	0.025	0.011	551.000	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.726	0.016	24.500	0.822	0.023	0.026	876.400	0.102
	HIGH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.043
	mon	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.108	0.003	0.713	0.097	0.041	0.026	598.600	0.007
					0.342	3.007	0.694	0.320	0.049	0.034		0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)							786.100	
GEORGIA		NA		Motorcycles	0.800	0.003	26.850	3.160	0.037	0.021	177.400	0.011
		Gasoline	*********	Light-Duty Vehicles (Passenger Cars)	0.33	0.007	7.330	0.479	0.025	0.011	368.000	0.102
		Gasoline	~~~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	034	0.010	9.360	0.807	0.025	0.011	551.000	0.102
	Y 0337	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.885	0.016	7.700	0.634	0.041	0.026	876.400	0.045
	LOW	Diesel	~~~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+11s)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA		Motorcycles	1.150	0.003	14.250	2.390	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Parsenger Cars)	0.321	0.007	6.060	0.460	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0,500 lbs)	0.609	0.010	7.990	0.776	0.025	0.011	551.000	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.718	0.016	23.230	0.781	0.041	0.026	876.400	0.045
	HIGH	Diesel		Light-Duty Veh cles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel		Heavy-Day Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
HAWAII		NA		Motor ycles	0.790	0.003	25.120	2.810	0.037	0.021	177.400	0.011
HAWAH		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.321	0.007	6.060	0.458	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.609	0.010	7.990	0.764	0.025	0.011	551.000	0.102
		Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	0.876	0.016	7.300	0.617	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		N/	MC	Motorcycles	1.140	0.003	13.310	2.110	0.037	0.021	177.400	0.011
<del></del>		C.soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.347	0.007	10.610	0.448	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.685	0.010	12.890	0.792	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.750	0.016	26.590	0.720	0.041	0.026	876.400	0.045
	HV JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
	7	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
		NA		Motorcycles	0.890	0.003	28.410	2.690	0.037	0.021	177.400	0.011
IDAHO		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.347	0.007	10.610	0.446	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.685	0.010	12.890	0.786	0.025	0.011	551.000	0.102
		Gasoline	~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.914	0.016	8.360	0.527	0.041	0.026	876.400	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.043
	LOW	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.108	0.005	0.713	0.316	0.041	0.020	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.342	0.007	0.379	0.316	0.049	0.034	786.100	0.007
		NA		Motorcycles	1.280	0.007	15.140	2.000	0.047	0.032	177.400	0.027
	1	NΑ	IVIC	Motorcycles	1.280	0.003	15.140	2.000	0.037	0.021	177.400	0.011

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV (cont.)

		Fuel			•		mission Fa				
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Type		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.345	0.007	9.250	0.482	0.025	0.011	368.00 3	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.665	0.010	11.410	0.831	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.740	0.016	25.590	0.785	0.041	0.026	76.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	.032	786.100	0.027
ILLINOIS		NA	MC Motorcycles	0.860	0.003	27.670	3.060	0.037	0.021	177.400	0.011
ILLINOIS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.345	0.007	9.250	0.479	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.665	0.010	11.410	0.819	0 325	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.903	0.016	8.050	0.596	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	1.230	0.003	14.730	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.343	0.007	9.22	0.477	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.664	0.010	17.370	0.822	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.740	0.016	25.550	0.777	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.036	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.898	5.007	0.694	0.296	0.047	0.032	786.100	0.027
INDIANA		NA	MC Motorcycles	0.860	0.003	27.550	2.950	0.037	0.021	177.400	0.011
II (DIII) (II		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.34	0.007	9.220	0.474	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0 664	0.010	11.370	0.811	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.902	0.016	8.030	0.589	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	1.230	0.003	14.670	2.220	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.350	0.007	10.140	0.461	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.681	0.010	12.370	0.817	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.746	0.016	26.250	0.748	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
IOWA		NA	MC Motor ycles	0.880	0.003	28.410	3.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.350	0.007	10.140	0.457	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.681	0.010	12.370	0.807	0.025	0.011	551.000	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.910	0.016	8.250	0.552	0.041	0.026	876.400	0.045
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		N/I	MC Motorcycles	1.260	0.003	15.150	2.250	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.346	0.007	8.820	0.486	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.660	0.010	10.960	0.835	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.736	0.016	25.490	0.800	0.041	0.026	876.400	0.045
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
KANSAS		NA	MC Motorcycles	0.840	0.003	27.810	3.290	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.346	0.007	8.820	0.482	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.660	0.010	10.960	0.820	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.016	8.020	0.611	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	1.200	0.003	14.800	2.490	0.037	0.021	177.400	0.011

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV (cont.)

		Fuel			•			actors (g/n		•	
State	Altitude	Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	S	
		Турс		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (F	assenger Cars) 0.340	0.007	8.490	0.476	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8	3,500 lbs) 0.652	0.010	10.580	0.817	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles	(8,501+ lbs) 0.735	0.016	25.050	0.785	0.041	0.026	76.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (F	assenger Cars) 0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8		0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (	(8,501+ lbs) 0.898	0.007	0.694	0.296	0.047	.032	786.100	0.027
		NA	MC Motorcycles	0.840	0.003	27.070	3.010	0.037	0.021	177.400	0.011
KENTUCKY		Gasoline	LDGV Light-Duty Vehicles (F	assenger Cars) 0.340	0.007	8.490	0.473	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8		0.010	10.580	0.805	0 325	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (	(8,501+ lbs) 0.896	0.016	7.880	0.602	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (F	······································	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8		0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (		0.007	0.281	.146	0.047	0.032	786,100	0.027
		NA	MC Motorcycles	1.210	0.003	14.390	2.260	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (F		0.007	7.09	0.487	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8		0.010	9,110	0.826	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (	·····	0.016	24.480	0.822	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (F	·	0.003	0.715	0.022	0.041	0.026	314.100	0.007
	mon	Diesel	LDDT Light-Duty Trucks (0-8		0.00.	0.614	0.320	0.041	0.020	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (		J.007	0.694	0.320	0.049	0.034	786.100	0.007
		NA		0.790	0.003	27.220	3.260	0.047	0.032	177.400	0.027
LOUISIANA											
		Gasoline	LDGV Light-Duty Vehicles (F		0.007	7.090	0.483	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8	5,500 108)	0.010	9.110	0.809	0.025	0.011	551.000	0.102
	Y 0337	Gasoline	HDGV Heavy-Duty Vehicles	· · · · · · · · · · · · · · · · · · ·	0.016	7.700	0.645	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (F		0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8		0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles		0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	1.130	0.003	14.430	2.480	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (F		0.007	11.410	0.465	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0		0.010	13.760	0.826	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles		0.016	27.200	0.736	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV Light-Duty Veh cles (F		0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8	3,500 lbs) 0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles		0.007	0.694	0.296	0.047	0.032	786.100	0.027
MAINE		NA	MC Motor ycles	0.910	0.003	29.210	2.730	0.037	0.021	177.400	0.011
MAINE		Gasoline	LDGV Light-Duty Vehicles (F	assenger Cars) 0.354	0.007	11.410	0.463	0.025	0.011	368.000	0.102
		Gasoline	LDGT Zight-Duty Trucks (0-8	3,500 lbs) 0.700	0.010	13.760	0.820	0.025	0.011	551.000	0.102
		Gasoline	HDGY Heavy-Duty Vehicles	8,501+ lbs) 0.921	0.016	8.550	0.536	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (F	assenger Cars) 0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8	3,500 lbs) 0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (	(8,501+ lbs) 0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		N/	MC Motorcycles	1.310	0.003	15.590	2.030	0.037	0.021	177.400	0.011
<del></del>		Casoline	LDGV Light-Duty Vehicles (F	assenger Cars) 0.340	0.007	8.670	0.470	0.025	0.011	368.000	0.102
	4	Gasoline	LDGT Light-Duty Trucks (0-8		0.010	10.780	0.807	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (	(8,501+ lbs) 0.736	0.016	25.150	0.772	0.041	0.026	876.400	0.045
	H <sup>y</sup> <sub>5</sub> H	Diesel	LDDV Light-Duty Vehicles (F		0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8		0.006	0.614	0.320	0.049	0.034	598.600	0.007
	7	Diesel	HDDV Heavy-Duty Vehicles		0.007	0.694	0.296	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	0.840	0.003	27.100	2.920	0.037	0.021	177.400	0.011
MARYLAN		Gasoline	LDGV Light-Duty Vehicles (F		0.007	8.670	0.467	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8		0.010	10.780	0.796	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (	······	0.016	7.910	0.588	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (F		0.003	0.715	0.097	0.041	0.026	314.100	0.043
	LOW	Diesel	LDDT Light-Duty Trucks (0-8		0.005	0.713	0.316	0.041	0.020	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (	·	0.007	0.281	0.316	0.049	0.034	786.100	0.007
		NA	MC Motorcycles	8,501+ ibs) 0.881 1.210	0.007	14.410	2.190	0.047	0.032	177.400	0.027
	1	INA	wic wiotorcycles	1.210	0.003	14.410	2.190	0.037	0.021	177.400	0.011

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV (cont.)

		Fl				•	E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type	Ve	hicle Type			Criteria Po	llutants a	nd Ozone	Precursor	S	
		Туре			$NO_X$	$SO_X$	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Dut	y Vehicles (Passenger Cars)	0.344	0.007	9.920	0.474	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Dut	y Trucks (0-8,500 lbs)	0.674	0.010	12.130	0.820	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Du	ity Vehicles (8,501+ lbs)	0.745	0.016	26.070	0.763	0.041	0.026	76.400	0.045
	HIGH	Diesel	LDDV Light-Dut	y Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		y Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV Heavy-Du	ty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	.032	786.100	0.027
MASSACHUSETTS		NA	MC Motorcyc	es	0.870	0.003	27.960	2.750	0.037	0.021	177.400	0.011
MASSACHUSEIIS		Gasoline	LDGV Light-Dut	y Vehicles (Passenger Cars)	0.344	0.007	9.920	0.472	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Dut	y Trucks (0-8,500 lbs)	0.674	0.010	12.130	0.811	0 325	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Du	ty Vehicles (8,501+ lbs)	0.909	0.016	8.200	0.573	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Dut	y Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Dut	y Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Du	ty Vehicles (8,501+ lbs)	0.881	0.007	0.281	.146	0.047	0.032	786.100	0.027
		NA	MC Motorcyc	es	1.260	0.003	14.900	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Dut	y Vehicles (Passenger Cars)	0.349	0.007	10.673	0.455	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Dut	y Trucks (0-8,500 lbs)	0.687	0.010	12.960	0.806	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Du	ity Vehicles (8,501+ lbs)	0.750	0.016	26.640	0.730	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV Light-Dut	y Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		y Trucks (0-8,500 lbs)	0.342	0.056	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Du	ity Vehicles (8,501+ lbs)	0.898	3.007	0.694	0.296	0.047	0.032	786.100	0.027
		NA	MC Motorcyc	es	0.890	0.003	28.590	2.730	0.037	0.021	177.400	0.011
MICHIGAN		Gasoline		y Vehicles (Passenger Cars)	0.34	0.007	10.670	0.453	0.025	0.011	368.000	0.102
		Gasoline		y Trucks (0-8,500 lbs)	0.587	0.010	12.960	0.799	0.025	0.011	551.000	0.102
		Gasoline		ity Vehicles (8,501+ lbs)	0.915	0.016	8.380	0.535	0.041	0.026	876.400	0.045
	LOW	Diesel		y Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		y Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel		ity Vehicles (8,501+11s)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC Motorcyc		1.280	0.003	15.250	2.030	0.037	0.032	177.400	0.011
		Gasoline		y Vehicles (Parsenger Cars)	0.359	0.007	11.670	0.483	0.025	0.021	368.000	0.102
		Gasoline		y Trucks (0.5,500 lbs)	0.707	0.010	14.050	0.861	0.025	0.011	551.000	0.102
		Gasoline		nty Vehicles (8,501+ lbs)	0.757	0.016	27.410	0.758	0.041	0.026	876.400	0.045
	HIGH	Diesel		y Veh cles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
	111011	Diesel		y Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel		ty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.326	0.047	0.034	786.100	0.007
		NA	MC Motor ye		0.910	0.007	29.750	2.840	0.037	0.032	177.400	0.027
MINNESOTA		Gasoline		y Vehicles (Passenger Cars)	0.359	0.003	11.670	0.480	0.037	0.021	368.000	0.102
		Gasoline		y Trucks (0-8,500 lbs)	0.707	0.007	14.050	0.480	0.025	0.011	551.000	0.102
		Gasoline		ty Vehicles (8,501+ lbs)	0.707	0.016	8.620	0.833	0.023	0.011	876.400	0.102
	LOW	Diesel	<u></u>	y Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.043
	LOW	Diesel		y Trucks (0-8,500 lbs)	0.108	0.003	0.713	0.097	0.041	0.026	598.600	0.007
					0.342	0.006	0.379	0.316	0.049	0.034	786.100	0.007
		Diesel N	MC Motorcyc	ty Vehicles (8,501+ lbs)	1.310	0.007	15.900	2.120	0.047	0.032	177.400	0.027
		Gasoline		y Vehicles (Passenger Cars)	0.339 0.637	0.007 0.010	7.440 9.470	0.487	0.025 0.025	0.011	368.000 551.000	0.102 0.102
		Gasoline		y Trucks (0-8,500 lbs)				0.829				
	HUGH	Gasoline		ty Vehicles (8,501+ lbs)	0.727	0.016	24.630	0.818	0.041	0.026	876.400	0.045
	НЗН	Diesel		y Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		y Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel		ty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
MISSISSIPP		NA	MC Motorcyc		0.800	0.003	27.120	3.260	0.037	0.021	177.400	0.011
		Gasoline		y Vehicles (Passenger Cars)	0.339	0.007	7.440	0.483	0.025	0.011	368.000	0.102
		Gasoline		y Trucks (0-8,500 lbs)	0.637	0.010	9.470	0.813	0.025	0.011	551.000	0.102
		Gasoline		ty Vehicles (8,501+ lbs)	0.886	0.016	7.750	0.639	0.041	0.026	876.400	0.045
	LOW	Diesel		y Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	<u>V</u>	y Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel		ty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC Motorcyc	es	1.150	0.003	14.400	2.470	0.037	0.021	177.400	0.011

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV (cont.)

		F1			•	E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type	Vehicle Typ	е		Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV Light-Duty Vehicles	(Passenger Cars) 0.344	0.007	8.800	0.482	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (	0-8,500 lbs) 0.659	0.010	10.930	0.827	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicle	es (8,501+ lbs) 0.737	0.016	25.380	0.791	0.041	0.026	76.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles	(Passenger Cars) 0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (		0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicle		0.007	0.694	0.296	0.047	.032	786.100	0.027
MISSOURI		NA	MC Motorcycles	0.840	0.003	27.560	3.170	0.037	0.021	177.400	0.011
MISSOCKI		Gasoline	LDGV Light-Duty Vehicles		0.007	8.800	0.478	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (		0.010	10.930	0.814	0 325	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicle		0.016	7.980	0.604	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles	······	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (		0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicle	i	0.007	0.281	1.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	1.210	0.003	14.660	2.390	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles		0.007	11.06	0.459	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (		0.010	12.390	0.814	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicle		0.016	26.930	0.731	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles		0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (		0.056	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicle		5.007	0.694	0.296	0.047	0.032	786.100	0.027
MONTANA		NA	MC Motorcycles	0.900	0.003	28.890	2.710	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles		0.007	11.060	0.457	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (	·····	0.010	13.390	0.807	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicle		0.016	8.470	0.534	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles		0.003	0.715	0.097	0.041	0.026	314.100	0.007
	_	Diesel	LDDT Light-Duty Trucks (		0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicle		0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	1.300	0.003	15.410	2.020	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles		0.007	9.600	0.456	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (		0.010	11.790	0.808	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehic		0.016	25.840	0.748	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV Light-Duty Veh cles		0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (	0-8,500 lbs) 0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicle		0.007	0.694	0.296	0.047	0.032	786.100	0.027
NEBRASKA		NA	MC Motor ycles	0.860	0.003	27.940	3.040	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles		0.007	9.600	0.452	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (		0.010	11.790	0.796	0.025	0.011	551.000	0.102
	LOW	Gasoline	HDGY Heavy-Duty Vehick		0.016	8.130	0.556	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles		0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	CDDT Light-Duty Trucks (		0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel N	HDDV Heavy-Duty Vehick MC Motorcycles	es (8,501+ lbs) 0.881 1.240	0.007	0.281 14.890	0.146 2.280	0.047	0.032	786.100 177.400	0.027
					_						
		Casoline	LDGV Light-Duty Vehicles		0.007	9.290	0.469	0.025 0.025	0.011	368.000 551.000	0.102
		Gasoline	LDGT Light-Duty Trucks (			11.450	0.808				0.102
	HUGH	Gasoline	HDGV Heavy-Duty Vehick		0.016	25.600	0.763	0.041	0.026	876.400	0.045
	HJH	Diesel	LDDV Light-Duty Vehicles		0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (		0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel NA	HDDV Heavy-Duty Vehick		0.007	0.694	0.296	0.047	0.032	786.100	0.027
NEVADA			MC Motorcycles	(Passanger Cars) 0.860	0.003	27.480	2.780		0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles		0.007	9.290	0.467	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (	·····	0.010	11.450	0.799	0.025	0.011	551.000	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehick		0.016	8.050	0.577	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles		0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (		0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehick		0.007	0.281	0.146	0.047	0.032	786.100	0.027
	-	NA	MC Motorcycles	1.240	0.003	14.620	2.070	0.037	0.021	177.400	0.011

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV (cont.)

		Type										
State	Altitude			Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс			NOx	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.350	0.007	10.860	0.457	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.690	0.010	13.170	0.810	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.752	0.016	26.790	0.731	0.041	0.026	76.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	.032	786.100	0.027
NEW HAMPSHIRE		NA	MC	Motorcycles	0.900	0.003	28.730	2.730	0.037	0.021	177.400	0.011
NEW HAMIFSHIKE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.350	0.007	10.860	0.455	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.690	0.010	13.170	0.803	0 325	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.916	0.016	8.420	0.535	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	s.146	0.047	0.032	786.100	0.027
		NA	MC	Motorcycles	1.290	0.003	15.330	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.341	0.007	8.94	0.472	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.659	0.010	17.070	0.811	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.738	0.016	25.340	0.771	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.036	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.898	3.007	0.694	0.296	0.047	0.032	786.100	0.027
		NA	MC	Motorcycles	0.850	0.003	27.280	2.900	0.037	0.021	177.400	0.011
NEW JERSEY		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.34	0.007	8.940	0.469	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.559	0.010	11.070	0.801	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.900	0.016	7.970	0.586	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.005	0.713	0.316	0.049	0.020	598.600	0.007
		Diesel	HDDV		0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.007
		NA	MC	Heavy-Duty Vehicles (8,501+1/s) Motorcycles	1.220	0.007	14.520	2.170	0.047	0.032	177.400	0.027
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.338	0.003	8.780	0.466	0.037	0.021	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (1.500 lbs)	0.655	0.007	10.900	0.400	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehices (8,501+ lbs)	0.033	0.016	25.220	0.764	0.023	0.026	876.400	0.102
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.704	0.041	0.026	314.100	0.043
	поп		LDDV		***************************************				0.041			
		Diesel Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs)	0.342 0.898	0.006	0.614 0.694	0.320	0.049	0.034	598.600 786.100	0.007 0.027
				Heavy-Day Vehicles (8,501+ lbs)								
NEW MEXICO		NA C. J.	MC	Motor ycles	0.850	0.003	27.090	2.810	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.338	0.007	8.780	0.464	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.655	0.010	10.900	0.791	0.025	0.011	551.000	0.102
	Y 0377	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.899	0.016	7.930	0.582	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		N/	MC	Motorcycles	1.220	0.003	14.410	2.100	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.348	0.007	10.470	0.451	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.683	0.010	12.730	0.800	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.749	0.016	26.480	0.728	0.041	0.026	876.400	0.045
	HYGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
NEW YORK		NA	MC	Motorcycles	0.890	0.003	28.410	2.720	0.037	0.021	177.400	0.011
MEN TORE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.348	0.007	10.470	0.449	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.683	0.010	12.730	0.792	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.913	0.016	8.330	0.535	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
7		NA	MC	Motorcycles	1.280	0.003	15.150	2.030	0.037	0.021	177.400	0.011

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV (cont.)

				•		•	E	mission Fa	actors (g/n	ni)	•	
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	S	
		Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.336	0.007	7.860	0.480	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.641	0.010	9.910	0.821	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.730	0.016	24.650	0.798	0.041	0.026	76.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	.032	786.100	0.027
NORTH CAROLINA		NA	MC	Motorcycles	0.820	0.003	26.700	3.060	0.037	0.021	177.400	0.011
NORTH CHROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.336	0.007	7.860	0.477	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.641	0.010	9.910	0.808	0 325	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.891	0.016	7.750	0.619	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	5.146	0.047	0.032	786.100	0.027
		NA	MC	Motorcycles	1.180	0.003	14.180	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.360	0.007	11.79	0.486	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.709	0.010	14.190	0.867	0.025	0.011	551.000	0.102
	****	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.757	0.016	27.510	0.760	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.036	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.898	3.007	0.694	0.296	0.047	0.032	786.100	0.027
NORTH DAKOTA		NA	MC	Motorcycles	0.920	0.003	29.870	2.840	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.36	0.007	11.790	0.483	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 /09	0.010	14.190	0.858	0.025	0.011	551.000	0.102
	Y 0377	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.924	0.016	8.650	0.554	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+11s)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC	Motorcycles	1.320	0.003	15.970	2.120	0.037	0.021	177.400	0.011
		Gasoline Gasoline	LDGV LDGT	Light-Duty Vehicles (Partienger Cars)	0.343	0.007 0.010	9.380 11.550	0.475 0.818	0.025 0.025	0.011	368.000 551.000	0.102 0.102
		Gasoline	HDGV	Light-Duty Trucks (0.5,500 lbs)	0.741	0.016		0.818	0.023	0.011	876.400	0.102
	HIGH	Diesel	LDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.741	0.003	25.670 0.715	0.770	0.041	0.026	314.100	0.043
	поп	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.713	0.097	0.041	0.026	598.600	0.007
		Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Daty Vehicles (8,501+ lbs)	0.342	0.006	0.694	0.320	0.049	0.034	786.100	0.007
		NA	MC	Motor ycles	0.860	0.007	27.610	2.850	0.047	0.032	177.400	0.027
OHIO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.343	0.003	9.380	0.472	0.037	0.021	368.000	0.102
		Gasoline	LDGV	Light-Duty Venicles (Fassenger Cars)	0.666	0.007	11.550	0.472	0.025	0.011	551.000	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.904	0.016	8.070	0.583	0.023	0.011	876.400	0.102
	LOW	Diesel	LPDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
	LOW	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.005	0.579	0.316	0.041	0.020	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.034	786.100	0.007
		N	MC	Motorcycles	1.240	0.007	14.700	2.130	0.037	0.032	177.400	0.027
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.345	0.007	8.130	0.491	0.025	0.021	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.650	0.010	10.220	0.838	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.731	0.016	25.190	0.819	0.041	0.026	876.400	0.045
	HV iH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
		NA	MC	Motorcycles	0.810	0.007	27.830	3.440	0.037	0.032	177.400	0.027
OKLAHOM		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.345	0.003	8.130	0.486	0.037	0.021	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.650	0.010	10.220	0.822	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.892	0.016	7.920	0.633	0.023	0.026	876.400	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786,100	0.027
<u> </u>		NA	MC	Motorcycles	1.170	0.003	14.790	2.610	0.037	0.032	177,400	0.011
					1.170	0.005	1//0	2.010	0.007	0.021	1,,,,,,,,,,	0.011

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV (cont.)

		Е. 1			Emission Factors (g/mi)								
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	S		
		Туре			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$	
		Gasoline	LDGV I	Light-Duty Vehicles (Passenger Cars)	0.340	0.007	9.840	0.459	0.025	0.011	368.00	0.102	
		Gasoline	LDGT I	Light-Duty Trucks (0-8,500 lbs)	0.670	0.010	12.050	0.792	0.025	0.011	551.000	0.102	
		Gasoline	HDGV I	Heavy-Duty Vehicles (8,501+ lbs)	0.745	0.016	26.000	0.740	0.041	0.026	76.400	0.045	
	HIGH	Diesel	LDDV I	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007	
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007	
		Diesel	HDDV I	Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	.032	786.100	0.027	
OREGON		NA	MC I	Motorcycles	0.870	0.003	27.650	2.690	0.037	0.021	177.400	0.011	
UKEGUN		Gasoline	LDGV I	Light-Duty Vehicles (Passenger Cars)	0.340	0.007	9.840	0.457	0.025	0.011	368.000	0.102	
		Gasoline	LDGT I	Light-Duty Trucks (0-8,500 lbs)	0.670	0.010	12.050	0.786	0 325	0.011	551.000	0.102	
		Gasoline	HDGV I	Heavy-Duty Vehicles (8,501+ lbs)	0.908	0.016	8.180	0.555	0.041	0.026	876.400	0.045	
	LOW	Diesel	LDDV I	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007	
		Diesel	LDDT I	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007	
		Diesel	HDDV I	Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	s.146	0.047	0.032	786.100	0.027	
		NA	MC I	Motorcycles	1.260	0.003	14.710	2.000	0.037	0.021	177.400	0.011	
		Gasoline	LDGV I	Light-Duty Vehicles (Passenger Cars)	0.315	0.007	6.81	0.455	0.025	0.011	368.000	0.102	
		Gasoline	LDGT I	Light-Duty Trucks (0-8,500 lbs)	0.614	0.010	8 310	0.769	0.025	0.011	551.000	0.102	
		Gasoline	HDGV I	Heavy-Duty Vehicles (8,501+ lbs)	0.724	0.016	23.790	0.764	0.041	0.026	876.400	0.045	
	HIGH	Diesel	LDDV I	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007	
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.036	0.614	0.320	0.049	0.034	598.600	0.007	
		Diesel	HDDV I	Heavy-Duty Vehicles (8,501+ lbs)	0.898	3.007	0.694	0.296	0.047	0.032	786.100	0.027	
		NA	MC I	Motorcycles	0.810	0.003	25.480	2.780	0.037	0.021	177.400	0.011	
PACIFIC ISLANDS		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.31	0.007	6.810	0.453	0.025	0.011	368.000	0.102	
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0 614	0.010	8.810	0.759	0.025	0.011	551.000	0.102	
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.883	0.016	7.480	0.598	0.041	0.026	876.400	0.045	
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007	
		Diesel	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007	
		Diesel		Heavy-Duty Vehicles (8,501+ 1/s)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027	
		NA		Motorcycles	1.160	0.003	13.500	2.080	0.037	0.032	177.400	0.011	
		Gasoline		Light-Duty Vehicles (Parsenger Cars)	0.343	0.007	9.720	0.472	0.025	0.021	368.000	0.102	
		Gasoline		Light-Duty Trucks (0.500 lbs)	0.670	0.010	11.920	0.816	0.025	0.011	551.000	0.102	
		Gasoline		Heavy-Duty Vehices (8,501+ lbs)	0.744	0.016	25.920	0.763	0.041	0.026	876.400	0.045	
	HIGH	Diesel	~~~~~	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007	
	mon	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.005	0.614	0.320	0.049	0.020	598.600	0.007	
		Diesel		Heavy-Day Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.326	0.047	0.034	786.100	0.007	
		NA		Motor ycles	0.870	0.007	27.810	2.750	0.037	0.032	177.400	0.027	
PENNSYLVANIA		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.343	0.003	9.720	0.470	0.037	0.021	368.000	0.102	
		Gasoline		Light-Duty Venicles (Passenger Cars)	0.545	0.007	11.920	0.470	0.025	0.011	551.000	0.102	
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.670	0.016	8.150	0.807	0.023	0.011	876.400	0.102	
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.016	0.715	0.097	0.041	0.026	314.100	0.043	
	LOW	Diesel		***************************************	0.108	0.003	0.713	0.097	0.041	0.026	598,600	0.007	
		Diesel		Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	0.342	0.006	0.379	0.316	0.049	0.034	786.100	0.007	
		N		Motorcycles	1.250	0.007	14.810	2.050	0.047	0.032	177.400	0.027	
				·									
		Casoline		Light-Duty Vehicles (Passenger Cars)	0.334	0.007 0.010	5.390 7.280	0.468 0.789	0.025 0.025	0.011	368.000 551.000	0.102 0.102	
		Gasoline		Light-Duty Trucks (0-8,500 lbs)									
	HZH	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.713	0.016	23.080	0.807	0.041	0.026	876.400	0.045	
	нан	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007	
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007	
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027	
PUERTO RIGO		NA C. J.		Motorcycles	0.760	0.003	25.900	2.960	0.037	0.021	177.400	0.011	
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.334	0.007	5.390	0.466	0.025	0.011	368.000	0.102	
		Gasoline	~~~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.610	0.010	7.280	0.773	0.025	0.011	551.000	0.102	
	Y 6	Gasoline	******************	Heavy-Duty Vehicles (8,501+ lbs)	0.870	0.016	7.260	0.643	0.041	0.026	876.400	0.045	
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007	
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007	
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027	
7		NA	MC I	Motorcycles	1.090	0.003	13.710	2.260	0.037	0.021	177.400	0.011	

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV (cont.)

	Type											
State	Altitude		Vehicle T	ype		(	Criteria Po	llutants ar	nd Ozone l	Precursor	s	
		Туре		1	NOx	$SO_X$	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehic	es (Passenger Cars)	0.341	0.007	9.470	0.468	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks	s (0-8,500 lbs)	0.666	0.010	11.650	0.807	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehi	cles (8,501+ lbs)	0.742	0.016	25.740	0.759	0.041	0.026	76.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehic	es (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks		0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehi	cles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	.032	786.100	0.027
RHODE ISLAND		NA	MC Motorcycles	(	0.860	0.003	27.580	2.740	0.037	0.021	177.400	0.011
KHODE ISLAND		Gasoline	LDGV Light-Duty Vehicle	es (Passenger Cars)	0.341	0.007	9.470	0.466	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks	s (0-8,500 lbs)	0.666	0.010	11.650	0.799	0 325	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehi	cles (8,501+ lbs)	0.905	0.016	8.090	0.573	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicle	es (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks	s (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehi	cles (8,501+ lbs)	0.881	0.007	0.281	5.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles		1.240	0.003	14.680	2.040	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehic	es (Passenger Cars)	0.338	0.007	7.48	0.484	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks	s (0-8,500 lbs)	0.637	0.010	9 520	0.825	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehi	cles (8,501+ lbs)	0.727	0.016	24.590	0.812	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehic	es (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks		0.342	0.056	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehi		0.898	5.007	0.694	0.296	0.047	0.032	786.100	0.027
SOUTH CAROLINA		NA	MC Motorcycles		0.800	0.003	26.920	3.190	0.037	0.021	177.400	0.011
SOUTH CAROLINA		Gasoline	LDGV Light-Duty Vehicle	<u> </u>	0.33	0.007	7.480	0.481	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks	s (0-8,500 lbs)	0 637	0.010	9.520	0.811	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehi	cles (8,501+ lbs)	0.886	0.016	7.730	0.634	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicle		0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks		0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehi		0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles		1.160	0.003	14.290	2.410	0.037	0.021	177.400	0.011
		Gasoline			0.352	0.007	10.470	0.466	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks		0.687	0.010	12.740	0.827	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehi		0.749	0.016	26.500	0.751	0.041	0.026	876.400	0.045
	HIGH	Diesel			0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks	s (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Day Vehi		0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
SOUTH DAKOTA		NA	MC Motor ycles		0.880	0.003	28.690	2.980	0.037	0.021	177.400	0.011
SOCIA DIMOTI		Gasoline			0.352	0.007	10.470	0.463	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks		0.687	0.010	12.740	0.817	0.025	0.011	551.000	0.102
		Gasoline	HDGY Heavy-Duty Vehi		0.913	0.016	8.330	0.553	0.041	0.026	876.400	0.045
	LOW	Diesel	***************************************		0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	ZDDT Light-Duty Trucks		0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehi		0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		N/	MC Motorcycles		1.270	0.003	15.310	2.230	0.037	0.021	177.400	0.011
		Casoline	***************************************		0.338	0.007	8.150	0.476	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks		0.647	0.010	10.230	0.815	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehi		0.732	0.016	24.860	0.789	0.041	0.026	876.400	0.045
	H <sup>r</sup> <sub>G</sub> H	Diesel			0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks		0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
	1	Diesel	HDDV Heavy-Duty Vehi		0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
TENNESSE		NA	MC Motorcycles		0.830	0.003	26.940	3.060	0.037	0.021	177.400	0.011
LETTLESSE		Gasoline			0.338	0.007	8.150	0.473	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks	s (0-8,500 lbs)	0.647	0.010	10.230	0.802	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehi		0.893	0.016	7.820	0.608	0.041	0.026	876.400	0.045
	LOW	Diesel			0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks		0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehi		0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles		1.190	0.003	14.320	2.300	0.037	0.021	177.400	0.011

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV (cont.)

		F1	•		•	E	mission Fa	actors (g/n	ni)	•	
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс		NOx	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.341	0.007	7.370	0.491	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.637	0.010	9.400	0.834	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.726	0.016	24.700	0.828	0.041	0.026	76.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	.032	786.100	0.027
TEXAS		NA	MC Motorcycles	0.790	0.003	27.500	3.370	0.037	0.021	177.400	0.011
IEAAS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.341	0.007	7.370	0.487	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.637	0.010	9.400	0.818	0 325	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.885	0.016	7.770	0.648	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	s.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	1.140	0.003	14.590	2.560	0.037	0.021	177.400	0.011
-		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.344	0.007	9.70	0.449	0.025	0.011	368.000	0.102
		Gasoline	LDGT   Light-Duty Trucks (0-8,500 lbs)	0.671	0.010	11.900	0.794	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.743	0.016	25.910	0.735	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.06	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.898	3.007	0.694	0.296	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	0.870	0.003	27.870	2.830	0.037	0.021	177.400	0.011
UTAH		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	_	0.007	9.700	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0 671	0.010	11.900	0.785	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.907	0.016	8.150	0.545	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Car	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	1.250	0.003	14.850	2.110	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	_	0.007	11.070	0.460	0.025	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (12,500 lbs)	0.694	0.010	13.390	0.400	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.753	0.016	26.940	0.733	0.023	0.026	876.400	0.102
	HIGH	Diesel	LDDV Light-Duty Veh cles (Passenger Cars)	~~~~~~~~~~	0.003	0.715	0.097	0.041	0.026	314.100	0.007
	mon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.005	0.614	0.320	0.041	0.020	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	0.342	0.007	0.694	0.320	0.049	0.034	786.100	0.007
		NA	MC Motor ycles	0.900	0.007	28.930	2.720	0.047	0.032	177.400	0.027
VERMONT				_				0.037			
		Gasoline		0.352	0.007	11.070	0.458		0.011	368.000	0.102
		Gasoline	LDGT Zight-Duty Trucks (0-8,500 lbs)	0.694	0.010	13.390	0.810	0.025	0.011	551.000	0.102
	LOW	Gasoline	HDG' Heavy-Duty Vehicles (8,501+ lbs)	0.918	0.016	8.470	0.536	0.041	0.026	876.400	0.045
	LOW	Diesel	LDOV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		N.	MC Motorcycles	1.300	0.003	15.440	2.030	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)		0.007	5.440	0.477	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.617	0.010	7.340	0.803	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.715	0.016	23.570	0.828	0.041	0.026	876.400	0.045
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)		0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
	1	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
VIRGIN ISLAYOS		NA	MC Motorcycles	0.730	0.003	27.660	3.060	0.037	0.021	177.400	0.011
, India idia idi		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)		0.007	5.440	0.475	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.617	0.010	7.340	0.785	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.871	0.016	7.410	0.661	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
l 🥖		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
					0.003		2,350	0.037		177.400	0.011

Table 5-28. On-Road Vehicle Emission Factors - 2016 POV (cont.)

		Evel	·		•		mission Fa			,	
State	Altitude	Fuel Type	Vehicle Type		. (	Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс		$NO_X$	SO <sub>X</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH,
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.338	0.007	8.450	0.472	0.025	0.011	368.000	0 102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.651	0.010	10.550	0.809	0.025	0.011	551.000	0.102
	HIGH	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.735 0.108	0.016	24.980	0.776 0.097	0.041 0.041	0.026 0.026	876.400 314.1.0	0.045
	поп	Diesel Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.108	0.003	0.715	0.097	0.041	0.026	59 .600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.320	0.049	0.034	86.100	0.007
		NA	MC Motorcycles	0.840	0.003	26.900	2.900	0.037	0.032	177.400	0.011
VIRGINIA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.338	0.007	8.450	0.469	0.025	0.01	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.651	0.010	10.550	0.798	0.025	0/11	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.896	0.016	7.850	0.595	0.041	o.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.6 47	0.032	786.100	0.027
		NA	MC Motorcycles	1.210	0.003	14.300	2.170	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)  LDGT Light-Duty Trucks (0-8,500 lbs)	0.341	0.007	10.010	0.461	0.025	0.011	368.000	0.102
		Gasoline Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)  HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.673 0.746	0.016	12.230 26.120	0.74	0.025	0.011	551.000 876.400	0.102
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	.097	0.041	0.026	314.100	0.043
	mon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.005	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	0.880	0.003	27.7.0	2.690	0.037	0.032	177.400	0.011
WASHINGTON		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.341	0.007	1 .010	0.459	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.673	0.010	12.230	0.791	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.910	0.016	8.210	0.555	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0 006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	1.260	0.003	14.790	2.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.34	0.007	9.170	0.468	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0 361	0.010	11.320	0.805	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.740	0.016	25.510	0.762	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
WEST VIRGINIA		NA	MC Motorcycles	0.860	0.003	27.370	2.770	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.340	0.007	9.170	0.465	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,50 lbs)	0.661	0.010	11.320	0.796	0.025	0.011	551.000	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (501+ lbs)	0.902	0.016	8.020	0.577	0.041	0.026	876.400	0.045
	LOW	Diesel Diesel	LDDV Light-Duty Vehicles Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.108	0.003	0.715	0.097	0.041	0.026	314.100 598.600	0.007
		Diesel	HDDV Heavy-Duty Vericles (8,501+ lbs)	0.342	0.007	0.281	0.316	0.049	0.034	786.100	0.007
		NA	MC Motorcycles	1.230	0.007	14.560	2.070	0.047	0.032	177.400	0.027
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.354	0.003	11.090	0.468	0.037	0.021	368.000	0.102
		Gasoline	LDGT Light-D ty Trucks (0-8,500 lbs)	0.696	0.010	13.410	0.831	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heav -Duty Vehicles (8,501+ lbs)	0.753	0.016	26.960	0.744	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Aght-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.007	0.694	0.296	0.047	0.032	786.100	0.027
WICCOMEIN		NA	M/ Motorcycles	0.900	0.003	29.090	2.780	0.037	0.021	177.400	0.011
WISCONSIN		Gasoline	IJ GV Light-Duty Vehicles (Passenger Cars)	0.354	0.007	11.090	0.465	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.696	0.010	13.410	0.823	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.918	0.016	8.480	0.544	0.041	0.026	876.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Desel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.881	0.007	0.281	0.146	0.047	0.032	786.100	0.027
		NA	MC Motorcycles	1.290	0.003	15.530	2.080	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.350	0.007	10.970	0.456	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.692	0.010	13.290	0.808	0.025	0.011	551.000	0.102
	IIICII	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.752	0.016	26.860	0.728	0.041	0.026	876.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)  HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.342	0.006 0.007	0.614	0.320 0.296	0.049 0.047	0.034	598.600 786.100	0.007
		Diesel NA	HDDV Heavy-Duty Vehicles (8,501+ lbs)  MC Motorcycles	0.898	0.007	28.760	2.710	0.047	0.032	177.400	0.027
WYOMP G		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.350	0.003	10.970	0.454	0.037	0.021	368.000	0.011
		Gasoline	LDGV Light-Duty Venicles (Passenger Cars)  LDGT Light-Duty Trucks (0-8,500 lbs)	0.350	0.007	13.290	0.454	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.092	0.016	8.450	0.532	0.023	0.026	876.400	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.332	0.041	0.026	314.100	0.043
	2011	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.005	0.713	0.316	0.041	0.020	598.600	0.007
		~~~~~~~	HDDV Heavy-Duty Vehicles (8,501+ lbs)	~~~~~~~~		~~~~~~~~~		0.047	0.032	786.100	0.007
		Diesel	HDDV Heavy-Duty venicles (8.501+ ins)	0.881	0.007	0.281	0.146		0.052		

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV

		Б. 1			•	E	mission Fa	actors (g/r	ni)	•	
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	S	
		Type		$NO_X$	$SO_X$	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.313	0.007	7.280	0.456	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.601	0.010	9.200	0.782	0.025	0.011	551,100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.634	0.016	24.280	0.749	0.039	0.024	76.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	.029	785.900	0.027
47 4D 437 4		NA	MC Motorcycles	0.800	0.003	26.910	3.180	0.037	0.021	177.400	0.011
ALABAMA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.313	0.007	7.280	0.453	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.601	0.010	9.200	0.768	0 325	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.774	0.016	7.630	0.583	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	<i>s</i> .143	0.044	0.029	785.900	0.027
		NA	MC Motorcycles	1.160	0.003	14.280	2.410	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.353	0.007	14.15	0.470	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.716	0.010	16.500	0.846	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.677	0.016	29.070	0.684	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.056	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.786	3.007	0.623	0.290	0.044	0.029	785.900	0.027
ALASKA		NA	MC Motorcycles	0.980	0.003	31.650	2.760	0.037	0.021	177.400	0.011
ALASKA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.35	0.007	14.150	0.469	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0/16	0.010	16.500	0.844	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.825	0.016	9.140	0.481	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC Motorcycles	1.410	0.003	16.960	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.315	0.007	7.620	0.460	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,5,500 lbs)	0.607	0.010	9.560	0.791	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.636	0.016	24.520	0.752	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
ARIZONA		NA	MC Motor ycles	0.810	0.003	27.160	3.280	0.037	0.021	177.400	0.011
ARIZONA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.315	0.007	7.620	0.456	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.607	0.010	9.560	0.777	0.025	0.011	551.100	0.102
		Gasoline	HDG Heavy-Duty Vehicles (8,501+ lbs)	0.776	0.016	7.710	0.584	0.039	0.024	876.100	0.045
	LOW	Diesel	LPOV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		N/I	MC Motorcycles	1.170	0.003	14.420	2.480	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.317	0.007	7.760	0.461	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.609	0.010	9.710	0.793	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.637	0.016	24.660	0.753	0.039	0.024	876.100	0.045
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
	1	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
ARKANSAS		NA	MC Motorcycles	0.810	0.003	27.370	3.340	0.037	0.021	177.400	0.011
THE PROPERTY OF		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.317	0.007	7.760	0.457	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.609	0.010	9.710	0.779	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.777	0.016	7.750	0.583	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC Motorcycles	1.170	0.003	14.540	2.530	0.037	0.021	177.400	0.011

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV (cont.)

		F1				•	E	mission Fa	actors (g/r	ni)	•	
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс			NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.307	0.007	7.520	0.446	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.601	0.010	9.430	0.765	0.025	0.011	551,100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.637	0.016	24.110	0.725	0.039	0.024	76.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	.029	785.900	0.027
CALIFORNIA		NA	MC	Motorcycles	0.820	0.003	26.280	2.880	0.037	0.021	177.400	0.011
CALIFORNIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.307	0.007	7.520	0.443	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.601	0.010	9.430	0.755	0 325	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.777	0.016	7.580	0.561	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	J.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.180	0.003	13.960	2.160	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.320	0.007	10.19	0.422	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.642	0.010	12.260	0.751	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.653	0.016	26.090	0.666	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.036	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	5.007	0.623	0.290	0.044	0.029	785.900	0.027
COLORADO		NA	MC	Motorcycles	0.880	0.003	28.240	2.710	0.037	0.021	177.400	0.011
COLORIDO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.32	0.007	10.190	0.420	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 642	0.010	12.260	0.745	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.797	0.016	8.200	0.488	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+11s)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.270	0.003	15.050	2.020	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.318	0.007	9.590	0.448	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.634	0.010	11.620	0.778	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.650	0.016	25.650	0.706	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vel cles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
CONNECTICUT		NA	MC	Motor ycles	0.870	0.003	27.860	2.760	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.318	0.007	9.590	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.634	0.010	11.620	0.770	0.025	0.011	551.100	0.102
	Y 0777	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.792	0.016	8.060	0.530	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		N/I	MC	Motorcycles	1.250	0.003	14.840	2.060	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	8.330	0.449	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.616	0.010	10.280	0.774	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.642	0.016	24.740	0.722	0.039	0.024	876.100	0.045
	HYGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
	1	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
DELAWARI		NA	MC	Motorcycles	0.840	0.003	27.020	2.990	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	8.330	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.616	0.010	10.280	0.763	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.783	0.016	7.780	0.552	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
•		NA	MC	Motorcycles	1.210	0.003	14.370	2.240	0.037	0.021	177.400	0.011

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV (cont.)

		Fuel						mission Fa		-	•	
State	Altitude	Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс			NOx	SOx	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light	t-Duty Vehicles (Passenger Cars)	0.311	0.007	6.260	0.451	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light	t-Duty Trucks (0-8,500 lbs)	0.587	0.010	8.150	0.768	0.025	0.011	551,100	0.102
		Gasoline	HDGV Heav	vy-Duty Vehicles (8,501+ lbs)	0.628	0.016	23.680	0.752	0.039	0.024	76.100	0.045
	HIGH	Diesel	LDDV Light	t-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		t-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel		vy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	.029	785.900	0.027
		NA		prcycles	0.770	0.003	26.730	2.990	0.037	0.021	177.400	0.011
FLORIDA		Gasoline	LDGV Light	t-Duty Vehicles (Passenger Cars)	0.311	0.007	6.260	0.448	0.025	0.011	368.000	0.102
		Gasoline		-Duty Trucks (0-8,500 lbs)	0.587	0.010	8.150	0.753	0 325	0.011	551.100	0.102
		Gasoline	HDGV Heav	vy-Duty Vehicles (8,501+ lbs)	0.766	0.016	7.440	0.592	0.039	0.024	876.100	0.045
	LOW	Diesel		t-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		t-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel		vy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	.143	0.044	0.029	785,900	0.027
		NA		orcycles	1.110	0.003	14.160	2.270	0.037	0.021	177.400	0.011
		Gasoline		t-Duty Vehicles (Passenger Cars)	0.312	0.007	7.18	0.455	0.025	0.021	368.000	0.102
		Gasoline		t-Duty Trucks (0-8,500 lbs)	0.600	0.010	9,100	0.780	0.025	0.011	551.100	0.102
		Gasoline		vy-Duty Vehicles (8,501+ lbs)	0.634	0.016	24.210	0.748	0.023	0.024	876.100	0.102
	HIGH	Diesel		t-Duty Vehicles (Passenger Cars)	0.034	0.003	0.692	0.087	0.039	0.023	314.100	0.007
	mon	Diesel		t-Duty Trucks (0-8,500 lbs)	0.088	0.003	0.600	0.305	0.038	0.023	598.600	0.007
		Diesel		vy-Duty Vehicles (8,501+ lbs)	0.786	3.007	0.623	0.303	0.047	0.032	785.900	0.007
		NA		. <del>*</del>	0.800	0.003		3.160	0.044	0.029		
GEORGIA				orcycles C	0.800		26.850				177.400	0.011
		Gasoline		t-Duty Vehicles (Passenger Cars)		0.007	7.180	0.452	0.025	0.011	368.000	0.102
		Gasoline		t-Duty Trucks (0-8,500 lbs)	000	0.010	9.100	0.766	0.025	0.011	551.100	0.102
	Y 0111	Gasoline		vy-Duty Vehicles (8,501+ lbs)	0.773	0.016	7.610	0.583	0.039	0.024	876.100	0.045
	LOW	Diesel	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	t-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		t-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel		vy-Duty Vehicles (8,501+10s)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA		orcycles	1.150	0.003	14.250	2.390	0.037	0.021	177.400	0.011
		Gasoline		t-Duty Vehicles (Parsenger Cars)	0.297	0.007	5.930	0.434	0.025	0.011	368.000	0.102
		Gasoline		t-Duty Trucks (05,500 lbs)	0.575	0.010	7.780	0.736	0.025	0.011	551.100	0.102
		Gasoline		vy-Duty Vehicles (8,501+ lbs)	0.627	0.016	22.960	0.720	0.039	0.024	876.100	0.045
	HIGH	Diesel		t-Duty Veh cles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light	t-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel		vy-Day Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
HAWAII		NA		ycles	0.790	0.003	25.120	2.810	0.037	0.021	177.400	0.011
nawan		Gasoline		-Duty Vehicles (Passenger Cars)	0.297	0.007	5.930	0.433	0.025	0.011	368.000	0.102
		Gasoline		t-Duty Trucks (0-8,500 lbs)	0.575	0.010	7.780	0.725	0.025	0.011	551.100	0.102
		Gasoline		vy-Duty Vehicles (8,501+ lbs)	0.765	0.016	7.220	0.567	0.039	0.024	876.100	0.045
	LOW	Diesel	LDOV Light	t-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light	t-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV Heav	vy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		N/	MC Moto	orcycles	1.140	0.003	13.310	2.110	0.037	0.021	177.400	0.011
		Casoline	LDGV Light	t-Duty Vehicles (Passenger Cars)	0.321	0.007	10.440	0.423	0.025	0.011	368.000	0.102
		Gasoline		t-Duty Trucks (0-8,500 lbs)	0.646	0.010	12.520	0.753	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heav	vy-Duty Vehicles (8,501+ lbs)	0.655	0.016	26.280	0.665	0.039	0.024	876.100	0.045
	HV JH	Diesel	LDDV Light	t-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light	t-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
	7	Diesel		vy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
VD.1773		NA		prcycles	0.890	0.003	28.410	2.690	0.037	0.021	177.400	0.011
IDAHO		Gasoline		t-Duty Vehicles (Passenger Cars)	0.321	0.007	10.440	0.421	0.025	0.011	368.000	0.102
		Gasoline		t-Duty Trucks (0-8,500 lbs)	0.646	0.010	12.520	0.747	0.025	0.011	551.100	0.102
		Gasoline		vy-Duty Vehicles (8,501+ lbs)	0.799	0.016	8.260	0.485	0.039	0.024	876.100	0.045
	LOW	Diesel		t-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		t-Duty Trucks (0-8,500 lbs)	0.317	0.005	0.565	0.302	0.038	0.032	598.600	0.007
		Diesel		vy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.302	0.047	0.032	785.900	0.007
		NA		orcycles	1.280	0.007	15.140	2.000	0.044	0.029	177.400	0.027
	1	INA	IVIC IVIOLO	леуска	1.200	0.003	15.140	2.000	0.057	0.021	177.400	0.011

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV (cont.)

State   Altitude   Type   Vehicle Type     Criteria Pollutants and Ozone   NO <sub>x</sub>   SO <sub>x</sub>   CO   VOC   PM <sub>10</sub>   NO <sub>x</sub>   N	PM <sub>2.5</sub> 0.011 0.011 0.024 0.023 0.022 0.029 0.021	CO <sub>2</sub> 368.00 551.100 76.100 314.100 598.600 785.900	NH <sub>3</sub> 0.102 0.102 0.045 0.007
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.319   0.007   9.080   0.455   0.025	0.011 0.011 0.024 0.023 0.02 0.02 0.021	368.000 551.100 76.100 314.100 598.600 785.900	0.102 0.102 0.045 0.007
HIGH	0.011 0.024 0.023 0.072 .029 0.021 0.011	551400 76.100 314.100 598.600 785.900	0.102 0.045 0.007
HIGH   Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.646   0.016   25.290   0.725   0.039	0.024 0.023 0.072 .029 0.021 0.011	76.100 314.100 598.600 785.900	0.045 0.007
HIGH   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.600   0.305   0.047     Diesel   HDDV   Heavy-Duty Vehicles (8,501+lbs)   0.786   0.007   0.623   0.290   0.044     NA   MC   Motorcycles   0.860   0.003   27.670   3.060   0.037     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.319   0.007   9.080   0.452   0.032     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.628   0.010   11.080   0.778   0.252     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+lbs)   0.788   0.016   7.950   0.549   0.039     Output   Diesel   Duty   Duty Vehicles (8,501+lbs)   0.788   0.016   7.950   0.549   0.039     Output   Duty	0.023 0.072 .029 0.021 0.011	314.100 598.600 785.900	0.007
Diesel LDDT Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.600   0.305   0.047	0.032 .029 0.021 0.011	598.600 785.900	
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.786   0.007   0.623   0.290   0.044   NA   MC   Motorcycles   0.860   0.003   27.670   3.060   0.037	0.029 0.021 0.011	785.900	0.007
NA   MC   Motorcycles   0.860   0.003   27.670   3.060   0.037	0.021 0.011		0.007
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.319   0.007   9.080   0.452   0.025	0.011	100 100	0.027
Gasoline         LDGV         Light-Duty Vehicles (Passenger Cars)         0.319         0.007         9.080         0.452         0.02           Gasoline         LDGT         Light-Duty Trucks (0-8,500 lbs)         0.628         0.010         11.080         0.778         0.25           Gasoline         HDGV         Heavy-Duty Vehicles (8,501+ lbs)         0.788         0.016         7.950         0.549         0.039		177.400	0.011
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.788 0.016 7.950 0.549 0.039		368.000	0.102
	0.011	551.100	0.102
I OW   Dissel   I DDV   Liste Duty Validas (December Com)   0.000   0.000   0.000   0.000	0.024	876.100	0.045
	0.023	314.100	0.007
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.317 0.006 0.565 0.32 0.047	0.032	598.600	0.007
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 0.770 0.007 0.252 1.43 0.044	0.029	785.900	0.027
NA MC Motorcycles 1.230 0.003 14.730 2.300 0.037	0.021	177.400	0.011
Gasoline         LDGV         Light-Duty Vehicles (Passenger Cars)         0.318         0.007         9.05         0.451         0.025	0.011	368.000	0.102
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.627 0.010 1050 0.781 0.025	0.011	551.100	0.102
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.646 0.016 25.250 0.718 0.039	0.024	876.100	0.045
HIGH Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.088 0.003 0.692 0.087 0.038	0.023	314.100	0.007
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.317 0.65 0.600 0.305 0.047	0.032	598.600	0.007
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 0.786 7.007 0.623 0.290 0.044	0.029	785.900	0.027
INDIANA NA MC Motorcycles 0.860 0.003 27.550 2.950 0.037	0.021	177.400	0.011
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.31 0.007 9.050 0.448 0.025	0.011	368.000	0.102
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs)   1627   0.010   11.050   0.771   0.025	0.011	551.100	0.102
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.788 0.016 7.940 0.543 0.039	0.024	876.100	0.045
LOW Diesel LDDV Light-Duty Vehicles (Passenger Cars 0.088 0.003 0.692 0.087 0.038	0.023	314.100	0.007
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.565   0.302   0.047	0.032	598.600	0.007
Diesel HDDV Heavy-Duty Vehicles (8,501+1/s) 0.770 0.007 0.252 0.143 0.044	0.029	785.900	0.027
NA MC Motorcycles 1.230 0.003 14.670 2.220 0.037	0.021	177.400	0.011
Gasoline LDGV Light-Duty Vehicles (Parenger Cars) 0.324 0.007 9.960 0.435 0.025	0.011	368.000	0.102
Gasoline LDGT Light-Duty Trucks (0.500 lbs) 0.643 0.010 12.020 0.776 0.025	0.011	551.100	0.102
Gasoline HDGV Heavy-Duty Vehices (8,501+ lbs) 0.652 0.016 25.940 0.690 0.039	0.024	876.100	0.045
HIGH Diesel LDDV Light-Duty Vertees (Passenger Cars) 0.088 0.003 0.692 0.087 0.038	0.023	314.100	0.007
Diesel LDDT Light-Duty ducks (0-8,500 lbs) 0.317 0.006 0.600 0.305 0.047	0.032	598.600	0.007
Diesel HDDV Heavy-Dry Vehicles (8,501+ lbs) 0.786 0.007 0.623 0.290 0.044	0.029	785.900	0.027
IOWA NA MC Motor ycles 0.880 0.003 28.410 3.000 0.037	0.021	177.400	0.011
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.324 0.007 9.960 0.432 0.025	0.011	368.000	0.102
Gasoline LDGT Aght-Duty Trucks (0-8,500 lbs) 0.643 0.010 12.020 0.766 0.025	0.011	551.100	0.102
Gasoline HDG Heavy-Duty Vehicles (8,501+ lbs) 0.795 0.016 8.160 0.508 0.039	0.024	876.100	0.045
LOW Diesel LPOV Light-Duty Vehicles (Passenger Cars) 0.088 0.003 0.692 0.087 0.038	0.023	314.100	0.007
Diesel CDDT Light-Duty Trucks (0-8,500 lbs) 0.317 0.006 0.565 0.302 0.047	0.032	598.600	0.007
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 0.770 0.007 0.252 0.143 0.044	0.029	785.900	0.027
N MC Motorcycles 1.260 0.003 15.150 2.250 0.037	0.021	177.400	0.011
Goline LDGV Light-Duty Vehicles (Passenger Cars) 0.321 0.007 8.660 0.459 0.025	0.011	368.000	0.102
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.624 0.010 10.650 0.792 0.025	0.011	551.100	0.102
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.643 0.016 25.190 0.739 0.039	0.024	876.100	0.045
HGH Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.088 0.003 0.692 0.087 0.038	0.023	314.100	0.007
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.317 0.006 0.600 0.305 0.047	0.032	598.600	0.007
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 0.786 0.007 0.623 0.290 0.044	0.029	785.900	0.027
KANSAS NA MC Motorcycles 0.840 0.003 27.810 3.290 0.037	0.021	177.400	0.011
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.321 0.007 8.660 0.455 0.025	0.011	368.000	0.102
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.624 0.010 10.650 0.779 0.025	0.011	551.100	0.102
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.784 0.016 7.920 0.563 0.039	0.024	876.100	0.045
LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.088         0.003         0.692         0.087         0.038	0.023	314.100	0.007
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.317 0.006 0.565 0.302 0.047	0.032	598.600	0.007
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 0.770 0.007 0.252 0.143 0.044	0.029	785.900	0.027
NA MC Motorcycles 1.200 0.003 14.800 2.490 0.037	0.021	177.400	0.011

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV (cont.)

State		Fuel		Emission Factors (g/mi)								
State	Altitude	Type	Vehicle Type			Criteria Po		nd Ozone	Precursor	S		
		Турс		$NO_X$	SO <sub>X</sub>	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>	
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.315	0.007	8.330	0.450	0.025	0.011	368.00	0.102	
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.616	0.010	10.290	0.776	0.025	0.011	551,100	0.102	
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.642	0.016	24.760	0.724	0.039	0.024	76.100	0.045	
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007	
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007	
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	.029	785.900	0.027	
KENTUCKY		NA	MC Motorcycles	0.840	0.003	27.070	3.010	0.037	0.021	177.400	0.011	
RENTOCKT		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.315	0.007	8.330	0.446	0.025	0.011	368.000	0.102	
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.616	0.010	10.290	0.765	0 325	0.011	551.100	0.102	
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.782	0.016	7.780	0.554	0.039	0.024	876.100	0.045	
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007	
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007	
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	3.143	0.044	0.029	785.900	0.027	
		NA	MC Motorcycles	1.210	0.003	14.390	2.260	0.037	0.021	177.400	0.011	
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.314	0.007	6.94	0.459	0.025	0.011	368.000	0.102	
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.598	0.010	8 360	0.783	0.025	0.011	551.100	0.102	
		Gasoline	HDGV   Heavy-Duty Vehicles (8,501+ lbs)	0.632	0.016	24.190	0.758	0.039	0.024	876.100	0.045	
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007	
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.036	0.600	0.305	0.047	0.032	598.600	0.007	
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.786	3.007	0.623	0.290	0.044	0.029	785.900	0.027	
LOUISIANA		NA	MC Motorcycles	0.790	0.003	27.220	3.260	0.037	0.021	177.400	0.011	
LOUBIANA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.31	0.007	6.940	0.455	0.025	0.011	368.000	0.102	
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.598	0.010	8.860	0.768	0.025	0.011	551.100	0.102	
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.771	0.016	7.610	0.593	0.039	0.024	876.100	0.045	
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007	
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007	
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027	
		NA	MC Motorcycles	1.130	0.003	14.430	2.480	0.037	0.021	177.400	0.011	
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.328	0.007	11.230	0.439	0.025	0.011	368.000	0.102	
		Gasoline	LDGT Light-Duty Trucks (05,500 lbs)	0.661	0.010	13.370	0.785	0.025	0.011	551.100	0.102	
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.659	0.016	26.880	0.679	0.039	0.024	876.100	0.045	
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007	
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007	
		Diesel	HDDV Heavy-Daty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027	
MAINE		NA	MC Motor ycles	0.910	0.003	29.210	2.730	0.037	0.021	177.400	0.011	
MAINE		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.328	0.007	11.230	0.438	0.025	0.011	368.000	0.102	
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.661	0.010	13.370	0.779	0.025	0.011	551.100	0.102	
		Gasoline	HDG Heavy-Duty Vehicles (8,501+ lbs)	0.804	0.016	8.450	0.493	0.039	0.024	876.100	0.045	
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007	
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007	
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027	
		N	MC Motorcycles	1.310	0.003	15.590	2.030	0.037	0.021	177.400	0.011	
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.315	0.007	8.520	0.444	0.025	0.011	368.000	0.102	
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.618	0.010	10.480	0.766	0.025	0.011	551.100	0.102	
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.643	0.016	24.850	0.712	0.039	0.024	876.100	0.045	
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007	
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007	
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027	
MARYLANI		NA	MC Motorcycles	0.840	0.003	27.100	2.920	0.037	0.021	177.400	0.011	
MARILAN		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.315	0.007	8.520	0.441	0.025	0.011	368.000	0.102	
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.618	0.010	10.480	0.756	0.025	0.011	551.100	0.102	
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.784	0.016	7.810	0.542	0.039	0.024	876.100	0.045	
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007	
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007	
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027	
		NA	MC Motorcycles	1.210	0.003	14.410	2.190	0.037	0.021	177.400	0.011	

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV (cont.)

							E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel		Vehicle Type			Criteria Po				S	
		Type		••	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.318	0.007	9.750	0.448	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.636	0.010	11.790	0.779	0.025	0.011	551,100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.651	0.016	25.770	0.705	0.039	0.024	76.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	.029	785.900	0.027
MASSACHUSETTS		NA	MC	Motorcycles	0.870	0.003	27.960	2.750	0.037	0.021	177.400	0.011
MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.318	0.007	9.750	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.636	0.010	11.790	0.771	0 325	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.793	0.016	8.100	0.528	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	1.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.260	0.003	14.900	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.323	0.007	10.50	0.430	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.648	0.010	12.590	0.766	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.655	0.016	26.330	0.674	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.056	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	5.007	0.623	0.290	0.044	0.029	785.900	0.027
MICHIGAN		NA	MC	Motorcycles	0.890	0.003	28.590	2.730	0.037	0.021	177.400	0.011
Michigh		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.32	0.007	10.500	0.428	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 648	0.010	12.590	0.759	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.799	0.016	8.280	0.493	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+11s)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.280	0.003	15.250	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.332	0.007	11.480	0.456	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,5,500 lbs)	0.667	0.010	13.650	0.818	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.661	0.016	27.090	0.700	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vel cles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
MINNESOTA		NA	MC	Motor ycles	0.910	0.003	29.750	2.840	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.332	0.007	11.480	0.453	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.667	0.010	13.650	0.810	0.025	0.011	551.100	0.102
	Y 0777	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.806	0.016	8.520	0.509	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		N/	MC	Motorcycles	1.310	0.003	15.900	2.120	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	7.280	0.459	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.602	0.010	9.210	0.786	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.634	0.016	24.350	0.754	0.039	0.024	876.100	0.045
	HYGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
MISSISSIPP		NA	MC	Motorcycles	0.800	0.003	27.120	3.260	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	7.280	0.455	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.602	0.010	9.210	0.771	0.025	0.011	551.100	0.102
	Y 077	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.774	0.016	7.650	0.587	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.150	0.003	14.400	2.470	0.037	0.021	177.400	0.011

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV (cont.)

MISSOURI			Fuel	·		•		mission Fa			•	
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   303   0.077   8.640   0.455   0.025   0.011   3560   0.010	State	Altitude	Fuel	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
HIGH   Dissel   DIOT   Light Duty Princis (6.8501 hs)   0.623   0.010   10.620   0.785   0.025   0.011   \$5,900   0.704   0.010   0.014   0.016   0.014   0.016   0.014   0.016   0.014   0.016   0.014   0.016   0.014   0.016   0.014   0.016   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.			Турс		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
HIGH   Diesel   LDDV   Light-Duty Vehicles (8,50)+- ho;   0.643   0.016   25,080   0.730   0.039   0.024   976,100   0.034   Diesel   LDDV   Light-Duty Vehicles (8,50)- ho;   0.088   0.036   0.092   0.087   0.088   0.023   0.014   0.007   0.008   0.030   0.007   0.008   0.003   0.008   0.003   0.008   0.003   0.008   0.003   0.008   0.003   0.008   0.003   0.008   0.003   0.008   0.003   0.008   0.003   0.008   0.003   0.008   0.003   0.008   0.003   0.008   0.003   0.008   0.003   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008			Gasoline	LDGV Light-Duty Vehicles (Pas	ssenger Cars) 0.319	0.007	8.640	0.455	0.025	0.011	368.00	0.102
HIGH   Dissel   LDDV   Light Duty Vehicks (Passenger Cars)   0.088   0.003   0.092   0.087   0.098   0.092   0.087   0.094   0.094   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095   0.095			Gasoline	LDGT Light-Duty Trucks (0-8,5	00 lbs) 0.623	0.010	10.620	0.785	0.025	0.011	551,100	0.102
Diesel   LIDDY   Light-Duy Tracks (0.8500 hs)   0.786   0.070   0.035   0.047   0.096   0.980   0.007			Gasoline	HDGV Heavy-Duty Vehicles (8,	501+ lbs) 0.643	0.016	25.080	0.730	0.039	0.024	76.100	0.045
Dissel		HIGH	Diesel	LDDV Light-Duty Vehicles (Pas	ssenger Cars) 0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
MISSOURI			Diesel			0.006	0.600	0.305	0.047	0.072	598.600	0.007
Cassoline   LDGV   Light-Duy Yehicks (Passenger Cars)   0.319   0.007   8.66   0.651   0.025   0.001   888,000   0.10			Diesel	HDDV Heavy-Duty Vehicles (8,	501+ lbs) 0.786	0.007	0.623	0.290	0.044	.029	785.900	0.027
MONTANA   Casoline   LDCV   Light-Duy Vehicles (Passenger Cars)   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.	MISSOURI		NA	MC Motorcycles	0.840	0.003	27.560	3.170	0.037	0.021	177.400	0.011
LOW   Diesel   LOW   Heavy-Duy Vehicks (S.91-liss)   0.784   0.016   7.88   0.555   0.039   0.024   876,100   0.042     Diesel   LODT   Light-Duy Trucks (0.8500 hs)   0.317   0.006   0.565   0.32   0.047   0.023   314,100   0.007     Diesel   LODT   Light-Duy Trucks (0.8500 hs)   0.770   0.007   0.255   0.007   0.0022   0.007   0.002   0.007     NA   MC   Motorcycles   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008     Diesel   LOT   Light-Duy Vehicks (Passenger Cars)   0.008   0.007   0.025   0.010   0.005   0.011   0.001   0.010     Diesel   LOT   Light-Duy Vehicks (Passenger Cars)   0.055   0.007   0.025   0.007   0.025   0.011   0.005   0.010     Diesel   LOT   Light-Duy Vehicks (Passenger Cars)   0.088   0.007   0.025   0.075   0.005   0.007   0.025   0.001   0.002   0.004   0.002   0.004   0.002   0.004   0.002   0.004   0.002   0.004   0.003   0.002   0.004   0.003   0.002   0.004   0.003   0.002   0.004   0.003   0.002   0.004   0.003   0.004   0.003   0.004   0.003   0.004   0.004   0.003   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004	MISSOURI		Gasoline	LDGV Light-Duty Vehicles (Pas	ssenger Cars) 0.319	0.007	8.640	0.451	0.025	0.011	368.000	0.102
LOW   Dissel   LDDV   Light-Duy Vehicks (Passenger Cars)   0.088   0.003   0.092   0.088   0.028   0.023   0.043   0.023   0.085   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.032   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0.086   0			Gasoline	LDGT Light-Duty Trucks (0-8,5	00 lbs) 0.623	0.010	10.620	0.773	0 325	0.011	551.100	0.102
Diesel   LDDT   Light-Duy Trucks (0.8500 hs)   0.317   0.005   0.555   0.356   0.047   0.023   598.600   0.007     Diesel   HDDV   Heavy-Duy Vehicks (8.501-hs)   0.770   0.007   0.252   0.007   0.007   0.002   775.900   0.007     Gasoline   LDGT   Light-Duy Vehicks (8.8500 hs)   0.555   0.010   1.050   0.073   0.002   0.011   368.000   0.101     HGH   HGH   Diesel   LDDV   Light-Duy Vehicks (8.91-hs)   0.657   0.016   256.20   0.075   0.002   0.011   551.00   0.002     Diesel   DDV   Light-Duy Vehicks (8.91-hs)   0.657   0.016   256.20   0.075   0.039   0.024   876.00   0.057     Diesel   LDDV   Light-Duy Vehicks (8.91-hs)   0.786   0.007   0.023   0.007   0.023   598.600   0.007     Diesel   LDDV   Light-Duy Vehicks (8.91-hs)   0.786   0.007   0.023   0.004   0.002   598.600   0.007     Diesel   LDDV   Light-Duy Vehicks (8.91-hs)   0.786   0.007   0.023   0.004   0.002   598.600   0.007     Diesel   LDDV   Light-Duy Trucks (0.8500 hs)   0.306   0.007   0.023   0.004   0.002   785.00   0.022     NA			Gasoline	HDGV Heavy-Duty Vehicles (8,	501+ lbs) 0.784	0.016	7.880	0.556	0.039	0.024	876.100	0.045
Dissel   HDDV   Heavy-Duty Vehickes (\$501-i hs)   0.770   0.007   0.022   4.143   0.044   0.029   785.000   0.027		LOW	Diesel	LDDV Light-Duty Vehicles (Pas	ssenger Cars) 0.088	0.003	0.692		0.038	0.023	314.100	0.007
NA   MC   Motorcycles   1.210   0.008   1.4669   2.390   0.037   0.021   177.400   0.010			Diesel	LDDT Light-Duty Trucks (0-8,5	00 lbs) 0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
MONTANA   HIGH   Casoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.325   0.007   10.87   0.433   0.025   0.011   368.000   0.102			Diesel	HDDV Heavy-Duty Vehicles (8,	501+ lbs) 0.770	0.007	0.252	5.143	0.044	0.029	785.900	0.027
MONTANA   HIGH   Digit-Duy Tracks (0.8-500 hs)   0.655   0.010   1.000   0.773   0.025   0.011   551.100   0.005			NA	MC Motorcycles	1.210	0.003	14.660	2.390	0.037	0.021	177.400	0.011
MONTANA			Gasoline	LDGV Light-Duty Vehicles (Pas	ssenger Cars) 0.325	0.007	10.89	0.433	0.025	0.011	368.000	0.102
MONTANA			Gasoline	LDGT   Light-Duty Trucks (0-8,5	00 lbs) 0.655	0.010	12.000	0.773	0.025	0.011	551.100	0.102
MONTANA		1	Gasoline	HDGV Heavy-Duty Vehicles (8,	501+ lbs) 0.657	0.016		0.675	0.039	0.024	876.100	0.045
Diesel   LDDT   Light-Duy Trucks (0-8500 lbs)   0.317   0.965   0.600   0.305   0.047   0.032   598,600   0.007		HIGH	Diesel	LDDV Light-Duty Vehicles (Pas	ssenger Cars) 0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
Diesel HDDV   Heavy-Duty Vehicks (R,501+ lbs)   0.786   0.007   0.623   0.290   0.044   0.029   785,900   0.027			Diesel			0.036	0.600	0.305	0.047	0.032	598.600	0.007
MONTANA   Gasoline   LDGY   Light-Duty Vehicks (Passenger Cars)   0.35   0.007   10.890   0.431   0.025   0.011   368.000   0.102			Diesel	HDDV Heavy-Duty Vehicles (8,	501+ lbs) 0.786		0.623	0.290	0.044	0.029	785.900	0.027
Casoline   LDGT   Light-Duty Vehicks (Rassenger Cars)   0.37   0.007   0.076   0.025   0.011   368,000   0.102	*********		NA	MC Motorcycles	0.900	0.003	28.890	2.710	0.037	0.021	177.400	0.011
LOW   Casoline   LDGV   Heavy-Duty Vehicles (R-S001 hs)   0.852   0.010   13.000   0.767   0.025   0.011   551.100   0.102	MONTANA											0.102
LOW							***************************************					0.102
LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Car)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007			~~~~~~~~~					~~~~~~~~~~		***************************************		
Diesel   LDDT   Light-Duty Trucks (0-8.500 lbs)   0.317   0.006   0.565   0.302   0.047   0.032   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8.501+15)   0.770   0.007   0.252   0.143   0.044   0.029   785.500   0.007     NA   MC   Motorcycles   1.300   0.003   15.410   2.020   0.037   0.021   177.400   0.011     Gasoline   LDGV   Light-Duty Vehicles (Palenger Cars)   0.322   0.007   9.440   0.430   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Vehicles (Palenger Cars)   0.332   0.007   9.440   0.430   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Vehicles (Palenger Cars)   0.083   0.010   11.460   0.767   0.025   0.011   551.100   0.102     Gasoline   LDDT   Light-Duty Vehicles (Palenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Diesel   LDDT   Light-Duty Vehicles (Palenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     NA   MC   Motorcycles   0.320   0.360   0.007   0.623   0.290   0.044   0.029   785.900   0.027     NA   MC   Motorcycles   0.3860   0.003   27.940   3.040   0.037   0.021   177.400   0.011     Gasoline   LDGT   Light-Duty Vehicles (Palenger Cars)   0.322   0.007   0.440   0.427   0.025   0.011   368.000   0.014     Gasoline   LDGT   Light-Duty Vehicles (Palenger Cars)   0.322   0.007   0.404   0.025   0.011   368.000   0.014     LOW   Diesel   LDGV   Light-Duty Vehicles (Palenger Cars)   0.385   0.010   11.460   0.756   0.025   0.011   531.00   0.025     Na   MC   Motorcycles   0.025   0.025   0.011   0.030   0.024   876.100   0.025     Na   MC   Motorcycles   0.025   0.035   0.037   0.021   177.400   0.012     Diesel   LDGV   Light-Duty Vehicles (Palenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Na   MC   Motorcycles   0.025   0.011   0.025   0.025   0.011   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025		LOW										
Diesel   HDDV   Heavy-Duty Vehicles (8.501+16.5)   0.770   0.007   0.252   0.143   0.044   0.029   785.900   0.027     NA MC   Motorcycles   1.300   0.003   15.410   2.020   0.037   0.021   177.400   0.011     Gasoline   LDGT   Light-Duty Vehicles (Pa lenger Cars)   0.332   0.007   9.440   0.430   0.025   0.011   368.000   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8.501+1bs)   0.635   0.010   11.460   0.767   0.025   0.011   368.000   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8.501+1bs)   0.648   0.016   25.540   0.690   0.039   0.024   876.100   0.045     Diesel   LDDT   Light-Duty Trucks (0.8500 lbs)   0.317   0.006   0.600   0.305   0.047   0.032   598.600   0.007     Diesel   HDDV   Heavy-Dify Vehicles (8.501+1bs)   0.786   0.007   0.623   0.290   0.044   0.029   785.900   0.027     NA MC   Motorcycles   0.860   0.003   27.940   0.427   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0.8500 lbs)   0.332   0.003   27.404   0.427   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0.8500 lbs)   0.635   0.010   11.460   0.756   0.025   0.011   358.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0.8500 lbs)   0.635   0.010   11.460   0.756   0.025   0.011   358.000   0.102     LOW   Diesel   LDOT   Light-Duty Trucks (0.8500 lbs)   0.317   0.006   0.565   0.302   0.047   0.032   598.600   0.007     Diesel   LDOT   Light-Duty Trucks (0.8500 lbs)   0.317   0.006   0.565   0.302   0.047   0.032   598.600   0.007     NEWADA   MC Motorcycles   1.240   0.003   14.890   2.280   0.037   0.021   177.400   0.011     Gasoline   LDGT   Light-Duty Vehicles (8.501+1bs)   0.770   0.007   0.252   0.143   0.044   0.029   785.900   0.027     NEWADA   MC Motorcycles   0.860   0.003   0.0626   0.010   11.130   0.768   0.025   0.011   358.000   0.003     Diesel   LDGT   Light-Duty Vehicles (8.501+1bs)   0.786   0.007   0.913   0.444   0.025   0.011   358.000   0.003     Diesel   LDGT   Light-Duty Vehicles (8.501+1bs)   0.786   0.007   0.007   0.007   0.009   0.004			~~~~~		······································					***************************************		
NA				6 7								
NEBRASKA   HIGH   Gasoline   LDGV   Light-Duty Vehicles (Pasenger Cars)   0.322   0.007   9.440   0.430   0.025   0.011   368.000   0.102   0.103   0.102   0.101   0.102   0.101   0.102   0.102   0.101   0.102   0.102   0.101   0.102   0.102   0.101   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102   0.102			~~~~~						~~~~~~~~~~~			
NEBRASKA   HIGH   Holy   Light-Duty Trucks (0.500 lbs)   0.635   0.010   11.460   0.767   0.025   0.011   551.100   0.102				<del></del>								
HIGH   Diesel   LDDV   Light-Duty Vehicles (8,501+ lbs)   0.648   0.016   25.540   0.690   0.039   0.024   876,100   0.045									~~~~~~~~~~~~			
NEBRASKA   HIGH   Diesel   LDDV   Light-Duty Verles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007												
NEBRASKA  NEBRAS		HIGH						~~~~~~~~~~~		***************************************	~~~~~~~~~~	~~~~~~~~~
Diesel   HDDV   Heavy-Dirty Vehicles (8,501+ lbs)   0.786   0.007   0.623   0.290   0.044   0.029   785.900   0.027     NA   MC   Motor Veles   0.860   0.003   27.940   3.040   0.037   0.021   177.400   0.011     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.322   0.007   9.440   0.427   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.635   0.010   11.460   0.756   0.025   0.011   551.100   0.102     Gasoline   LDGV   Light-Duty Vehicles (8,501+ lbs)   0.791   0.016   8.030   0.511   0.039   0.024   876.100   0.045     Diesel   LDGV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Diesel   LDGV   Light-Duty Vehicles (Passenger Cars)   0.770   0.007   0.252   0.143   0.044   0.029   785.900   0.027     NA   MC   Motorcycles   1.240   0.003   14.890   2.280   0.037   0.021   177.400   0.011     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.316   0.007   9.130   0.444   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.316   0.007   9.130   0.444   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.316   0.007   9.130   0.444   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.316   0.007   0.030   0.030   0.030   0.024   876.100   0.045     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.316   0.007   0.623   0.290   0.044   0.029   785.900   0.027     NA   MC   Motorcycles   0.860   0.003   27.480   2.780   0.037   0.021   177.400   0.011     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.316   0.007   9.130   0.441   0.025   0.011   368.000   0.007     NA   MC   Motorcycles   0.860   0.003   27.480   2.780   0.037   0.021   177.400   0.011     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.316   0.0		mon										
NEBRASKA   Sasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.322   0.007   9.440   0.427   0.025   0.011   368.000   0.102					501± lbc) 0.317							
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.322   0.007   9.440   0.427   0.025   0.011   368.000   0.102												
Casoline   LDGT   Zight-Duty Trucks (0-8,500 lbs)   0.635   0.010   11.460   0.756   0.025   0.011   551.100   0.102	NEBRASKA											
LOW   Diesel   LDOY   Light-Duty Vehicles (8,501+ lbs)   0.791   0.016   8.030   0.511   0.039   0.024   876.100   0.045							***************************************					
LOW   Diesel   LDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007			*****			***************************************	*************	******************				****************
Diesel   ADDT   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.565   0.302   0.047   0.032   598,600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.770   0.007   0.252   0.143   0.044   0.029   785,900   0.027     N/		LOW		<u></u>	<del></del>							
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.770   0.007   0.252   0.143   0.044   0.029   785.900   0.027     N		LOW		<del></del>			<b></b>	~~~~~~~~~~				
No				<u></u>			***************************************					
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.316   0.007   9.130   0.444   0.025   0.011   368.000   0.102							*****					
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.626   0.010   11.130   0.768   0.025   0.011   551.100   0.102												
Hoth   Diesel   LDDV   Light-Duty Vehicles (8,501+lbs)   0.647   0.016   25.300   0.705   0.039   0.024   876.100   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045   0.045		1								***************************************		
NEVADA    Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007												
Diesel LDDT Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.600   0.305   0.047   0.032   598.600   0.007			************									
NEVADA    Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.786   0.007   0.623   0.290   0.044   0.029   785,900   0.027     NA   MC   Motorcycles   0.860   0.003   27.480   2.780   0.037   0.021   177.400   0.011     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.316   0.007   9.130   0.441   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.626   0.010   11.130   0.759   0.025   0.011   551.100   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.789   0.016   7.950   0.532   0.039   0.024   876.100   0.045     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   0.024   0.087     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   0.024   0.087     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.088   0.003   0.088   0.003   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0.088   0		HGH										
NEVADA    NA   MC   Motorcycles   0.860   0.003   27.480   2.780   0.037   0.021   177.400   0.011												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.316   0.007   9.130   0.441   0.025   0.011   368.000   0.102		1										
Gasoline LDGV Light-Duty Vehicles (Passenger Cars)   0.316   0.007   9.130   0.441   0.025   0.011   368.000   0.102     Gasoline LDGT Light-Duty Trucks (0-8,500 lbs)   0.626   0.010   11.130   0.759   0.025   0.011   551.100   0.102     Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs)   0.789   0.016   7.950   0.532   0.039   0.024   876.100   0.045     LOW Diesel LDDV Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Company Tourism Trucks (0-8,500 lbs)   0.626   0.010   11.130   0.759   0.025   0.011   368.000   0.102     Casoline LDGT Light-Duty Vehicles (8,501+ lbs)   0.789   0.016   7.950   0.532   0.039   0.024   876.100   0.045     Company Tourism Trucks (0-8,500 lbs)   0.626   0.010   11.130   0.759   0.025   0.011   0.012     Casoline LDGT Light-Duty Trucks (0-8,500 lbs)   0.626   0.010   11.130   0.759   0.025   0.011   0.012     Casoline LDGT Light-Duty Trucks (0-8,500 lbs)   0.626   0.010   11.130   0.759   0.025   0.011   0.012     Casoline HDGV Heavy-Duty Vehicles (8,501+ lbs)   0.789   0.016   7.950   0.532   0.039   0.024   876.100   0.045     Casoline HDGV Heavy-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Casoline HDGV Heavy-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Casoline HDGV Heavy-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Casoline HDGV Heavy-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   0.024   0.087     Casoline HDGV Heavy-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   0.024   0.087     Casoline HDGV Heavy-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   0.024   0.087     Casoline HDGV Heavy-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   0.024   0.087   0.024   0.087   0.024   0.087   0.024   0.087   0.024   0.024   0.024   0.0	NEVADA											
Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.789   0.016   7.950   0.532   0.039   0.024   876.100   0.045   0.008   0.008   0.003   0.692   0.087   0.038   0.023   314.100   0.007   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.0												0.102
LOW Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.088 0.003 0.692 0.087 0.038 0.023 314.100 0.007			~~~~~~~~~		······································	***************************************		~~~~~~~~~~	~~~~~~~~~	***************************************	~~~~~~~~~~	0.102
							***************************************					0.045
Diosel   I DDT   Light Duty Trucks (0.8500 lbs)   0.217   0.004   0.545   0.200   0.007   0.002   500 c00   0.003		LOW										0.007
			Diesel	LDDT Light-Duty Trucks (0-8,5		0.006	0.565	0.302	0.047	0.032	598.600	0.007
							***************************************					0.027
NA MC Motorcycles 1.240 0.003 14.620 2.070 0.037 0.021 177.400 0.011	7		NA	MC Motorcycles	1.240	0.003	14.620	2.070	0.037	0.021	177.400	0.011

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV (cont.)

		ъ.				E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	'S	
		Type		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.324	0.007	10.690	0.432	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.651	0.010	12.790	0.770	0.025	0.011	551,100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.656	0.016	26.470	0.675	0.039	0.024	76.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	.029	785.900	0.027
NEW HAMPSHIRE		NA	MC Motorcycles	0.900	0.003	28.730	2.730	0.037	0.021	177.400	0.011
NEW HAMPSHIKE		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.324	0.007	10.690	0.430	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.651	0.010	12.790	0.764	0 325	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.800	0.016	8.320	0.492	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	<i>s</i> .143	0.044	0.029	785.900	0.027
		NA	MC Motorcycles	1.290	0.003	15.330	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.316	0.007	8.78	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT   Light-Duty Trucks (0-8,500 lbs)	0.622	0.010	10.760	0.771	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.645	0.016	25.050	0.712	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.786	3.007	0.623	0.290	0.044	0.029	785.900	0.027
NAME AND OTHER		NA	MC Motorcycles	0.850	0.003	27.280	2.900	0.037	0.021	177.400	0.011
NEW JERSEY		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.31	0.007	8.780	0.443	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.622	0.010	10.760	0.761	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.016	7.870	0.540	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+16s)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC Motorcycles	1.220	0.003	14.520	2.170	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.313	0.007	8.620	0.441	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0.500 lbs)	0.618	0.010	10.590	0.761	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.644	0.016	24.920	0.705	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vel cles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
		NA	MC Motor ycles	0.850	0.003	27.090	2.810	0.037	0.021	177.400	0.011
NEW MEXICO		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.313	0.007	8,620	0.438	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.618	0.010	10.590	0.752	0.025	0.011	551.100	0.102
		Gasoline	HDG Heavy-Duty Vehicles (8,501+ lbs)	0.785	0.016	7.840	0.732	0.029	0.024	876.100	0.102
	LOW	Diesel	LPOV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
	2011	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.032	785.900	0.007
		N	MC Motorcycles	1.220	0.007	14.410	2.100	0.037	0.023	177.400	0.027
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.322	0.003	10.290	0.426	0.037	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.522	0.007	12.370	0.420	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.654	0.016	26.170	0.672	0.023	0.024	876.100	0.102
	H <sup>y</sup> 5H	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.034	0.003	0.692	0.072	0.039	0.024	314.100	0.043
	11 311	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.005	0.600	0.305	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.317	0.006	0.623	0.303	0.047	0.032	785.900	0.007
		NA	MC Motorcycles	0.786	0.007	28.410	2.720	0.044	0.029	177.400	0.027
NEW YORK		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.890	0.003	10.290	0.424	0.037	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.322	0.007	12.370	0.424	0.025	0.011	551.100	0.102
		Gasoline		0.643	0.016	8.230	0.753	0.023	0.011	876.100	0.102
	LOW	Diesel		0.797	0.016	0.692	0.492	0.039	0.024	314.100	0.045
	LOW	Diesel				0.692	0.087	0.038			0.007
			9 3	0.317	0.006				0.032	598.600	
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC Motorcycles	1.280	0.003	15.150	2.030	0.037	0.021	177.400	0.011

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV (cont.)

		Е. 1					E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	S	
		Туре			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.312	0.007	7.710	0.453	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.606	0.010	9.640	0.779	0.025	0.011	551,100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.638	0.016	24.360	0.736	0.039	0.024	76.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	.029	785.900	0.027
NORTH CAROLINA		NA	MC	Motorcycles	0.820	0.003	26.700	3.060	0.037	0.021	177.400	0.011
NORTH CHROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.312	0.007	7.710	0.450	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.606	0.010	9.640	0.767	0 325	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.778	0.016	7.660	0.570	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	1.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.180	0.003	14.180	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.333	0.007	11.60	0.459	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.669	0.010	12.780	0.823	0.025	0.011	551.100	0.102
	***	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.661	0.016	27.190	0.702	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.036	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	3.007	0.623	0.290	0.044	0.029	785.900	0.027
NORTH DAKOTA		NA	MC	Motorcycles	0.920	0.003	29.870	2.840	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.33	0.007	11.600	0.456	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 669	0.010	13.780	0.815	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.807	0.016	8.550	0.510	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.320	0.003	15.970	2.120	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.318	0.007	9.220	0.448	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.629	0.010	11.230	0.777	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.647	0.016	25.370	0.711	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Velicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
OHIO		NA	MC	Motor ycles	0.860	0.003	27.610	2.850	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.318	0.007	9.220	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.629	0.010	11.230	0.768	0.025	0.011	551.100	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.789	0.016	7.980	0.537	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		N/	MC	Motorcycles	1.240	0.003	14.700	2.130	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.320	0.007	7.970	0.463	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.614	0.010	9.930	0.795	0.025	0.011	551.100	0.102
	HYSH	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.639	0.016	24.890	0.756	0.039	0.024	876.100	0.045
	HGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
OKLAHOM		NA	MC	Motorcycles	0.810	0.003	27.830	3.440	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.320	0.007	7.970	0.458	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.614	0.010	9.930	0.780	0.025	0.011	551.100	0.102
	v	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.779	0.016	7.830	0.583	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.170	0.003	14.790	2.610	0.037	0.021	177.400	0.011

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV (cont.)

		Fl				•	E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	S	
		Туре			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	9.680	0.434	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.632	0.010	11.710	0.753	0.025	0.011	551,100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.650	0.016	25.700	0.684	0.039	0.024	76.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	.029	785.900	0.027
OREGON		NA	MC	Motorcycles	0.870	0.003	27.650	2.690	0.037	0.021	177.400	0.011
OKEGON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	9.680	0.433	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.632	0.010	11.710	0.748	0 325	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.793	0.016	8.080	0.511	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	J.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.260	0.003	14.710	2.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.291	0.007	6.67	0.429	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.580	0.010	8 570	0.730	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.632	0.016	23.510	0.705	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.036	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	5.007	0.623	0.290	0.044	0.029	785.900	0.027
PACIFIC ISLANDS		NA	MC	Motorcycles	0.810	0.003	25.480	2.780	0.037	0.021	177.400	0.011
THEIR IS ISLANDS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.29	0.007	6.670	0.428	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.580	0.010	8.570	0.721	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.771	0.016	7.390	0.550	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+11s)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.160	0.003	13.500	2.080	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.318	0.007	9.550	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,3,500 lbs)	0.633	0.010	11.580	0.775	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.649	0.016	25.620	0.705	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Daty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
PENNSYLVANIA		NA	MC	Motor ycles	0.870	0.003	27.810	2.750	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.318	0.007	9.550	0.444	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Zight-Duty Trucks (0-8,500 lbs)	0.633	0.010	11.580	0.767	0.025	0.011	551.100	0.102
	Y 0377	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.792	0.016	8.050	0.529	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		N/	MC	Motorcycles	1.250	0.003	14.810	2.050	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.311	0.007	5.250	0.441	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.577	0.010	7.080	0.748	0.025	0.011	551.100	0.102
	111	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.623	0.016	22.810	0.743	0.039	0.024	876.100	0.045
	HYGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
PUERTO RIGO		NA	MC	Motorcycles	0.760	0.003	25.900	2.960	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.311	0.007	5.250	0.439	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.577	0.010	7.080	0.733	0.025	0.011	551.100	0.102
	Y 6	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.759	0.016	7.170	0.591	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.090	0.003	13.710	2.260	0.037	0.021	177.400	0.011

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV (cont.)

		Е. 1					E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Туре			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.315	0.007	9.310	0.443	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.628	0.010	11.320	0.767	0.025	0.011	551,100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.648	0.016	25.440	0.701	0.039	0.024	76.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	.029	785.900	0.027
RHODE ISLAND		NA	MC	Motorcycles	0.860	0.003	27.580	2.740	0.037	0.021	177.400	0.011
KITODE ISLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.315	0.007	9.310	0.441	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.628	0.010	11.320	0.759	0 325	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.790	0.016	8.000	0.528	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	1.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.240	0.003	14.680	2.040	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.313	0.007	7.33	0.457	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.602	0.010	9260	0.783	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.635	0.016	24.310	0.749	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.036	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	5.007	0.623	0.290	0.044	0.029	785.900	0.027
SOUTH CAROLINA		NA	MC	Motorcycles	0.800	0.003	26.920	3.190	0.037	0.021	177.400	0.011
SOCIAL CHROPINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.31	0.007	7.330	0.453	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 602	0.010	9.260	0.769	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.774	0.016	7.640	0.583	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+11s)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.160	0.003	14.290	2.410	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.326	0.007	10.290	0.440	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.648	0.010	12.370	0.786	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.654	0.016	26.190	0.693	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vel cles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-D ty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
SOUTH DAKOTA		NA	MC	Motor ycles	0.880	0.003	28.690	2.980	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.326	0.007	10.290	0.437	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.648	0.010	12.370	0.776	0.025	0.011	551.100	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.797	0.016	8.230	0.509	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		N/	MC	Motorcycles	1.270	0.003	15.310	2.230	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	8.000	0.449	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.611	0.010	9.940	0.774	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.639	0.016	24.570	0.728	0.039	0.024	876.100	0.045
	HYGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
TENNESSE		NA	MC	Motorcycles	0.830	0.003	26.940	3.060	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	8.000	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.611	0.010	9.940	0.762	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.780	0.016	7.730	0.559	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.190	0.003	14.320	2.300	0.037	0.021	177.400	0.011

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV (cont.)

		Fl				•	E	mission Fa	actors (g/n	ni)	•	
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.316	0.007	7.210	0.463	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.602	0.010	9.140	0.791	0.025	0.011	551,100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.634	0.016	24.410	0.763	0.039	0.024	76.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	.029	785.900	0.027
TEXAS		NA	MC	Motorcycles	0.790	0.003	27.500	3.370	0.037	0.021	177.400	0.011
IEAAS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.316	0.007	7.210	0.459	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.602	0.010	9.140	0.776	0 325	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.773	0.016	7.680	0.596	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	s.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.140	0.003	14.590	2.560	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.319	0.007	9.54	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.634	0.010	17.560	0.755	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.649	0.016	25.610	0.678	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	3.007	0.623	0.290	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	0.870	0.003	27.870	2.830	0.037	0.021	177.400	0.011
UTAH		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.31	0.007	9.540	0.421	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.634	0.010	11.560	0.746	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.792	0.016	8.050	0.501	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
	20.11	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.250	0.007	14.850	2.110	0.037	0.021	177.400	0.027
		Gasoline		Light-Duty Vehicles (Parsenger Cars)	0.325	0.007	10.890	0.435	0.025	0.021	368.000	0.102
		Gasoline		Light-Duty Trucks (1.3,500 lbs)	0.525	0.007	13.010	0.433	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehices (8,501+lbs)	0.657	0.016	26.630	0.677	0.023	0.024	876.100	0.102
	HIGH	Diesel	~~~~~~~~~~	Light-Duty Vehicles (Passenger Cars)	0.037	0.003	0.692	0.077	0.039	0.024	314.100	0.043
	IIIOII				0.317	0.006		0.305	0.038	0.023		0.007
		Diesel Diesel		Light-Duty Trucks (0-8,500 lbs) Heavy-Day Vehicles (8,501+ lbs)	0.317	0.006	0.600 0.623	0.303	0.047	0.032	598.600 785.900	0.007
		NA	MC	Motor ycles	0.780	0.007	28.930	2.720	0.044	0.029	177.400	0.027
VERMONT												
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.325	0.007	10.890	0.433	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.655	0.010	13.010	0.770	0.025	0.011	551.100	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.802	0.016	8.370	0.493	0.039	0.024	876.100	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		N/I	MC	Motorcycles	1.300	0.003	15.440	2.030	0.037	0.021	177.400	0.011
		Casoline		Light-Duty Vehicles (Passenger Cars)	0.320	0.007	5.290	0.450	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.584	0.010	7.140	0.761	0.025	0.011	551.100	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.624	0.016	23.300	0.763	0.039	0.024	876.100	0.045
	H <sup>r</sup> <sub>G</sub> H	Diesel		Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
VIRGIN ISLAYOS		NA	MC	Motorcycles	0.730	0.003	27.660	3.060	0.037	0.021	177.400	0.011
TINGIT ISLATIO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.320	0.007	5.290	0.448	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.584	0.010	7.140	0.744	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.761	0.016	7.320	0.608	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
7		NA	MC	Motorcycles	1.060	0.003	14.620	2.350	0.037	0.021	177.400	0.011

Table 5-29. On-Road Vehicle Emission Factors - 2017 POV (cont.)

		F l					Eı	mission Fa	actors (g/r	ni)	•	
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс			NOx	SO <sub>X</sub>	CO	VOC	PM 10	PM <sub>2.5</sub>	CO <sub>2</sub>	$M_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.313	0.007	8.300	0.445	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.615	0.010	10.250	0.768	0.025	0.011	551.100	0.102
	IIICII	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.642	0.016	24.690	0.716	0.039	0.024	876.170	0.045
	HIGH	Diesel Diesel	LDDV LDDT	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.088	0.003	0.692	0.087	0.038	0.023	31/100 58.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.303	0.047	0.032	785.900	0.007
		NA	MC	Motorcycles	0.780	0.007	26.900	2.900	0.037	0.023	177.400	0.027
VIRGINIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.313	0.007	8.300	0.442	0.025	0.021	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.615	0.010	10.250	0.757	0.025	.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.782	0.016	7.760	0.547	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.0	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0 044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.210	0.003	14.300	2.170	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.316	0.007	9.840	0.436	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.635	0.010	11.880	0.75	0.025	0.011	551.100	0.102
	HIGH	Gasoline	HDGV LDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.651 0.088	0.016	25.820 0.692	0.085	0.039	0.024	876.100 314.100	0.045
	поп	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.305	0.038	0.023	598.600	0.007
		Diesel Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	0.317	0.006	0.600	0.303	0.047	0.032	785.900	0.007
		NA	MC	Motorcycles	0.880	0.007	27 80	2.690	0.037	0.023	177.400	0.027
WASHINGTON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.316	0.003	.840	0.434	0.037	0.021	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.635	0.010	11.880	0.752	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.794	0.016	8.120	0.511	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.0 3	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	2.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.260	0.003	14.790	2.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.315	0.007	9.010	0.442	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0 524	0.010	11.010	0.765	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.646	0.016	25.210	0.704	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
WEST VIRGINIA		NA	MC	Motorcycles	0.860	0.003	27.370	2.770	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passer er Cars)	0.315	0.007	9.010	0.440	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,50 lbs)	0.624	0.010	11.010	0.756	0.025	0.011	551.100	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (\$501+ lbs)	0.788	0.016	7.930	0.532	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV LDDT	Light-Duty Vehicles Cassenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100 598.600	0.007
		Diesel Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vericles (8,501+ lbs)	0.317	0.006	0.565 0.252	0.302	0.047	0.032	785.900	0.007
		NA	MC	Motorcycles	1.230	0.007	14.560	2.070	0.037	0.023	177.400	0.027
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.327	0.003	10.910	0.442	0.037	0.021	368.000	0.102
		Gasoline	LDGT	Light-Dry Trucks (0-8,500 lbs)	0.657	0.010	13.030	0.790	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy Duty Vehicles (8,501+ lbs)	0.657	0.016	26.650	0.687	0.039	0.024	876.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.290	0.044	0.029	785.900	0.027
WISCONSIN		NA	MC	Motorcycles	0.900	0.003	29.090	2.780	0.037	0.021	177.400	0.011
MISCONSIN		Gasoline	LD GV	Light-Duty Vehicles (Passenger Cars)	0.327	0.007	10.910	0.439	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.657	0.010	13.030	0.782	0.025	0.011	551.100	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.802	0.016	8.380	0.501	0.039	0.024	876.100	0.045
	LOW	Diese	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Die sel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Jiesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027
		NA	MC	Motorcycles	1.290	0.003	15.530	2.080	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.324	0.007	10.800	0.431	0.025	0.011	368.000	0.102
		Gasoline Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501+ lbs)	0.653 0.657	0.010	12.910 26.550	0.768	0.025	0.011	551.100 876.100	0.102
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.072	0.039	0.024	314.100	0.045
	.11011	Diesel	LDDV	Light-Duty Trucks (0-8,500 lbs)	0.088	0.005	0.600	0.305	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.786	0.007	0.623	0.303	0.044	0.032	785.900	0.027
		NA	MC	Motorcycles	0.900	0.007	28.760	2.710	0.037	0.021	177.400	0.027
WYOMIN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.324	0.007	10.800	0.429	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.653	0.010	12.910	0.762	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.801	0.016	8.350	0.490	0.039	0.024	876.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.770	0.007	0.252	0.143	0.044	0.029	785.900	0.027

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV

State						•	Е	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.292	0.007	7.150	0.433	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.566	0.010	8.890	0.739	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.563	0.016	24.060	0.710	0.038	0.023	15.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.07.6	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	.023	785.500	0.027
47 4 D 4 3 C 4		NA	MC	Motorcycles	0.800	0.003	26.910	3.180	0.037	0.021	177.400	0.011
ALABAMA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.292	0.007	7.150	0.430	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.566	0.010	8.890	0.726	0 325	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.686	0.016	7.560	0.553	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.160	0.003	14.280	2.410	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.329	0.007	13.95	0.447	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.672	0.010	15.890	0.798	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.600	0.016	28.810	0.646	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.056	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	5.007	0.579	0.276	0.038	0.023	785.500	0.027
ALASKA		NA	MC	Motorcycles	0.980	0.003	31.650	2.760	0.037	0.021	177.400	0.011
ALASKA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.32	0.007	13.950	0.447	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.672	0.010	15.890	0.797	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.732	0.016	9.060	0.455	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.410	0.003	16.960	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.294	0.007	7.490	0.437	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.571	0.010	9.230	0.747	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.565	0.016	24.310	0.713	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
ARIZONA		NA	MC	Motor ycles	0.810	0.003	27.160	3.280	0.037	0.021	177.400	0.011
AKIZONA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.294	0.007	7.490	0.433	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.571	0.010	9.230	0.734	0.025	0.011	551.300	0.102
		Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	0.689	0.016	7.640	0.554	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		N/I	MC	Motorcycles	1.170	0.003	14.420	2.480	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.295	0.007	7.630	0.438	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.574	0.010	9.370	0.750	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.565	0.016	24.440	0.714	0.038	0.023	875.900	0.045
	H <sup>y</sup> <sub>G</sub> H	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
ARKANSAS		NA	MC	Motorcycles	0.810	0.003	27.370	3.340	0.037	0.021	177.400	0.011
ARRANSA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.295	0.007	7.630	0.434	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.574	0.010	9.370	0.736	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.689	0.016	7.680	0.553	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
<u> </u>		NA	MC	Motorcycles	1.170	0.003	14.540	2.530	0.037	0.021	177.400	0.011

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV (cont.)

		Fl				E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger	Cars) 0.287	0.007	7.400	0.424	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.566	0.010	9.110	0.724	0.025	0.011	551.300	0.102
		Gasoline	HDGV   Heavy-Duty Vehicles (8,501+ lbs	0.565	0.016	23.900	0.687	0.038	0.023	15.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger	Cars) 0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.076	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs	0.665	0.007	0.579	0.276	0.038	.023	785.500	0.027
CALIFORNIA		NA	MC Motorcycles	0.820	0.003	26.280	2.880	0.037	0.021	177.400	0.011
CALIFORNIA		Gasoline	LDGV Light-Duty Vehicles (Passenger	Cars) 0.287	0.007	7.400	0.421	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.566	0.010	9.110	0.714	0 325	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs	0.689	0.016	7.510	0.533	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger	Cars) 0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs	0.652	0.007	0.235	J.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.180	0.003	13.960	2.160	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger	Cars) 0.298	0.007	10.04	0.401	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.604	0.010	17.820	0.710	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs	0.580	0.016	25.860	0.630	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger	Cars) 0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.06	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs	0.665	3.007	0.579	0.276	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	0.880	0.003	28.240	2.710	0.037	0.021	177.400	0.011
COLORADO		Gasoline	LDGV Light-Duty Vehicles (Passenger		0.007	10.040	0.399	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.504	0.010	11.820	0.704	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs	·····	0.016	8.130	0.462	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger	······	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.270	0.003	15.050	2.020	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger		0.007	9.450	0.426	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0.3,500 lbs)	0.596	0.010	11.210	0.735	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehices (8,501+ lbs		0.016	25.420	0.669	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger)		0.003	0.675	0.080	0.036	0.022	314.100	0.007
	mon	Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.280	0.005	0.526	0.270	0.030	0.026	598.600	0.007
		Diesel	HDDV Heavy-Daty Vehicles (8,501+ lbs		0.007	0.579	0.276	0.041	0.023	785.500	0.007
		NA	MC Motor yeles	0.870	0.003	27.860	2.760	0.037	0.023	177.400	0.027
CONNECTICUT		Gasoline	LDGV Light-Duty Vehicles (Passenger)		0.007	9.450	0.424	0.037	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.596	0.010	11.210	0.728	0.025	0.011	551.300	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs		0.016	7.990	0.728	0.023	0.023	875.900	0.102
	LOW	Diesel	LPOV Light-Duty Vehicles (Passenger)	<del></del>	0.003	0.675	0.080	0.036	0.023	314.100	0.043
	LOW	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.003	0.526	0.080	0.030	0.022	598.600	0.007
					0.008	0.326	0.270	0.041	0.028	785.500	0.007
		Diesel N	HDDV Heavy-Duty Vehicles (8,501+ lbs MC Motorcycles	1.250	0.007	14.840	2.060	0.038	0.023	177.400	0.027
		Casoline			0.003	8.190		0.037	0.021	368.000	0.102
						***************************************	0.426				
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.579	0.010	9.920	0.732	0.025	0.011	551.300	0.102
	HUGH	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs		0.016	24.520	0.684	0.038	0.023	875.900	0.045
	HJH	Diesel	LDDV Light-Duty Vehicles (Passenger C		0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
	1	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs		0.007	0.579	0.276	0.038	0.023	785.500	0.027
DELAWAR		NA	MC Motorcycles	0.840	0.003	27.020	2.990	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger		0.007	8.190	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.579	0.010	9.920	0.722	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs	***************************************	0.016	7.710	0.524	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger		0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs	<u> </u>	0.007	0.235	0.136	0.038	0.023	785.500	0.027
<u> </u>		NA	MC Motorcycles	1.210	0.003	14.370	2.240	0.037	0.021	177.400	0.011

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV (cont.)

		Fuel			•		mission Fa			•	
State	Altitude	Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс		NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.290	0.007	6.140	0.429	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.553	0.010	7.870	0.726	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.557	0.016	23.470	0.712	0.038	0.023	75.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.076	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	.023	785.500	0.027
FLORIDA		NA	MC Motorcycles	0.770	0.003	26.730	2.990	0.037	0.021	177.400	0.011
FLORIDA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.290	0.007	6.140	0.426	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.553	0.010	7.870	0.712	0 325	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.680	0.016	7.380	0.562	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	1.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.110	0.003	14.160	2.270	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.291	0.007	7.06	0.433	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.564	0.010	8 /90	0.737	0.025	0.011	551.300	0.102
	***	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.562	0.016	24.000	0.709	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.036	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	5.007	0.579	0.276	0.038	0.023	785.500	0.027
GEORGIA		NA	MC Motorcycles	0.800	0.003	26.850	3.160	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.29	0.007	7.060	0.429	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.564	0.010	8.790	0.724	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.686	0.016	7.540	0.553	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+11s)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.150	0.003	14.250	2.390	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parkenger Cars)	0.277	0.007	5.820	0.413	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.542	0.010	7.510	0.697	0.025	0.011	551.300	0.102
	IIICII	Gasoline	HDGV Heavy-Duty Vehic es (8,501+ lbs)	0.556	0.016	22.750	0.683	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV Light-Duty Velicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
HAWAII		NA C 1	MC Motorycles	0.790	0.003	25.120	2.810	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.277	0.007	5.820	0.411	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.542	0.010	7.510	0.686	0.025	0.011	551.300	0.102
	LOW	Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.678	0.016	7.150	0.538	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036 0.041		314.100	0.007
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270		0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)  MC Motorcycles	0.652 1.140	0.007	0.235	0.136 2.110	0.038	0.023	785.500 177.400	0.027
		N.I.				13.310					
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.299	0.007 0.010	10.290 12.080	0.402	0.025 0.025	0.011	368.000	0.102 0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.607			0.712			551.300	
	HUGH	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.581	0.016	26.040	0.628	0.038	0.023	875.900	0.045
	поп	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel NA	HDDV Heavy-Duty Vehicles (8,501+ lbs)  MC Motorcycles	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
IDAHO			1 111 131 111	0.890	0.003	28.410	2.690	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.299	0.007	10.290	0.401	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.607	0.010	12.080	0.706	0.025	0.011	551.300	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.708	0.016	8.190	0.459	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.280	0.003	15.140	2.000	0.037	0.021	177.400	0.011

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV (cont.)

		Fuel					mission Fa				
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Type		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.298	0.007	8.940	0.433	0.025	0.011	368.00 3	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.591	0.010	10.690	0.746	0.025	0.011	557.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.573	0.016	25.070	0.686	0.038	0.023	75.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.076	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	.023	785.500	0.027
ILLINOIS		NA	MC Motorcycles	0.860	0.003	27.670	3.060	0.037	0.021	177.400	0.011
ILLINOIS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.298	0.007	8.940	0.430	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.591	0.010	10.690	0.735	0 325	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.699	0.016	7.880	0.520	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	1.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.230	0.003	14.730	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.296	0.007	8.91	0.429	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.590	0.010	10.660	0.738	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.573	0.016	25.030	0.679	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.036	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	5.007	0.579	0.276	0.038	0.023	785.500	0.027
INDIANA		NA	MC Motorcycles	0.860	0.003	27.550	2.950	0.037	0.021	177.400	0.011
II (DIII)		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.293	0.007	8.910	0.426	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.590	0.010	10.660	0.729	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.699	0.016	7.870	0.515	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.230	0.003	14.670	2.220	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.302	0.007	9.810	0.413	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.605	0.010	11.590	0.733	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.578	0.016	25.710	0.652	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
IOWA		NA	MC Motor ycles	0.880	0.003	28.410	3.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.302	0.007	9.810	0.410	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.605	0.010	11.590	0.724	0.025	0.011	551.300	0.102
		Gasoline	HDG Heavy-Duty Vehicles (8,501+ lbs)	0.705	0.016	8.080	0.481	0.038	0.023	875.900	0.045
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		N	MC Motorcycles	1.260	0.003	15.150	2.250	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.299	0.007	8.520	0.436	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.587	0.010	10.270	0.749	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.570	0.016	24.970	0.699	0.038	0.023	875.900	0.045
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
KANSAS		NA	MC Motorcycles	0.840	0.003	27.810	3.290	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.299	0.007	8.520	0.432	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.587	0.010	10.270	0.736	0.025	0.011	551.300	0.102
	v 6***	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.696	0.016	7.850	0.533	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.200	0.003	14.800	2.490	0.037	0.021	177.400	0.011

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV (cont.)

		Fuel		Emission Factors (g/mi)							
State	Altitude	Type	Vehicle Type			Criteria Po		nd Ozone	Precursor	S	
		- JPC		NOx	SOx	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.294	0.007	8.190	0.427	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.580	0.010	9.930	0.733	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.569	0.016	24.540	0.686	0.038	0.023	75.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.076	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	.023	785.500	0.027
KENTUCKY		NA	MC Motorcycles	0.840	0.003	27.070	3.010	0.037	0.021	177.400	0.011
112.1100111		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.294	0.007	8.190	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.580	0.010	9.930	0.723	0 325	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.694	0.016	7.710	0.525	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.210	0.003	14.390	2.260	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.293	0.007	6.82	0.436	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.563	0.010	8 360	0.740	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.561	0.016	23.980	0.718	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.056	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	5.007	0.579	0.276	0.038	0.023	785.500	0.027
LOUISIANA		NA	MC Motorcycles	0.790	0.003	27.220	3.260	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.293	0.007	6.820	0.432	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0 563	0.010	8.560	0.726	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.684	0.016	7.540	0.563	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.130	0.003	14.430	2.480	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parkenger Cars)	0.305	0.007	11.060	0.418	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0.5500 lbs)	0.621	0.010	12.880	0.742	0.025	0.011	551.300	0.102
	****	Gasoline	HDGV Heavy-Duty Vehic es (8,501+ lbs)	0.585	0.016	26.640	0.642	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV Light-Duty Velicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
MAINE		NA C. ii	MC Motorycles	0.910	0.003	29.210	2.730	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.305	0.007	11.060	0.416	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.621	0.010	12.880	0.736	0.025	0.011	551.300	0.102
	LOW	Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.713	0.016	8.370	0.467	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036 0.041		314.100	0.007
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270		0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)  MC Motorcycles	0.652 1.310	0.007	0.235	0.136 2.030	0.038	0.023	785.500 177.400	0.027
		N/C soline				15.590					
		//	LDGV Light-Duty Vehicles (Passenger Cars)	0.293	0.007	8.380	0.422	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.582	0.010	10.110	0.724	0.025	0.011	551.300	0.102
	HUGH	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.570	0.016	24.630	0.674	0.038	0.023	875.900	0.045
	HJJH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
MARYLAN		NA	MC Motorcycles	0.840	0.003	27.100	2.920	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.293	0.007	8.380	0.419	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.582	0.010	10.110	0.715	0.025	0.011	551.300	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.696	0.016	7.740	0.514	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
	-	NA	MC Motorcycles	1.210	0.003	14.410	2.190	0.037	0.021	177.400	0.011

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV (cont.)

		Fuel				Emission Factors (g/mi) Criteria Pollutants and Ozone Precursors							
State	Altitude	Type		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precursor	S		
		Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$	
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.296	0.007	9.600	0.426	0.025	0.011	368.00	0.102	
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.598	0.010	11.370	0.736	0.025	0.011	551.300	0.102	
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.577	0.016	25.540	0.667	0.038	0.023	15.900	0.045	
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007	
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007	
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	.023	785.500	0.027	
MASSACHUSETTS		NA	MC	Motorcycles	0.870	0.003	27.960	2.750	0.037	0.021	177.400	0.011	
MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.296	0.007	9.600	0.424	0.025	0.011	368.000	0.102	
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.598	0.010	11.370	0.729	0 325	0.011	551.300	0.102	
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.704	0.016	8.030	0.501	0.038	0.023	875.900	0.045	
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007	
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007	
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	J.136	0.038	0.023	785.500	0.027	
		NA	MC	Motorcycles	1.260	0.003	14.900	2.050	0.037	0.021	177.400	0.011	
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.301	0.007	10.34	0.408	0.025	0.011	368.000	0.102	
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.609	0.010	12.140	0.724	0.025	0.011	551.300	0.102	
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.581	0.016	26.100	0.637	0.038	0.023	875.900	0.045	
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007	
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.936	0.526	0.270	0.041	0.026	598.600	0.007	
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	3.007	0.579	0.276	0.038	0.023	785.500	0.027	
		NA	MC	Motorcycles	0.890	0.003	28.590	2.730	0.037	0.021	177.400	0.011	
MICHIGAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.30	0.007	10.340	0.406	0.025	0.011	368.000	0.102	
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.509	0.010	12.140	0.718	0.025	0.011	551.300	0.102	
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.709	0.016	8.200	0.466	0.038	0.023	875.900	0.045	
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007	
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007	
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+11s)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027	
		NA	MC	Motorcycles	1.280	0.003	15.250	2.030	0.037	0.021	177.400	0.011	
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.309	0.007	11.310	0.433	0.025	0.011	368.000	0.102	
		Gasoline	LDGT	Light-Duty Trucks (0.500 lbs)	0.627	0.010	13.150	0.772	0.025	0.011	551.300	0.102	
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.586	0.016	26.850	0.662	0.038	0.023	875.900	0.045	
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007	
	111011	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007	
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027	
		NA	MC	Motor ycles	0.910	0.003	29.750	2.840	0.037	0.023	177.400	0.011	
MINNESOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.309	0.007	11.310	0.431	0.025	0.021	368.000	0.102	
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.627	0.007	13.150	0.765	0.025	0.011	551.300	0.102	
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.715	0.016	8.440	0.482	0.023	0.023	875.900	0.102	
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.023	314.100	0.007	
	LOW	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.005	0.526	0.270	0.030	0.022	598.600	0.007	
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.041	0.023	785.500	0.007	
		N	MC	Motorcycles	1.310	0.007	15.900	2.120	0.037	0.023	177.400	0.027	
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.003	7.160	0.436	0.037	0.021	368.000	0.102	
		Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.293	0.007	8.900	0.436	0.025	0.011	551.300	0.102	
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.563	0.016	24.130	0.743	0.023	0.023	875.900	0.102	
	H <sup>r</sup> 5H	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.303	0.003	0.675	0.080	0.036	0.023	314.100	0.043	
	11 311		LDDT					0.080	0.030	0.022		0.007	
		Diesel Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526 0.579	0.276	0.041	0.026	598.600 785.500	0.007	
		NA	MC	Heavy-Duty Vehicles (8,501+ lbs)					0.038				
MISSISSIPP				Motorcycles	0.800	0.003	27.120	3.260		0.021	177.400	0.011	
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	7.160	0.432	0.025	0.011	368.000	0.102	
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.567	0.010	8.900	0.729	0.025	0.011	551.300	0.102	
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.686	0.016	7.580	0.557	0.038	0.023	875.900	0.045	
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007	
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007	
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027	
		NA	MC	Motorcycles	1.150	0.003	14.400	2.470	0.037	0.021	177.400	0.011	

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV (cont.)

						•	Е	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Type		· ·	$NO_X$	SOx	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.298	0.007	8.500	0.432	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.586	0.010	10.250	0.742	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.571	0.016	24.860	0.692	0.038	0.023	15.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.0%	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	.023	785.500	0.027
MICCOUDI		NA	MC	Motorcycles	0.840	0.003	27.560	3.170	0.037	0.021	177.400	0.011
MISSOURI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.298	0.007	8.500	0.429	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.586	0.010	10.250	0.731	0 325	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.696	0.016	7.810	0.527	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.210	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.210	0.003	14.660	2.390	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.303	0.007	10.72	0.412	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.615	0.010	12.530	0.731	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.016	26.380	0.638	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	3.007	0.579	0.276	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	0.900	0.003	28.890	2.710	0.037	0.021	177.400	0.011
MONTANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.30	0.007	10.730	0.410	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.615	0.010	12.530	0.725	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.711	0.016	8.290	0.465	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
	2011	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.030	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.300	0.003	15.410	2.020	0.037	0.023	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.300	0.007	9.290	0.408	0.025	0.021	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0.3,500 lbs)	0.597	0.010	11.050	0.724	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehices (8,501+ lbs)	0.575	0.016	25.320	0.652	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
	111011	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.007
		NA	MC	Motor ycles	0.860	0.003	27.940	3.040	0.037	0.021	177.400	0.011
NEBRASKA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.300	0.007	9.290	0.405	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.597	0.010	11.050	0.714	0.025	0.011	551.300	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.702	0.016	7.960	0.484	0.023	0.023	875.900	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.023	314.100	0.007
	LOW	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.005	0.526	0.270	0.030	0.022	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.041	0.023	785.500	0.007
		N	MC	Motorcycles	1.240	0.007	14.890	2.280	0.037	0.023	177.400	0.027
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.294	0.003	8.980	0.422	0.037	0.021	368.000	0.102
		Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.589	0.007	10.730	0.422	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.574	0.016	25.070	0.720	0.023	0.011	875.900	0.102
	HYGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.023	314.100	0.043
	11 311	Diesel	LDDT		0.072	0.003	0.526	0.080	0.030	0.022	598.600	0.007
			HDDV	Light-Duty Trucks (0-8,500 lbs)	0.280	0.008			0.041			0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)			0.579	0.276		0.023	785.500	
NEVADA		NA Casalina	MC	Motorcycles	0.860	0.003	27.480	2.780	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.294	0.007	8.980	0.420	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.589	0.010	10.730	0.718	0.025	0.011	551.300	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.700	0.016	7.880	0.504	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.240	0.003	14.620	2.070	0.037	0.021	177.400	0.011

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV (cont.)

State   Albitude   The   Cancolone   LiGoV   Light-Duty Vehick (Passenger Cars)   O.301   0.007   0.0130   0.010   0.0125   0.011   0.8506   0.102   0.007   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005			Fuel			Emission Factors (g/mi)							
Casoline   LDCV   Light-Duty Vehicles (Passenger Cars)   0.007   0.035   0.041   0.025   0.011   38-007   0.105   0.007   1.035   0.016   0.005   0.007   0.005   0.005   0.007   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.	State	Altitude			Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precursor	s	
Casoline   LOCT   Leight-Duty Trucks (0.8500 hs)   0.612   0.010   12.33   0.728   0.055   0.011   5.8500   0.102			Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
Casoline   HIDOV   Heavy-Duty Vehickes (\$5011-8b)   0.582   0.016   0.5240   0.075   0.080   0.025   0.022   0.0140   0.007			Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.301	0.007	10.530	0.410	0.025	0.011	368.00	0.102
NEW JERSEY			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.612	0.010	12.330	0.728	0.025	0.011	551,300	0.102
NEW JERSEY			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.582	0.016	26.240	0.638	0.038	0.023		0.045
Diesel   LDDT   Light-Duy Trucks (0.85.00 hs)   0.200   0.006   0.520   0.270   0.041   0.08   98.00   0.007     NA   MC   Motorcycles   0.900   0.003   87.30   2.730   0.037   0.021   177.400   0.011     Cacoline   LDGT   Light-Duy Yehicks (0.85.00 hs)   0.010   0.007   0.015   0.007   0.011   0.007     Gaodine   LDGT   Light-Duy Yehicks (0.85.00 hs)   0.012   0.010   0.023   0.022   0.025   0.011   0.007   0.016     Cacoline   LDGT   Light-Duy Yehicks (0.85.00 hs)   0.012   0.010   0.2330   0.022   0.055   0.008   0.003   0.023   0.000   0.003     Diesel   LDDV   Light-Duy Tenks (0.85.00 hs)   0.007   0.016   8.200   0.066   0.008   0.023   0.025   0.006   0.002   0.004   0.006   0.006   0.007     NA   MC   Motorcycles   0.007   0.006   0.007   0.006   0.007   0.006   0.007   0.001   0.007   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000		HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022		0.007
NEW HAMPSHIRE				LDDT		0.280	0.006		0.270	0.041	0.00		0.007
NEW HAMPSHIRE												***************************************	
Main Name				MC		0.900	0.003		2.730	0.037			0.011
Casoline   LOCT   Light-Duty Tracks (0.8-500 hs)   0.612   0.010   12330   0.722   0.755   0.011   551,300   0.102	NEW HAMPSHIRE			LDGV	1 2	0.301	0.007	10.530	0.408	0.025	0.011	368,000	0.102
Casoline   IDGV   Heavy-Dury Vehickes (8:501-18)   0.710   0.016   8.250   0.466   0.028   0.023   875:900   0.045						0.612	0.010		0.722		0.011		
LOW   Diesel   LIDDY   Light-Day Vehickes (Passenger Cars)   0.072   0.003   0.075   0.088   0.023   38.100   0.007     Diesel   HIDDY   Meavy-Duy Vehickes (R.S01+Bs)   0.652   0.007   0.253   3.36   0.088   0.023   78.550   0.007     NA MC   Mororcycks   1.290   0.003   18.330   2.208   0.038   0.023   78.550   0.007     Gasoline   LIDGY   Light-Duy Vehickes (Passenger Cars)   0.294   0.007   8.69   0.424   0.025   0.011   73.400   0.011     Gasoline   LIDGY   Light-Duy Vehickes (Passenger Cars)   0.524   0.007   8.69   0.424   0.025   0.011   368.000   0.102     Gasoline   LIDGY   Light-Duy Vehickes (Passenger Cars)   0.572   0.016   24.820   0.074   0.038   0.023   375.900   0.045     HIGH   Diesel   LIDTY   Light-Duy Vehickes (Passenger Cars)   0.072   0.013   0.075   0.008   0.036   0.022   371.000   0.008     NEW JERSEY   NA MC   Mororcycks   0.800   0.800   0.280   0.280   0.280   0.270   0.041   0.026   598.600   0.007     NEW JERSEY   A Mororcycks   0.800   0.800   0.800   0.800   0.200   0.300   0.007   0.001     Gasoline   LIDGY   Light-Duy Vehickes (Passenger Cars)   0.007   0.007   0.007   0.001   0.007   0.007   0.001   0.000   0.007   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.00				HDGV		0.710	0.016	***************************************			***************************************	***************************************	
Diesel   LIDDT   Light-Duy Trucks (0.8.500 hs)   0.652   0.007   0.235   0.36   0.038   0.032   78.500   0.007     NA   MC   Motorcycles   1.200   0.062   0.007   0.235   0.36   0.038   0.032   78.500   0.007     NA   MC   Motorcycles   1.200   0.003   15.330   2.030   0.037   0.021   177.400   0.011     Gasoline   LIDGT   Light-Duy Vehicles (Pasenger Cars)   0.254   0.007   8.650   0.424   0.025   0.011   551.300   0.102     Gasoline   HIDGT   Light-Duy Vehicles (8.501 hs)   0.585   0.007   0.729   0.025   0.011   551.300   0.102     Gasoline   HIDGV   Heavy-Duy Vehicles (8.501 hs)   0.572   0.016   28.830   0.674   0.038   0.022   378.500   0.045     Diesel   LIDDV   Light-Duy Vehicles (8.501 hs)   0.572   0.016   28.830   0.674   0.038   0.023   375.500   0.045     Diesel   LIDDV   Light-Duy Vehicles (8.501 hs)   0.655   0.0070   0.075   0.075   0.003   0.075   0.003   0.075   0.003     Diesel   LIDDV   Light-Duy Vehicles (8.501 hs)   0.655   0.007   0.075   0.003   0.003   0.023   785.500   0.027     NA   MC   Motorcycles   0.650   0.650   0.003   0.025   0.003   0.023   0.025   0.003   0.025   0.003   0.025     Gasoline   LDGT   Light-Duy Vehicles (Pasenger Cars)   0.364   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025   0.003   0.025		LOW	******************										
Dissel   HDDV   Heavy-Duy Vehicks (8501+ hs)   0.652   0.007   0.252   0.156   0.038   0.023   78:500   0.027			***********************	****************		*****************	*****************	*****************				***************	
NA													
Gasoline   LDGV   Light-Dury Vehicks (R-Ssol Bs)   0.294   0.007   8.69     0.424   0.025   0.011   58.000   0.101													
NEW JERSEY   Gasoline   LIOGT   Light-Duy Trucks (0.8.500 lbs)   0.588   0.010   0.588   0.079   0.025   0.011   551.300   0.102													
HIGH   Dissel   LDDV   Light-Duty Vehicks (R501+ lbs)   0.572   0.016   0.4830   0.074   0.038   0.023   875,900   0.045							•						***************************************
NEW JERSEY					- <del> </del>			***************************************					
NEW JERSEY   Diesel   LDDT   Light-Duty Trucks (0-8-500 fbs)   0.280   0.066   0.526   0.270   0.041   0.026   598.600   0.007     Diesel   DDV   Heavy-Duty Vehicks (8-501+fbs)   0.665   0.007   0.579   0.276   0.038   0.003   785.500   0.027     Gasoline   DGV   Light-Duty Vehicks (Passenger Cars)   0.290   0.007   8.640   0.421   0.025   0.011   368.000   0.102     Gasoline   DGV   Light-Duty Vehicks (Passenger Cars)   0.290   0.007   8.640   0.421   0.025   0.011   368.000   0.102     Gasoline   DGV   Light-Duty Vehicks (Passenger Cars)   0.072   0.016   7.800   0.512   0.038   0.033   875.500   0.007     LOW   Diesel   LDDV   Light-Duty Vehicks (Passenger Cars)   0.072   0.016   7.800   0.512   0.038   0.033   8.0739   0.006     Diesel   LDDV   Light-Duty Vehicks (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007     Diesel   LDDV   Light-Duty Vehicks (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.00   0.007     Diesel   DDV   Light-Duty Vehicks (Passenger Cars)   0.072   0.007   0.255   0.136   0.038   0.023   785.500   0.027     Diesel   DDV   Light-Duty Vehicks (Passenger Cars)   0.072   0.007   0.255   0.136   0.038   0.023   785.500   0.027     Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.072   0.007   8.490   0.419   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicks (S.501+Bs)   0.571   0.016   0.247.00   0.668   0.038   0.023   875.500   0.045     Diesel   LDDV   Light-Duty Vehicks (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007     Diesel   LDDV   Light-Duty Vehicks (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007     Diesel   LDDV   Light-Duty Vehicks (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007     Diesel   LDDV   Light-Duty Vehicks (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   0.011   368.000   0.026   0.026   0.026   0.027   0.028   0.028   0.028   0.028   0.028   0.028   0.028		HICH					***************************************				***************************************		
Diesel   HDDV   Heavy-Duty Vehicles (R501+ hs)   0.665   0.007   0.276   0.038   0.032   785.500   0.027		mon						*******************					
NEW JERSEY													
NEW JERSEY   Gasoline   LDGV   Light-Dury Vehicles (Passenger Cars)   0.29					- <del> </del>								
Casoline   LDGT   Light-Duty Trucks (0-8.500 lbs)   0.985   0.010   10.380   0.719   0.025   0.011   551.300   0.102	NEW JERSEY				,	_							
Casoline   HDGV   Heavy-Duty Vehickes (R\$01+ hb)   0.697   0.016   7.800   0.512   0.038   0.023   875,900   0.007			******************					************					
LOW   Diesel   LDDV   Light-Duty Vehickes (Passenger Care)   0.072   0.003   0.675   0.080   0.036   0.022   314,100   0.007     Diesel   LDDV   Light-Duty Trucks (0.8500 hs)   0.280   0.006   0.256   0.270   0.041   0.026   598,600   0.007     NA   MC   Motorcycles   1.220   0.003   14,520   2.170   0.037   0.021   177,400   0.011     Gasoline   LDGV   Light-Duty Vehickes (6.801 hs)   0.280   0.007   0.235   0.136   0.038   0.023   385,500   0.027     Gasoline   LDGV   Light-Duty Vehickes (Passenger Cars)   0.292   0.007   8.490   0.419   0.025   0.011   368,000   0.102     Gasoline   LDGV   Light-Duty Vehickes (Passenger Cars)   0.582   0.010   10.220   0.719   0.025   0.011   368,000   0.102     Gasoline   LDGV   Light-Duty Vehickes (8.501 hs)   0.571   0.016   24,700   0.668   0.038   0.023   875,900   0.045     Diesel   LDDV   Light-Duty Vehickes (R.501 hs)   0.727   0.005   0.050   0.050   0.025   0.011   368,000   0.007     Diesel   LDDV   Light-Duty Vehickes (8.501 hs)   0.580   0.006   0.256   0.270   0.041   0.026   598,600   0.007     Diesel   LDGV   Light-Duty Vehickes (8.501 hs)   0.580   0.007   0.579   0.276   0.038   0.023   785,500   0.027     NA   MC   Motorcycles   0.850   0.030   0.027   0.025   0.011   368,000   0.027     NA   DESE   LDGV   Light-Duty Vehickes (R.501 hs)   0.580   0.037   0.020   0.036   0.022   0.017   0.025     Gasoline   LDGV   Light-Duty Vehickes (R.501 hs)   0.580   0.030   0.790   0.281   0.037   0.021   177,400   0.011     LOW   Diesel   LDGV   Light-Duty Vehickes (R.501 hs)   0.580   0.008   0.036   0.022   0.011   351,300   0.102     Gasoline   LDGV   Light-Duty Vehickes (R.501 hs)   0.652   0.007   0.750   0.080   0.036   0.022   314,100   0.007     Diesel   LDGV   Light-Duty Vehickes (R.501 hs)   0.652   0.007   0.255   0.270   0.041   0.025   0.011   351,300   0.102     Gasoline   LDGV   Light-Duty Vehickes (R.501 hs)   0.652   0.007   0.255   0.270   0.041   0.025   0.011   351,300   0.102     Gasoline   LDGV   Light-Duty Vehickes (R.501 hs)   0.652   0.007								***************************************			***************************************	***************************************	***************************************
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598,600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+18)   0.652   0.007   0.235   0.136   0.038   0.023   785,500   0.027     NA   MC   Motorcycles   1.220   0.003   14,520   2.170   0.037   0.021   177,400   0.011     Gasoline   LDGT   Light-Duty Vehicles (Pasenger Cars)   0.292   0.007   8,490   0.419   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Trucks (0,500 lbs)   0.582   0.010   10,220   0.719   0.025   0.011   368,000   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+lbs)   0.571   0.016   24,700   0.668   0.038   0.023   875,900   0.045     Diesel   LDDT   Light-Duty Vehicles (Pasenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314,100   0.007     Diesel   LDDT   Light-Duty Vehicles (8,501+lbs)   0.665   0.007   0.579   0.276   0.038   0.023   785,500   0.027     NA   MC   Motor yeles   0.850   0.850   0.003   27,090   2.810   0.037   0.021   177,400   0.011     Gasoline   LDGT   Light-Duty Vehicles (Pasenger Cars)   0.292   0.007   8,490   0.417   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Vehicles (Pasenger Cars)   0.292   0.007   8,490   0.417   0.025   0.011   358,000   0.102   0.005   0.005   0.005     Diesel   LDGT   Light-Duty Vehicles (R.501+lbs)   0.565   0.016   0.760   0.508   0.038   0.023   375,900   0.045     Diesel   LDGT   Light-Duty Vehicles (R.500+lbs)   0.562   0.010   10.220   0.071   0.025   0.011   358,000   0.102     Gasoline   LDGV   Light-Duty Vehicles (R.500+lbs)   0.562   0.000   0.525   0.270   0.041   0.025   0.011   358,000   0.102     Diesel   LDDV   Light-Duty Vehicles (R.500+lbs)   0.280   0.006   0.525   0.270   0.041   0.025   0.035   0.023   375,900   0.045     Diesel   LDDV   Light-Duty Vehicles (R.500+lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598,600   0.007     Diesel   LDDV   Light-Duty Vehicles (R.501+lbs)   0.560   0.007   0.003   0.003   0.003   0.003   0.003   0.003   0.003		Y 0377				·							
Diesel   HDDV   Heavy-Duty Vehicks (8,501+185)   0.652   0.007   0.235   0.136   0.038   0.023   785,500   0.027     NA		LOW									***************************************	***************************************	***************************************
NA MC   Motorcycles   1.220   0.003   14.520   2.170   0.037   0.021   177.400   0.011													
NEW MEXICO   Gasoline   LDGV   Light-Duty Vehicles (Pasenger Cars)   0.292   0.007   8.490   0.419   0.025   0.011   368.000   0.102													
NEW MEXICO   Gasoline   LDGT   Light-Duty Trucks (0.500 lbs)   0.582   0.010   10.220   0.719   0.025   0.011   551.300   0.102													
NEW MEXICO   Havy-Duty Vehicks (8,501+ lbs)   0.571   0.016   24,700   0.668   0.038   0.023   875,900   0.045													
NEWMEXICO   Diesel   LDDV   Light-Duty Velicles (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007													
NEW MEXICO   Diesel   LDDT   Light-Duty Pucks (0-8,500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598,600   0.007				~~~~~~~~~		~~~~~~~~~~			~~~~~~~~~~		***************************************	***************************************	***************************************
NEW MEXICO   Diesel   HDDV   Heavy-Dirfy Vehicles (8,501+ lbs)   0.665   0.007   0.579   0.276   0.038   0.023   785.500   0.027     NA		HIGH				***************************************		***************************************					
NA   MC   Motorycles   0.850   0.003   27.090   2.810   0.037   0.021   177.400   0.011				~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)								
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.292   0.007   8.490   0.417   0.025   0.011   368.000   0.102													
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.292   0.007   8.490   0.417   0.025   0.011   551.300   0.102	NEW MEXICO												
Casoline   HDG    Heavy-Duty Vehicles (8,501+ lbs)   0.696   0.016   7.760   0.508   0.038   0.023   875.900   0.045													
LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007			*****			****************	***************************************	*******************				************************	************************
Diesel   ADDT   Light-Duty Trucks (0-8,500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598,600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.652   0.007   0.235   0.136   0.038   0.023   785,500   0.027     N													
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.652   0.007   0.235   0.136   0.038   0.023   785.500   0.027     No		LOW											***************************************
New York													
Proceedings   Proceeding   Pr						***********		************					
Hoth   Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.606   0.010   11.920   0.718   0.025   0.011   551.300   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.580   0.016   25.940   0.635   0.038   0.023   875.900   0.045     Diesel   LDDV   Light-Duty Vehicles (Rassenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598.600   0.007     NA   MC   Motorcycles   0.890   0.003   28.410   2.720   0.037   0.021   177.400   0.011     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.300   0.007   10.140   0.403   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Vehicles (8,501+ lbs)   0.606   0.010   11.920   0.711   0.025   0.011   551.300   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.707   0.016   8.150   0.465   0.038   0.023   875.900   0.045     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.707   0.016   8.150   0.465   0.038   0.023   875.900   0.045     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007     Diesel   LDDV   Light-Duty Vehicles (Rassenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007     Diesel   LDDV   Light-Duty Vehicles (Rassenger Cars)   0.070   0.052   0.070   0.041   0.026   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.652   0.007   0.235   0.136   0.038   0.023   785.500   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.652   0.007   0.235   0.136   0.038   0.023   785.500   0.027													
Hori								***************************************			***************************************	***************************************	***************************************
NEW YOR    Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007													
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598,600   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.580	0.016	25.940	0.635	0.038	0.023	875.900	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.665   0.007   0.579   0.276   0.038   0.023   785.500   0.027     NA   MC   Motorcycles   0.890   0.003   28.410   2.720   0.037   0.021   177.400   0.011     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.300   0.007   10.140   0.403   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.606   0.010   11.920   0.711   0.025   0.011   551.300   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.707   0.016   81.50   0.465   0.038   0.023   875.900   0.045     Diesel   LDDT   Light-Duty Vehicles (8,501 lbs)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007     Diesel   LDDT   Light-Duty Vehicles (8,501 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501 lbs)   0.652   0.007   0.235   0.136   0.038   0.023   785.500   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 lbs)   0.652   0.007   0.235   0.136   0.038   0.023   785.500   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 lbs)   0.652   0.007   0.235   0.136   0.038   0.023   785.500   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 lbs)   0.652   0.007   0.235   0.136   0.038   0.023   785.500   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 lbs)   0.652   0.007   0.235   0.136   0.038   0.023   785.500   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 lbs)   0.652   0.007   0.235   0.136   0.038   0.023   785.500   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 lbs)   0.652   0.007   0.235   0.136   0.038   0.023   785.500   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 lbs)   0.652   0.007   0.235   0.136   0.038   0.023   785.500   0.027		HYGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
NEW YOR!    NA   MC   Motorcycles   0.890   0.003   28.410   2.720   0.037   0.021   177.400   0.011								***************************************				***************************************	
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.300   0.007   10.140   0.403   0.025   0.011   368.000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.300   0.007   10.140   0.403   0.025   0.011   368.000   0.102	NEW VODE		NA	MC	Motorcycles	0.890	0.003	28.410	2.720	0.037	0.021	177.400	0.011
LOW   Diesel   LDDV   Light-Duty Vehicles (8,501+ lbs)   0.707   0.016   8.150   0.465   0.038   0.023   875.900   0.045	NEW TORK		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.300	0.007	10.140	0.403	0.025	0.011	368.000	0.102
LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.072         0.003         0.675         0.080         0.036         0.022         314.100         0.007           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.280         0.006         0.526         0.270         0.041         0.026         598.600         0.007           Diesel         HDDV         Heavy-Duty Vehicles (8,501+ lbs)         0.652         0.007         0.235         0.136         0.038         0.023         785.500         0.027			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.606	0.010	11.920	0.711	0.025	0.011	551.300	0.102
Diesel LDDT Light-Duty Trucks (0-8,500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598,600   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.707	0.016	8.150	0.465	0.038	0.023	875.900	0.045
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 0.652 0.007 0.235 0.136 0.038 0.023 785.500 0.027		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
NA MC Motorcycles 1,280 0,003 15,150 2,030 0,037 0,021 177,400 0,011			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
	7		NA	MC	Motorcycles	1.280	0.003	15.150	2.030	0.037	0.021	177.400	0.011

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV (cont.)

State		Fl		Emission Factors (g/mi)							
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Type		NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.290	0.007	7.580	0.430	0.025	0.011	368.00 3	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.570	0.010	9.300	0.736	0.025	0.011	557.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.566	0.016	24.140	0.697	0.038	0.023	75.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.076	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	.023	785.500	0.027
NORTH CAROLINA		NA	MC Motorcycles	0.820	0.003	26.700	3.060	0.037	0.021	177.400	0.011
NORTH CAROLINA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.290	0.007	7.580	0.427	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.570	0.010	9.300	0.725	0 325	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.690	0.016	7.590	0.540	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.180	0.003	14.180	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.310	0.007	11.47	0.436	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.629	0.010	12.280	0.777	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.587	0.016	26.940	0.664	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.056	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	5.007	0.579	0.276	0.038	0.023	785.500	0.027
NORTH DAKOTA		NA	MC Motorcycles	0.920	0.003	29.870	2.840	0.037	0.021	177.400	0.011
NORTH BAROTA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.31	0.007	11.430	0.433	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0 629	0.010	13.280	0.770	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.716	0.016	8.470	0.483	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.320	0.003	15.970	2.120	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.296	0.007	9.080	0.426	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.591	0.010	10.830	0.735	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.574	0.016	25.150	0.674	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
ОНЮ		NA	MC Motor ycles	0.860	0.003	27.610	2.850	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.296	0.007	9.080	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.591	0.010	10.830	0.726	0.025	0.011	551.300	0.102
	Y 6 ***	Gasoline	HDG' Heavy-Duty Vehicles (8,501+ lbs)	0.700	0.016	7.900	0.509	0.038	0.023	875.900	0.045
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		N	MC Motorcycles	1.240	0.003	14.700	2.130	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.299	0.007	7.830	0.440	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.578	0.010	9.590	0.752	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.566	0.016	24.670	0.716	0.038	0.023	875.900	0.045
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
OKLAHOM		NA	MC Motorcycles	0.810	0.003	27.830	3.440	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.299	0.007	7.830	0.435	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.578	0.010	9.590	0.737	0.025	0.011	551.300	0.102
	Y 011/	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.691	0.016	7.750	0.553	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
	-	NA	MC Motorcycles	1.170	0.003	14.790	2.610	0.037	0.021	177.400	0.011

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV (cont.)

	Altitude	Е. 1			Emission Factors (g/mi)							
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Туре			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	9.530	0.413	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.594	0.010	11.290	0.712	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.577	0.016	25.470	0.647	0.038	0.023	75.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	.023	785.500	0.027
OREGON		NA	MC	Motorcycles	0.870	0.003	27.650	2.690	0.037	0.021	177.400	0.011
OKEGON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	9.530	0.412	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.594	0.010	11.290	0.707	0 325	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.704	0.016	8.000	0.484	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	1.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.260	0.003	14.710	2.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.271	0.007	6.56	0.408	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.546	0.010	8 270	0.691	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.561	0.016	23.300	0.668	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.036	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	5.007	0.579	0.276	0.038	0.023	785.500	0.027
PACIFIC ISLANDS		NA	MC	Motorcycles	0.810	0.003	25.480	2.780	0.037	0.021	177.400	0.011
THEIR IS ISLANDS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.27	0.007	6.560	0.408	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9 346	0.010	8.270	0.683	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.684	0.016	7.320	0.522	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+11s)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.160	0.003	13.500	2.080	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.296	0.007	9.410	0.425	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,5,500 lbs)	0.595	0.010	11.170	0.733	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.576	0.016	25.390	0.667	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vel cles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
PENNSYLVANIA		NA	MC	Motor ycles	0.870	0.003	27.810	2.750	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.296	0.007	9.410	0.423	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.595	0.010	11.170	0.725	0.025	0.011	551.300	0.102
	Y 0377	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.703	0.016	7.980	0.502	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		N/	MC	Motorcycles	1.250	0.003	14.810	2.050	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.290	0.007	5.140	0.419	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.543	0.010	6.850	0.707	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.552	0.016	22.610	0.704	0.038	0.023	875.900	0.045
	HYGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
PUERTO RIGO		NA	MC	Motorcycles	0.760	0.003	25.900	2.960	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.290	0.007	5.140	0.418	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.543	0.010	6.850	0.693	0.025	0.011	551.300	0.102
	Y 6	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.674	0.016	7.110	0.561	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
7		NA	MC	Motorcycles	1.090	0.003	13.710	2.260	0.037	0.021	177.400	0.011

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV (cont.)

State		F1		Emission Factors (g/mi)							
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс		NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.294	0.007	9.170	0.421	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.591	0.010	10.920	0.725	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.575	0.016	25.210	0.664	0.038	0.023	15.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.076	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	.023	785.500	0.027
RHODE ISLAND		NA	MC Motorcycles	0.860	0.003	27.580	2.740	0.037	0.021	177.400	0.011
KHODE ISLAND		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.294	0.007	9.170	0.419	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.591	0.010	10.920	0.718	0 325	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.701	0.016	7.920	0.500	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	1.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.240	0.003	14.680	2.040	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.292	0.007	7.20	0.434	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.567	0.010	8 340	0.740	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.563	0.016	24.090	0.710	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.036	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	5.007	0.579	0.276	0.038	0.023	785.500	0.027
SOUTH CAROLINA		NA	MC Motorcycles	0.800	0.003	26.920	3.190	0.037	0.021	177.400	0.011
000111011110111111		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.292	0.007	7.200	0.431	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	9 367	0.010	8.940	0.727	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.687	0.016	7.570	0.553	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.160	0.003	14.290	2.410	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.304	0.007	10.140	0.418	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.609	0.010	11.930	0.742	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.580	0.016	25.960	0.655	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
SOUTH DAKOTA		NA	MC Motor ycles	0.880	0.003	28.690	2.980	0.037	0.021	177.400	0.011
200111111111111111111111111111111111111		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.304	0.007	10.140	0.415	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.609	0.010	11.930	0.733	0.025	0.011	551.300	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.707	0.016	8.160	0.481	0.038	0.023	875.900	0.045
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		N/	MC Motorcycles	1.270	0.003	15.310	2.230	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.292	0.007	7.860	0.427	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.575	0.010	9.590	0.731	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.567	0.016	24.360	0.689	0.038	0.023	875.900	0.045
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
TENNESSE		NA	MC Motorcycles	0.830	0.003	26.940	3.060	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.292	0.007	7.860	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.575	0.010	9.590	0.720	0.025	0.011	551.300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.692	0.016	7.660	0.530	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC Motorcycles	1.190	0.003	14.320	2.300	0.037	0.021	177.400	0.011

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV (cont.)

		Fuel			Emission Factors (g/mi)							
State	Altitude	Type		Vehicle Type		1	Criteria Po	llutants a	nd Ozone	Precursor	S	
		Турс			NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.295	0.007	7.080	0.440	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.567	0.010	8.830	0.748	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.562	0.016	24.200	0.723	0.038	0.023	15.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	.023	785.500	0.027
TOTAL C		NA	MC	Motorcycles	0.790	0.003	27.500	3.370	0.037	0.021	177.400	0.011
TEXAS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.295	0.007	7.080	0.436	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.567	0.010	8.830	0.733	0 325	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.686	0.016	7.610	0.565	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.210	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.140	0.003	14.590	2.560	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.297	0.007	9.39	0.402	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.596	0.010	11.150	0.713	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.576	0.016	25.380	0.641	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
	111011	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.005	0.526	0.270	0.030	0.022	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	3.007	0.579	0.276	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	0.870	0.003	27.870	2.830	0.037	0.023	177.400	0.027
UTAH		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.870	0.003	9.390	0.400	0.037	0.021	368.000	0.102
		Gasoline	LDGV	Light-Duty Venices (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.2	0.007	11.150	0.400	0.025	0.011	551.300	0.102
			HDGV		0.702		7.980	0.703	0.023	0.011	~~~~~~~~~~	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	·	0.016		0.474		0.023	875.900	
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675		0.036		314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ 1/s)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.250	0.003	14.850	2.110	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parkenger Cars)	0.303	0.007	10.730	0.413	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,5,500 lbs)	0.616	0.010	12.540	0.734	0.025	0.011	551.300	0.102
	****	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.016	26.390	0.640	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Velicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
VERMONT		NA	MC	Motor ycles	0.900	0.003	28.930	2.720	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.303	0.007	10.730	0.412	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.616	0.010	12.540	0.728	0.025	0.011	551.300	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.711	0.016	8.290	0.467	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		N/	MC	Motorcycles	1.300	0.003	15.440	2.030	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.299	0.007	5.180	0.427	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.551	0.010	6.910	0.719	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.554	0.016	23.090	0.722	0.038	0.023	875.900	0.045
	HYGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
	Ī	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
VIRGIN ISLANDS		NA	MC	Motorcycles	0.730	0.003	27.660	3.060	0.037	0.021	177.400	0.011
VIRGIN ISLATOS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.299	0.007	5.180	0.425	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.551	0.010	6.910	0.703	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.675	0.016	7.260	0.576	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
<u> </u>		NA	MC	Motorcycles	1.060	0.003	14.620	2.350	0.037	0.021	177.400	0.011

Table 5-30. On-Road Vehicle Emission Factors - 2018 POV (cont.)

		Fuel					E	mission Fa	actors (g/n	ni)		
State	Altitude	Type		Vehicle Type			Criteria Po					
					NOx	SO <sub>X</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.292	0.007	8.160	0.423	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.578	0.010	9.890	0.726	0.025	0.011	551.300	0.102
	HIGH	Gasoline Diesel	HDGV LDDV	Heavy-Duty Vehicles (8,501+ lbs) Light-Duty Vehicles (Passenger Cars)	0.569 0.072	0.016	24.470 0.675	0.679 0.080	0.038	0.023 0.022	875.90° 314.00	0.045 0.007
	mon	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.005	0.526	0.270	0.030	0.022	5 8.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	0.840	0.003	26.900	2.900	0.037	0.02	177.400	0.011
VIRGINIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.292	0.007	8.160	0.421	0.025	9 011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.578	0.010	9.890	0.716	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.694	0.016	7.690	0.519	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0556	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV		0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.210	0.003	14.300 9.690	2.173	0.037	0.021	177.400	0.011
		Gasoline Gasoline	LDGV LDGT	Light-Duty Vehicles (Passenger Cars)	0.294	0.007	9.690	0.415 0.716	0.025	0.011	368.000 551.300	0.102
		Gasoline	HDGV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	0.578	0.016	25.59	0.718	0.023	0.023	875.900	0.102
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0 15	0.048	0.036	0.023	314.100	0.043
	mon	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.030	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	0.880	0.0%	27.780	2.690	0.037	0.021	177.400	0.011
WASHINGTON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.294	.007	9.690	0.413	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.597	0.010	11.460	0.711	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.70	0.016	8.040	0.485	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0/12	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.260	0.003	14.790	2.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	8.870	0.421	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.587	0.010	10.620	0.723	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8501+ lbs)	0.573	0.016	24.990	0.666	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Vassenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vericles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
WEST VIRGINIA		NA Gasoline	MC LDGV	Motorcycles  Light-Dur Vehicles (Passenger Cars)	0.860	0.003	27.370 8.870	2.770 0.418	0.037	0.021	177.400 368.000	0.011
		Gasoline	LDGV	Light-Puty Trucks (0-8,500 lbs)	0.293	0.007	10.620	0.418	0.025	0.011	551.300	0.102
		Gasoline	HDGV	He vy-Duty Vehicles (8,501+ lbs)	0.699	0.016	7.850	0.713	0.023	0.023	875.900	0.102
	LOW	Diesel	LDDV	aght-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HD JV		0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.230	0.003	14.560	2.070	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.305	0.007	10.750	0.420	0.025	0.011	368.000	0.102
		Gaso <sup>r</sup> ne	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.617	0.010	12.560	0.746	0.025	0.011	551.300	0.102
		Gosoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.016	26.410	0.649	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
WISCONSIN		NA	MC	Motorcycles	0.900	0.003	29.090	2.780	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.305	0.007	10.750	0.417	0.025	0.011	368.000	0.102
		Gasoline Gasoline		Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501+ lbs)	0.617 0.711	0.010 0.016	12.560 8.300	0.739 0.474	0.025 0.038	0.011	551.300 875.900	0.102 0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.023	314.100	0.043
	LOW	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.005	0.526	0.270	0.030	0.022	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
		NA	MC	Motorcycles	1.290	0.003	15.530	2.080	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.302	0.007	10.640	0.409	0.025	0.021	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.614	0.010	12.440	0.726	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.016	26.310	0.635	0.038	0.023	875.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.007	0.579	0.276	0.038	0.023	785.500	0.027
WYOMING		NA	MC	Motorcycles	0.900	0.003	28.760	2.710	0.037	0.021	177.400	0.011
" TOMING		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.302	0.007	10.640	0.408	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.614	0.010	12.440	0.720	0.025	0.011	551.300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.711	0.016	8.270	0.463	0.038	0.023	875.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.007	0.235	0.136	0.038	0.023	785.500	0.027
	+	NA	MC	Motorcycles	1.290	0.003	15.340	2.020	0.037	0.021	177.400	0.011

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV

Gasoline   LDGT   Light-Duty Trucks (0-8.500 hs)   0.542   0.010   8.690   0.707   0.025   0.011	\$\begin{align*} \textbf{CO}_2 & \textbf{NH}_3 \\ 368.00 & 0.102 \\ 551.500 & 0.102 \\ 551.500 & 0.045 \\ 314.100 & 0.007 \\ 785.400 & 0.027 \\ 177.400 & 0.011 \\ 368.000 & 0.102 \\ 551.500 & 0.102 \\ 575.700 & 0.045 \\ 314.100 & 0.007 \\ 785.400 & 0.007 \\ 368.000 & 0.007 \\ 785.400 & 0.007 \\ 314.100 & 0.007 \\ 785.400 & 0.027 \\ 177.400 & 0.011 \\ 368.000 & 0.102 \\ 551.500 & 0.102 \\ 875.700 & 0.102 \\ 875.700 & 0.102 \\ 875.700 & 0.102 \\ 875.700 & 0.045 \end{align*}
Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.275   0.007   7.050   0.415   0.025   0.011	368.00 0.102 55.200 0.102 55.700 0.045 314.100 0.007 598.600 0.007 785.400 0.027 177.400 0.110 368.000 0.102 875.700 0.045 314.100 0.007 785.400 0.007 785.400 0.007 785.400 0.007 785.400 0.011 368.000 0.102
HIGH   Discal   LDGV   Heavy-Duty Vehicks (8.501+ hs)   0.495   0.010   8.690   0.707   0.025   0.011	55,500 0.102 75,700 0.045 314,100 0.007 598,600 0.007 785,400 0.017 77,400 0.011 368,000 0.102 875,700 0.045 314,100 0.007 785,600 0.007 785,400 0.027 177,400 0.011 368,000 0.102 551,500 0.102
ALABAMA	75.700 0.045 314.100 0.007 598.600 0.007 785.400 0.027 177.400 0.011 368.000 0.102 875.700 0.045 314.100 0.007 598.600 0.007 785.400 0.027 177.400 0.011 368.000 0.102
ALABAMA	75.700 0.045 314.100 0.007 598.600 0.007 785.400 0.027 177.400 0.011 368.000 0.102 875.700 0.045 314.100 0.007 598.600 0.007 785.400 0.027 177.400 0.011 368.000 0.102
ALASKA    Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0,257   0,006   0,508   0,253   0,039   0,034	598.600         0.007           785.400         0.027           177.400         0.011           368.000         0.102           875.700         0.042           314.100         0.007           598.600         0.007           785.400         0.027           177.400         0.011           368.000         0.102           551.500         0.102
ALABAMA    Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.583   0.007   0.524   0.271   0.036   0.022	785.400 0.027 177.400 0.011 368.000 0.102 551.500 0.102 875.700 0.045 314.100 0.007 785.400 0.027 177.400 0.011 368.000 0.102 551.500 0.102
ALABAMA    Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.583   0.007   0.524   0.271   0.036   0.022	177.400 0.011 368.000 0.102 551.500 0.102 875.700 0.045 314.100 0.007 598.600 0.007 785.400 0.027 177.400 0.011 368.000 0.102 551.500 0.102
NA	368.000         0.102           551.500         0.102           875.700         0.045           314.100         0.007           598.600         0.007           785.400         0.027           177.400         0.011           368.000         0.102           551.500         0.102
Casoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.275   0.007   7.050   0.412   0.027   0.011	551.500         0.102           875.700         0.045           314.100         0.007           598.600         0.007           785.400         0.027           177.400         0.011           368.000         0.102           551.500         0.102
Casoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.542   0.010   8.690   0.695   0.25   0.011	875.700 0.045 314.100 0.007 598.600 0.007 785.400 0.027 177.400 0.011 368.000 0.102 551.500 0.102
LOW   Diesel   LDDV   Light-Duty Vehicles (8,501+ lbs)   0.604   0.016   7.490   0.516   0.037   0.022	875.700 0.045 314.100 0.007 598.600 0.007 785.400 0.027 177.400 0.011 368.000 0.102 551.500 0.102
LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020	314.100         0.007           598.600         0.007           785.400         0.027           177.400         0.011           368.000         0.102           551.500         0.102
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.25   0.039   0.024	598.600         0.007           785.400         0.027           177.400         0.011           368.000         0.102           551.500         0.102
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.572   0.007   0.213   .134   0.036   0.022     NA	785.400 0.027 177.400 0.011 368.000 0.102 551.500 0.102
NA MC   Motorcycles   1.160   0.003   14.280   2.410   0.037   0.021	177.400         0.011           368.000         0.102           551.500         0.102
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.309   0.007   13.79   0.429   0.025   0.011	368.000 0.102 551.500 0.102
ALASKA    HIGH   Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.643   0.010   15470   0.768   0.025   0.011	551.500 0.102
HIGH High ALASKA    High   High   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020	
ALASKA  HIGH    Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020	
ALASKA    Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.096   0.508   0.253   0.039   0.024	314.100 0.007
ALASKA    Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.583   0.007   0.524   0.271   0.036   0.022     NA   MC   Motorcycles   0.980   0.003   31.650   2.760   0.037   0.021     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.39   0.007   13.790   0.429   0.025   0.011     Gasoline   HDGV   Light-Duty Vehicles (8,500 lbs)   9.643   0.010   15.470   0.766   0.025   0.011     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.644   0.016   8.970   0.425   0.037   0.022     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   0.572   0.007   0.213   0.134   0.036   0.022     NA   MC   Motorcycles   1.410   0.003   16.960   2.050   0.037   0.021     Gasoline   LDGV   Light-Duty Trucks (9,500 lbs)   0.547   0.010   9.020   0.715   0.025   0.011     Gasoline   LDGV   Light-Duty Vehicles (8,501+ lbs)   0.497   0.016   24.090   0.666   0.037   0.022     HIGH   Diesel   LDDV   Light-Duty Vehicles (8,501+ lbs)   0.497   0.016   24.090   0.666   0.037   0.022     Diesel   LDDT   Light-Duty Vehicles (8,501+ lbs)   0.583   0.007   0.524   0.271   0.035   0.020     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.547   0.016   24.090   0.666   0.037   0.022     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.583   0.007   0.524   0.271   0.036   0.022     NA   MC   Motorcycles   0.810   0.003   27,160   3.280   0.037   0.021	598.600 0.007
ALASKA    NA   MC   Motorcycles   0.980   0.003   31.650   2.760   0.037   0.021	785.400 0.027
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.30   0.007   13.790   0.429   0.025   0.011	177.400 0.027
Casoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   9643   0.010   15.470   0.766   0.025   0.011	368.000 0.011
Casoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.644   0.016   8.970   0.425   0.037   0.022	551.500 0.102
LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars   0.063   0.003   0.666   0.075   0.035   0.020	~~~~~~~
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024	
Diesel HDDV Heavy-Duty Vehicles (8,501+18)   0.572   0.007   0.213   0.134   0.036   0.022     NA	314.100 0.007
NA   MC   Motorcycles   1.410   0.003   16.960   2.050   0.037   0.021	598.600 0.007
Gasoline   LDGV   Light-Duty Vehicles (Pasenger Cars)   0.277   0.007   7.380   0.418   0.025   0.011	785.400 0.027
Gasoline   LDGT   Light-Duty Trucks (0.500 lbs)   0.547   0.010   9.020   0.715   0.025   0.011	177.400 0.011
HIGH   Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.497   0.016   24.090   0.666   0.037   0.022	368.000 0.102
HIGH Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.063 0.003 0.666 0.075 0.035 0.020	551.500 0.102
Diesel LDDT Light-Duty Pricks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024	875.700 0.045
ARIZONA    Diesel   HDDV   Heavy-Daty Vehicles (8,501+ lbs)   0.583   0.007   0.524   0.271   0.036   0.022	314.100 0.007
ARIZONA NA MC Motorycks 0.810 0.003 27.160 3.280 0.037 0.021 Gasoline LDGV Lint-Duty Vehicles (Passenger Cars) 0.277 0.007 7.380 0.415 0.025 0.011	598.600 0.007
ARIZONA Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.277 0.007 7.380 0.415 0.025 0.011	785.400 0.027
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.277 0.007 7.380 0.415 0.025 0.011	177.400 0.011
Gasoline LDGT //ght-Duty Trucks (0-8.500 lbs)   0.547   0.010   9.020   0.702   0.025   0.011	368.000 0.102
	551.500 0.102
	875.700 0.045
	314.100 0.007
	598.600 0.007
	785.400 0.027
	177.400 0.011
	368.000 0.102
	551.500 0.102
	875.700 0.045
	314.100 0.007
	598.600 0.007
ARKANSAS NA MC Motorcycles 0.810 0.003 27.370 3.340 0.037 0.021	785.400 0.027
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.279 0.007 7.520 0.416 0.025 0.011	
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.550 0.010 9.160 0.704 0.025 0.011	785.400 0.027
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.607 0.016 7.610 0.516 0.037 0.022	785.400 0.027 177.400 0.011
LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.063         0.003         0.666         0.075         0.035         0.020	785.400 0.027 177.400 0.011 368.000 0.102
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.257 0.006 0.508 0.253 0.039 0.024	785.400 0.027 177.400 0.011 368.000 0.102 551.500 0.102
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 0.572 0.007 0.213 0.134 0.036 0.022	785.400 0.027 177.400 0.011 368.000 0.102 551.500 0.102 875.700 0.045
NA MC Motorcycles 1.170 0.003 14.540 2.530 0.037 0.021	785.400 0.027 177.400 0.011 368.000 0.102 551.500 0.102 875.700 0.045 314.100 0.007

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV (cont.)

		Б. 1			Emission Factors (g/mi)							
State	Altitude	Fuel Type	,	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-D	uty Vehicles (Passenger Cars)	0.270	0.007	7.300	0.406	0.025	0.011	368.003	0.102
		Gasoline		uty Trucks (0-8,500 lbs)	0.542	0.010	8.900	0.692	0.025	0.011	551,500	0.102
		Gasoline		Duty Vehicles (8,501+ lbs)	0.497	0.016	23.690	0.642	0.037	0.022	75.700	0.045
	HIGH	Diesel		uty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		uty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.074	598.600	0.007
		Diesel		Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	.022	785.400	0.027
CALIFORNIA		NA	MC Motorcy		0.820	0.003	26.280	2.880	0.037	0.021	177.400	0.011
		Gasoline		uty Vehicles (Passenger Cars)	0.270	0.007	7.300	0.404	0.025	0.011	368.000	0.102
		Gasoline		uty Trucks (0-8,500 lbs)	0.542	0.010	8.900	0.683	0.325	0.011	551.500	0.102
	LOW	Gasoline Diesel		Duty Vehicles (8,501+ lbs)	0.606	0.016	7.440 0.666	0.497 0.075	0.037 0.035	0.022	875.700 314.100	0.045
	LOW	Diesel		uty Vehicles (Passenger Cars) uty Trucks (0-8,500 lbs)	0.063	0.003	0.508	0.075	0.039	0.020	598.600	0.007
		Diesel		Duty Vehicles (8,501+ lbs)	0.237	0.007	0.213	1.134	0.039	0.024	785.400	0.007
		NA	MC Motorcy		1.180	0.007	13.960	2.160	0.037	0.022	177.400	0.027
		Gasoline		uty Vehicles (Passenger Cars)	0.280	0.003	9.92	0.384	0.037	0.021	368.000	0.102
		Gasoline		uty Trucks (0-8,500 lbs)	0.578	0.010	17.530	0.681	0.025	0.011	551.500	0.102
		Gasoline		Duty Vehicles (8,501+ lbs)	0.510	0.016	25.630	0.589	0.037	0.022	875.700	0.045
	HIGH	Diesel		uty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		uty Trucks (0-8,500 lbs)	0.257	0.036	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Duty Vehicles (8,501+ lbs)	0.583	3.007	0.524	0.271	0.036	0.022	785.400	0.027
COV OD LDO		NA	MC Motore		0.880	0.003	28.240	2.710	0.037	0.021	177.400	0.011
COLORADO		Gasoline		uty Vehicles (Passenger Cars)	0.28	0.007	9.920	0.382	0.025	0.011	368.000	0.102
		Gasoline		uty Trucks (0-8,500 lbs)	9 578	0.010	11.530	0.675	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-	Duty Vehicles (8,501+ lbs)	0.622	0.016	8.050	0.430	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-D	uty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-D	uty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-	Duty Vehicles (8,501+ 1/s)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC Motorcy		1.270	0.003	15.050	2.020	0.037	0.021	177.400	0.011
		Gasoline		uty Vehicles (Pagenger Cars)	0.279	0.007	9.330	0.408	0.025	0.011	368.000	0.102
		Gasoline		uty Trucks (0,5,500 lbs)	0.571	0.010	10.930	0.705	0.025	0.011	551.500	0.102
		Gasoline		Duty Vehicles (8,501+ lbs)	0.507	0.016	25.190	0.626	0.037	0.022	875.700	0.045
	HIGH	Diesel		uty Vel cles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		uty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		dy Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
CONNECTICUT		NA	MC Motor		0.870	0.003	27.860	2.760	0.037	0.021	177.400	0.011
		Gasoline		uty Vehicles (Passenger Cars)	0.279	0.007	9.330	0.406	0.025	0.011	368.000	0.102
		Gasoline		uty Trucks (0-8,500 lbs)  Duty Vehicles (8,501+ lbs)	0.571	0.010	10.930	0.698	0.025	0.011	551.500	0.102
	LOW	Gasoline Diesel			0.619	0.016	7.920 0.666	0.469	0.037 0.035	0.022	875.700 314.100	0.045 0.007
	LOW	Diesel	<del>//</del>	uty Vehicles (Passenger Cars) uty Trucks (0-8,500 lbs)	0.063	0.003	0.508	0.073	0.039	0.020	598.600	0.007
		Diesel	<u> </u>	Duty Vehicles (8,501+ lbs)	0.237	0.007	0.213	0.233	0.039	0.024	785.400	0.007
		N	MC Motorcy		1.250	0.007	14.840	2.060	0.037	0.022	177.400	0.027
		Casoline		uty Vehicles (Passenger Cars)	0.276	0.003	8.090	0.408	0.025	0.021	368.000	0.102
		Gasoline		uty Trucks (0-8,500 lbs)	0.555	0.010	9.690	0.701	0.025	0.011	551.500	0.102
		Gasoline		Duty Vehicles (8,501+ lbs)	0.501	0.016	24.300	0.640	0.023	0.022	875.700	0.045
	HUGH	Diesel		uty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		uty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
DEL TANTE		NA	MC Motorcy		0.840	0.003	27.020	2.990	0.037	0.021	177.400	0.011
DELAWARI		Gasoline		uty Vehicles (Passenger Cars)	0.276	0.007	8.090	0.406	0.025	0.011	368.000	0.102
		Gasoline		uty Trucks (0-8,500 lbs)	0.555	0.010	9.690	0.691	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-	Duty Vehicles (8,501+ lbs)	0.611	0.016	7.640	0.489	0.037	0.022	875.700	0.045
	LOW	Diesel		uty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-D	uty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-	Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
7		NA	MC Motorcy	ycles	1.210	0.003	14.370	2.240	0.037	0.021	177.400	0.011

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV (cont.)

		Fuel	·		Emission Factors (g/mi) Criteria Pollutants and Ozone Precursors							
State	Altitude	Type		Vehicle Type			Criteria Po		nd Ozone	Precursor	S	
		Турс			NOx	SO <sub>X</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.007	6.050	0.410	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.531	0.010	7.710	0.693	0.025	0.011	551,500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.491	0.016	23.260	0.666	0.037	0.022	15.700	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.07.4	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	.022	785.400	0.027
FLORIDA		NA	MC	Motorcycles	0.770	0.003	26.730	2.990	0.037	0.021	177.400	0.011
FLORIDA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.007	6.050	0.408	0.025	0.011	368.000	0.102
		Gasoline	LDGT 1	Light-Duty Trucks (0-8,500 lbs)	0.531	0.010	7.710	0.681	0 325	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.598	0.016	7.310	0.524	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV 1	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT 1	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	1.134	0.036	0.022	785.400	0.027
		NA	MC 1	Motorcycles	1.110	0.003	14.160	2.270	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.275	0.007	6.95	0.414	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.541	0.010	90د 8	0.705	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.495	0.016	23.780	0.663	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.036	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	3.007	0.524	0.271	0.036	0.022	785.400	0.027
GEODGIA		NA	MC	Motorcycles	0.800	0.003	26.850	3.160	0.037	0.021	177.400	0.011
GEORGIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.27	0.007	6.950	0.411	0.025	0.011	368.000	0.102
		Gasoline	***************************************	Light-Duty Trucks (0-8,500 lbs)	0.541	0.010	8.590	0.693	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.604	0.016	7.470	0.516	0.037	0.022	875.700	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	~~~~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+1/s)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA		Motorcycles	1.150	0.003	14.250	2.390	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.261	0.007	5.730	0.395	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0.5,500 lbs)	0.519	0.010	7.360	0.666	0.025	0.011	551.500	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.490	0.016	22.550	0.638	0.037	0.022	875.700	0.045
	HIGH	Diesel	~~~~	Light-Duty Veh cles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Heavy-Day Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
		NA		Motor ycles	0.790	0.003	25.120	2.810	0.037	0.021	177.400	0.011
HAWAII		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.261	0.007	5.730	0.394	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.519	0.010	7.360	0.656	0.025	0.011	551.500	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.597	0.016	7.090	0.503	0.037	0.022	875.700	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598,600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		N.		Motorcycles	1.140	0.003	13.310	2.110	0.037	0.021	177.400	0.011
		Casoline		Light-Duty Vehicles (Passenger Cars)	0.281	0.007	10.170	0.385	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.582	0.010	11.770	0.683	0.025	0.011	551.500	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.511	0.016	25.810	0.587	0.037	0.022	875.700	0.045
	HV JH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785,400	0.027
		NA		Motorcycles	0.890	0.003	28.410	2.690	0.037	0.021	177.400	0.011
IDAHO		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.281	0.007	10.170	0.383	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.582	0.010	11.770	0.678	0.025	0.011	551.500	0.102
		Gasoline	~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.623	0.016	8.110	0.428	0.023	0.022	875.700	0.102
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.023	0.003	0.666	0.428	0.037	0.022	314.100	0.043
	2011	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.003	0.005	0.508	0.073	0.039	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.237	0.007	0.213	0.233	0.039	0.024	785.400	0.007
		NA		Motorcycles	1.280	0.007	15.140	2.000	0.030	0.022	177.400	0.027
	1	INA	IVIC	iviolote yeses	1.200	0.003	13.140	2.000	0.057	0.021	1//.400	0.011

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV (cont.)

		Fuel				•		mission Fa			•	
State	Altitude	Type	Vel	nicle Type		(	Criteria Po	llutants a	nd Ozone	Precursor	S	
		Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty	Vehicles (Passenger Cars)	0.280	0.007	8.830	0.415	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty	Trucks (0-8,500 lbs)	0.566	0.010	10.430	0.715	0.025	0.011	551,500	0.102
		Gasoline	HDGV Heavy-Du	ty Vehicles (8,501+ lbs)	0.505	0.016	24.850	0.642	0.037	0.022	15.700	0.045
	HIGH	Diesel	LDDV Light-Duty	Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.07.4	598.600	0.007
		Diesel		ty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	.022	785.400	0.027
		NA	MC Motorcycle	<u> </u>	0.860	0.003	27.670	3.060	0.037	0.021	177.400	0.011
ILLINOIS		Gasoline	LDGV Light-Duty	Vehicles (Passenger Cars)	0.280	0.007	8.830	0.412	0.025	0.011	368.000	0.102
		Gasoline		Trucks (0-8,500 lbs)	0.566	0.010	10.430	0.705	0 325	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Du	ty Vehicles (8,501+ lbs)	0.615	0.016	7.810	0.486	0.037	0.022	875.700	0.045
	LOW	Diesel		Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2 3	0.039	0.024	598.600	0.007
		Diesel		ty Vehicles (8,501+ lbs)	0.572	0.007	0.213	J.134	0.036	0.022	785,400	0.027
		NA	MC Motorcycle	<i></i>	1.230	0.003	14.730	2.300	0.037	0.021	177.400	0.011
		Gasoline		Vehicles (Passenger Cars)	0.279	0.007	8.80	0.411	0.025	0.011	368.000	0.102
		Gasoline	<del>-</del>	Trucks (0-8,500 lbs)	0.565	0.007	16.400	0.707	0.025	0.011	551.500	0.102
		Gasoline		ty Vehicles (8,501+ lbs)	0.505	0.016	24.800	0.636	0.023	0.022	875.700	0.102
	HIGH	Diesel		Vehicles (Passenger Cars)	0.063	0.003	0.666	0.036	0.037	0.022	314.100	0.043
	mon	Diesel		Trucks (0-8,500 lbs)	0.003	0.003	0.508	0.073	0.033	0.020	598.600	0.007
					0.237	3.007	0.524	0.233	0.039	0.024	785.400	0.007
		Diesel		ty Vehicles (8,501+ lbs)								
INDIANA		NA	MC Motorcycle		0.860	0.003	27.550	2.950	0.037	0.021	177.400	0.011
		Gasoline		Vehicles (Passenger Cars)	0.27	0.007	8.800	0.408	0.025	0.011	368.000	0.102
		Gasoline		Trucks (0-8,500 lbs)	303	0.010	10.400	0.698	0.025	0.011	551.500	0.102
		Gasoline		ty Vehicles (8,501+ lbs)	0.615	0.016	7.790	0.480	0.037	0.022	875.700	0.045
	LOW	Diesel		Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		ty Vehicles (8,501+11s)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC Motorcycle		1.230	0.003	14.670	2.220	0.037	0.021	177.400	0.011
		Gasoline		Vehicles (Paysenger Cars)	0.285	0.007	9.690	0.395	0.025	0.011	368.000	0.102
		Gasoline		Trucks (0.5,500 lbs)	0.579	0.010	11.300	0.703	0.025	0.011	551.500	0.102
		Gasoline		ty Vehicles (8,501+ lbs)	0.509	0.016	25.480	0.610	0.037	0.022	875.700	0.045
	HIGH	Diesel		Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty	Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-D	y Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
IOWA		NA	MC Motor yel	es	0.880	0.003	28.410	3.000	0.037	0.021	177.400	0.011
IOWA		Gasoline	LDGV Light-Duty	Vehicles (Passenger Cars)	0.285	0.007	9.690	0.392	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty	Trucks (0-8,500 lbs)	0.579	0.010	11.300	0.694	0.025	0.011	551.500	0.102
		Gasoline	HDGY Heavy-Du	ty Vehicles (8,501+ lbs)	0.620	0.016	8.010	0.448	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty	Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty	Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Du	ty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		N/	MC Motorcycle	es	1.260	0.003	15.150	2.250	0.037	0.021	177.400	0.011
		Casoline		Vehicles (Passenger Cars)	0.282	0.007	8.400	0.417	0.025	0.011	368.000	0.102
		Gasoline		Trucks (0-8,500 lbs)	0.562	0.010	10.030	0.717	0.025	0.011	551.500	0.102
		Gasoline		ty Vehicles (8,501+ lbs)	0.502	0.016	24.740	0.654	0.037	0.022	875.700	0.045
	HZH	Diesel		Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		ty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785,400	0.027
		NA	MC Motorcycle	<del></del>	0.840	0.003	27.810	3.290	0.037	0.021	177.400	0.011
KANSAS		Gasoline		Vehicles (Passenger Cars)	0.282	0.003	8.400	0.414	0.037	0.021	368.000	0.102
		Gasoline		Trucks (0-8,500 lbs)	0.562	0.007	10.030	0.705	0.025	0.011	551.500	0.102
		Gasoline		ty Vehicles (8,501+ lbs)	0.612	0.016	7.770	0.498	0.023	0.022	875.700	0.102
	LOW	Diesel		Vehicles (Passenger Cars)	0.063	0.003	0.666	0.498	0.037	0.022	314.100	0.043
	LOW	Diesel		Trucks (0-8,500 lbs)	0.003	0.005	0.508	0.073	0.033	0.020	598.600	0.007
		Diesel		ty Vehicles (8,501+ lbs)	0.237	0.006	0.308	0.233	0.039	0.024	785.400	0.007
		******************		<del></del>			***************************************					***************************************
		NA	MC Motorcycle	28	1.200	0.003	14.800	2.490	0.037	0.021	177.400	0.011

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV (cont.)

		Fuel						mission Fa			•	
State	Altitude	Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	S	
		Турс			NOx	SOx	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Ligh	ht-Duty Vehicles (Passenger Cars)	0.277	0.007	8.090	0.409	0.025	0.011	368.00	0.102
		Gasoline	LDGT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.555	0.010	9.690	0.702	0.025	0.011	551,500	0.102
		Gasoline	HDGV Hea	avy-Duty Vehicles (8,501+ lbs)	0.501	0.016	24.320	0.642	0.037	0.022	15.700	0.045
	HIGH	Diesel	LDDV Ligh	ht-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.07.4	598.600	0.007
		Diesel	HDDV Hea	avy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	.022	785.400	0.027
***************************************		NA	MC Mot	torcycles	0.840	0.003	27.070	3.010	0.037	0.021	177.400	0.011
KENTUCKY		Gasoline	LDGV Ligh	ht-Duty Vehicles (Passenger Cars)	0.277	0.007	8.090	0.406	0.025	0.011	368.000	0.102
		Gasoline	LDGT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.555	0.010	9.690	0.692	0 325	0.011	551.500	0.102
		Gasoline	HDGV Hea	avy-Duty Vehicles (8,501+ lbs)	0.611	0.016	7.640	0.490	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Ligh	ht-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel		avy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	J.134	0.036	0.022	785.400	0.027
		NA	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	torcycles	1.210	0.003	14.390	2.260	0.037	0.021	177,400	0.011
		Gasoline		ht-Duty Vehicles (Passenger Cars)	0.277	0.007	6.72	0.417	0.025	0.011	368.000	0.102
		Gasoline		ht-Duty Trucks (0-8,500 lbs)	0.540	0.010	8 370	0.707	0.025	0.011	551.500	0.102
		Gasoline		avy-Duty Vehicles (8,501+ lbs)	0.494	0.016	23.760	0.671	0.037	0.022	875.700	0.045
	HIGH	Diesel		ht-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		ht-Duty Trucks (0-8,500 lbs)	0.257	0.005	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		avy-Duty Vehicles (8,501+ lbs)	0.583	3.007	0.524	0.271	0.036	0.022	785.400	0.027
		NA		torcycles	0.790	0.003	27.220	3.260	0.037	0.021	177.400	0.011
LOUISIANA		Gasoline		ht-Duty Vehicles (Passenger Cars)	0.770	0.003	6.720	0.414	0.037	0.021	368.000	0.102
		Gasoline		ht-Duty Trucks (0-8,500 lbs)	0.2	0.007	8.370	0.694	0.025	0.011	551.500	0.102
		Gasoline		avy-Duty Vehicles (8,501+ lbs)	0.602	0.016	7.470	0.525	0.023	0.022	875.700	0.102
	LOW	Diesel		ht-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.037	0.022	314.100	0.043
	LOW	Diesel		ht-Duty Trucks (0-8,500 lbs)	0.063	0.005	0.508	0.073	0.033	0.020	598.600	0.007
		Diesel	0		0.572	0.007	0.213	0.233	0.039	0.024	785.400	0.007
		NA		avy-Duty Vehicles (8,501+1/s) torcycles	1.130	0.007	14.430	2.480	0.030	0.022	177.400	0.027
		Gasoline		ht-Duty Vehicles (Parsenger Cars)	0.287	0.003	10.930	0.400	0.037	0.021	368.000	0.102
		Gasoline		ht-Duty Trucks (0.,500 lbs)	0.287	0.007	12.550	0.712	0.025	0.011	551.500	0.102
		Gasoline		avy-Duty Vehicles (8,501+ lbs)	0.515	0.016	26.400	0.600	0.023	0.022	875.700	0.102
	HIGH	Diesel	·	ht-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.000	0.037	0.022	314.100	0.043
	IIIGII	Diesel		ht-Duty Trucks (0-8,500 lbs)	0.063	0.005	0.508	0.073	0.033	0.020	598.600	0.007
		Diesel		avy-Day Vehicles (8,501+ lbs)	0.237	0.007	0.524	0.233	0.039	0.024	785.400	0.007
		NA		tor ycles	0.383	0.007	29.210	2.730	0.037	0.022	177.400	0.027
MAINE		Gasoline		nt-Duty Vehicles (Passenger Cars)	0.910	0.003	10.930	0.398	0.037	0.021	368.000	0.102
					0.287			0.398	0.025	0.011		
		Gasoline		ht-Duty Trucks (0-8,500 lbs)	0.594	0.010	12.550 8.300	0.707	0.023	0.011	551.500	0.102
	LOW	Gasoline		avy-Duty Vehicles (8,501+ lbs)					0.037	0.022	875.700	
	LOW	Diesel		ht-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.033	0.020	314.100 598.600	0.007
		Diesel		ht-Duty Trucks (0-8,500 lbs)			0.508			0.024		
		Diesel N		avy-Duty Vehicles (8,501+ lbs)	0.572 1.310	0.007	0.213	0.134 2.030	0.036	0.022	785.400 177.400	0.027
				torcycles			15.590					
		Gasoline		ht-Duty Vehicles (Passenger Cars)	0.276	0.007	8.270	0.404	0.025	0.011	368.000	0.102
		Gasoline		ht-Duty Trucks (0-8,500 lbs)	0.557	0.010	9.870	0.694	0.025	0.011	551.500	0.102
	HUGH	Gasoline		avy-Duty Vehicles (8,501+ lbs)	0.502	0.016	24.410	0.631	0.037	0.022	875.700	0.045
	НЗН	Diesel		ht-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		ht-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		avy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
MARYLANI		NA C. J.		torcycles	0.840	0.003	27.100	2.920	0.037	0.021	177.400	0.011
		Gasoline		ht-Duty Vehicles (Passenger Cars)	0.276	0.007	8.270	0.402	0.025	0.011	368.000	0.102
		Gasoline		ht-Duty Trucks (0-8,500 lbs)	0.557	0.010	9.870	0.685	0.025	0.011	551.500	0.102
		Gasoline		avy-Duty Vehicles (8,501+ lbs)	0.612	0.016	7.670	0.479	0.037	0.022	875.700	0.045
	LOW	Diesel		ht-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	<u></u>	ht-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		avy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
<u> </u>		NA	MC Mot	torcycles	1.210	0.003	14.410	2.190	0.037	0.021	177.400	0.011

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV (cont.)

		Fl	·			E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Pass	enger Cars) 0.279	0.007	9.490	0.408	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500	) lbs) 0.573	0.010	11.090	0.706	0.025	0.011	551,500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50	0.508 (1) (1) (1)	0.016	25.310	0.625	0.037	0.022	15.700	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Pass	enger Cars) 0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500		0.006	0.508	0.253	0.039	0.074	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50	0.583 (1) (1) (1)	0.007	0.524	0.271	0.036	.022	785.400	0.027
MASSACHUSETTS		NA	MC Motorcycles	0.870	0.003	27.960	2.750	0.037	0.021	177.400	0.011
MASSACHUSEIIS		Gasoline	LDGV Light-Duty Vehicles (Pass	enger Cars) 0.279	0.007	9.490	0.407	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500	) lbs) 0.573	0.010	11.090	0.699	0 325	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50	0.619 (0.619)	0.016	7.950	0.468	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Pass	enger Cars) 0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500	0.257 (1) (1)	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50	0.572 (0.572)	0.007	0.213	J.134	0.036	0.022	785.400	0.027
		NA	MC Motorcycles	1.260	0.003	14.900	2.050	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Pass	enger Cars) 0.283	0.007	10.223	0.391	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500	) lbs) 0.583	0.010	11.830	0.695	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50	0.511 (0.511)	0.016	25.860	0.596	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passe	enger Cars) 0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500		0.936	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50	0.583	3.007	0.524	0.271	0.036	0.022	785.400	0.027
		NA	MC Motorcycles	0.890	0.003	28.590	2.730	0.037	0.021	177.400	0.011
MICHIGAN		Gasoline	LDGV Light-Duty Vehicles (Passe		0.007	10.220	0.389	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500		0.010	11.830	0.689	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50		0.016	8.130	0.435	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Pass	·······	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500		0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50		0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC Motorcycles	1.280	0.003	15.250	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Pa		0.007	11.180	0.415	0.025	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0.,500		0.010	12.820	0.741	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50		0.016	26.610	0.619	0.023	0.022	875.700	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Pass		0.003	0.666	0.015	0.037	0.022	314.100	0.007
	mon	Diesel	LDDT Light-Duty Tucks (0-8,500		0.005	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Daty Vehicles (8,50	0.237 01+ lbs) 0.583	0.007	0.524	0.233	0.039	0.024	785.400	0.007
		NA	MC Motor ycles	0.910	0.003	29.750	2.840	0.037	0.021	177.400	0.027
MINNESOTA		Gasoline	LDGV Light-Duty Vehicles (Pass		0.003	11.180	0.412	0.037	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500		0.007	12.820	0.412	0.025	0.011	551.500	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,50		0.016	8.360	0.734	0.023	0.022	875.700	0.102
	LOW	Diesel	LPDV Light-Duty Vehicles (Pass		0.003	0.666	0.075	0.037	0.022	314.100	0.043
	LOW	Diesel	LDDT Light-Duty Trucks (0-8,500		0.003	0.508	0.073	0.033	0.020	598.600	0.007
					0.008	0.308	0.233	0.039	0.024	785.400	0.007
		Diesel N	HDDV Heavy-Duty Vehicles (8,50 MC Motorcycles	1.310	0.007	15.900	2.120	0.036	0.022	177.400	0.027
					_						
		Casoline	LDGV Light-Duty Vehicles (Pass LDGT Light-Duty Trucks (0-8,500		0.007	7.050	0.417	0.025	0.011	368.000	0.102
		Gasoline			0.010	8.700	0.710	0.025	0.011	551.500	0.102
	HUGH	Gasoline	HDGV Heavy-Duty Vehicles (8,50		0.016	23.910	0.668	0.037	0.022	875.700	0.045
	НЗН	Diesel	LDDV Light-Duty Vehicles (Passe		0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500		0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50		0.007	0.524	0.271	0.036	0.022	785.400	0.027
MISSISSIPP		NA	MC Motorcycles	0.800	0.003	27.120	3.260	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Pass		0.007	7.050	0.414	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500	······	0.010	8.700	0.698	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50		0.016	7.510	0.520	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Pass		0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500		0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50		0.007	0.213	0.134	0.036	0.022	785.400	0.027
<u> </u>		NA	MC Motorcycles	1.150	0.003	14.400	2.470	0.037	0.021	177.400	0.011

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV (cont.)

		Fl			•	E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Type		NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.281	0.007	8.390	0.414	0.025	0.011	368.00 3	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.561	0.010	10.000	0.711	0.025	0.011	557.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.502	0.016	24.630	0.647	0.037	0.022	15.700	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.074	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	.022	785.400	0.027
MISSOURI		NA	MC Motorcycles	0.840	0.003	27.560	3.170	0.037	0.021	177.400	0.011
MISSOURI		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.281	0.007	8.390	0.411	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.561	0.010	10.000	0.700	0 325	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.612	0.016	7.740	0.492	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	.134	0.036	0.022	785.400	0.027
		NA	MC Motorcycles	1.210	0.003	14.660	2.390	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.285	0.007	10.60	0.394	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.589	0.010	12.210	0.701	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.513	0.016	26.150	0.596	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.036	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.583	5.007	0.524	0.271	0.036	0.022	785.400	0.027
MONTANA		NA	MC Motorcycles	0.900	0.003	28.890	2.710	0.037	0.021	177.400	0.011
Monthina		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.28	0.007	10.600	0.393	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0 589	0.010	12.210	0.696	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.626	0.016	8.220	0.433	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+11s)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC Motorcycles	1.300	0.003	15.410	2.020	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.283	0.007	9.170	0.390	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.572	0.010	10.780	0.694	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.506	0.016	25.090	0.609	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
NEBRASKA		NA	MC Motor ycles	0.860	0.003	27.940	3.040	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.283	0.007	9.170	0.387	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.572	0.010	10.780	0.685	0.025	0.011	551.500	0.102
	Y 6	Gasoline	HDG' Heavy-Duty Vehicles (8,501+ lbs)	0.617	0.016	7.880	0.451	0.037	0.022	875.700	0.045
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		N	MC Motorcycles	1.240	0.003	14.890	2.280	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.277	0.007	8.870	0.404	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.564	0.010	10.470	0.696	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.505	0.016	24.850	0.624	0.037	0.022	875.700	0.045
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
NEVADA		NA	MC Motorcycles	0.860	0.003	27.480	2.780	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.277	0.007	8.870	0.402	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.564	0.010	10.470	0.689	0.025	0.011	551.500	0.102
	Y 6	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.616	0.016	7.810	0.471	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC Motorcycles	1.240	0.003	14.620	2.070	0.037	0.021	177.400	0.011

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV (cont.)

		Fuel						mission Fa				
State	Altitude	Type		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precursor	S	
		Турс			NOx	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.284	0.007	10.410	0.393	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.586	0.010	12.020	0.698	0.025	0.011	551,500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.512	0.016	26.000	0.596	0.037	0.022	15.700	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.074	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	.022	785.400	0.027
NEW HAMPSHIRE		NA	MC	Motorcycles	0.900	0.003	28.730	2.730	0.037	0.021	177.400	0.011
NEW HAMIFSHIKE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.284	0.007	10.410	0.391	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.586	0.010	12.020	0.693	0 325	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.625	0.016	8.170	0.434	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	1.134	0.036	0.022	785.400	0.027
		NA	MC	Motorcycles	1.290	0.003	15.330	2.030	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	8.53	0.406	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.561	0.010	10.130	0.698	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.503	0.016	24.600	0.631	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.936	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	3.007	0.524	0.271	0.036	0.022	785.400	0.027
		NA	MC	Motorcycles	0.850	0.003	27.280	2.900	0.037	0.021	177.400	0.011
NEW JERSEY		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.27	0.007	8.530	0.404	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.2	0.010	10.130	0.689	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.614	0.016	7.730	0.478	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
	LOW	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.005	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV		0.572	0.007	0.213	0.134	0.036	0.024	785.400	0.007
		NA	MC	Heavy-Duty Vehicles (8,501+1/8) Motorcycles	1.220	0.007	14.520	2.170	0.030	0.022	177.400	0.027
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.275	0.003	8.380	0.401	0.037	0.021	368.000	0.102
		Gasoline	LDGV	Light-Duty Trucks (0,500 lbs)	0.273	0.007	9.970	0.401	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehices (8,501+ lbs)	0.503	0.016	24.480	0.625	0.023	0.022	875.700	0.102
	HIGH		LDDV			0.003		~~~~~~~~~~	0.037		314.100	0.043
	поп	Diesel		Light-Duty Vel cles (Passenger Cars)	0.063		0.666	0.075		0.020		
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257 0.583	0.006	0.508	0.253 0.271	0.039	0.024	598.600	0.007 0.027
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)			0.524				785.400	
NEW MEXICO		NA	MC	Motor ycles	0.850	0.003	27.090	2.810	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.275	0.007	8.380	0.399	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.557	0.010	9.970	0.681	0.025	0.011	551.500	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.613	0.016	7.690	0.474	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		N/I	MC	Motorcycles	1.220	0.003	14.410	2.100	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.282	0.007	10.020	0.388	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.581	0.010	11.630	0.689	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.511	0.016	25.710	0.594	0.037	0.022	875.700	0.045
	H) JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
NEW YORK		NA	MC	Motorcycles	0.890	0.003	28.410	2.720	0.037	0.021	177.400	0.011
NEW TORK		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.282	0.007	10.020	0.386	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.581	0.010	11.630	0.683	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.623	0.016	8.080	0.434	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC	Motorcycles	1.280	0.003	15.150	2.030	0.037	0.021	177.400	0.011
		4 1/2 1			1.200	0.005	10.100	2.000	0.007	0.021	177.700	0.011

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV (cont.)

		Е. 1					E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Туре			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.007	7.480	0.412	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.546	0.010	9.090	0.704	0.025	0.011	551,500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.498	0.016	23.930	0.652	0.037	0.022	15.700	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.074	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	.022	785.400	0.027
NORTH CAROLINA		NA	MC	Motorcycles	0.820	0.003	26.700	3.060	0.037	0.021	177.400	0.011
NORTH CHROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.007	7.480	0.409	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.546	0.010	9.090	0.694	0 325	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.607	0.016	7.520	0.504	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2 3	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	1.134	0.036	0.022	785.400	0.027
		NA	MC	Motorcycles	1.180	0.003	14.180	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.292	0.007	11.30	0.417	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.602	0.010	12.940	0.746	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.516	0.016	26.700	0.620	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.036	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	3.007	0.524	0.271	0.036	0.022	785.400	0.027
NORTH DAKOTA		NA	MC	Motorcycles	0.920	0.003	29.870	2.840	0.037	0.021	177.400	0.011
NOMIN DIMOTII		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.29	0.007	11.300	0.415	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.602	0.010	12.940	0.739	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.630	0.016	8.390	0.450	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC	Motorcycles	1.320	0.003	15.970	2.120	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.279	0.007	8.960	0.408	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.566	0.010	10.560	0.704	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.505	0.016	24.920	0.630	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV	Light-Duty Velicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Daty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
OHIO		NA	MC	Motor ycles	0.860	0.003	27.610	2.850	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.279	0.007	8.960	0.406	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.566	0.010	10.560	0.696	0.025	0.011	551.500	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.616	0.016	7.830	0.475	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		N/	MC	Motorcycles	1.240	0.003	14.700	2.130	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.282	0.007	7.720	0.421	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.554	0.010	9.370	0.719	0.025	0.011	551.500	0.102
	HYSH	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.499	0.016	24.450	0.669	0.037	0.022	875.700	0.045
	HGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
OKLAHOM		NA C. J.	MC	Motorcycles	0.810	0.003	27.830	3.440	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.282	0.007	7.720	0.417	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.554	0.010	9.370	0.706	0.025	0.011	551.500	0.102
	Y 0111	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.608	0.016	7.680	0.516	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC	Motorcycles	1.170	0.003	14.790	2.610	0.037	0.021	177.400	0.011

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV (cont.)

		Fl					Ei	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс			NOx	SOx	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Lig	ght-Duty Vehicles (Passenger Cars)	0.276	0.007	9.420	0.396	0.025	0.011	368.00	0.102
		Gasoline	LDGT Lig	ght-Duty Trucks (0-8,500 lbs)	0.569	0.010	11.010	0.683	0.025	0.011	557.500	0.102
		Gasoline	HDGV He	eavy-Duty Vehicles (8,501+ lbs)	0.508	0.016	25.240	0.606	0.037	0.022	15.700	0.045
	HIGH	Diesel	LDDV Lig	ght-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Lig	ght-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.07.4	598.600	0.007
		Diesel	HDDV He	eavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	.022	785.400	0.027
OREGON		NA	MC Mo	otorcycles	0.870	0.003	27.650	2.690	0.037	0.021	177.400	0.011
OKEGON		Gasoline	LDGV Lig	ght-Duty Vehicles (Passenger Cars)	0.276	0.007	9.420	0.395	0.025	0.011	368.000	0.102
		Gasoline	LDGT Lig	ght-Duty Trucks (0-8,500 lbs)	0.569	0.010	11.010	0.679	0 325	0.011	551.500	0.102
		Gasoline	***************************************	eavy-Duty Vehicles (8,501+ lbs)	0.619	0.016	7.930	0.453	0.037	0.022	875.700	0.045
	LOW	Diesel		ght-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Lig	ght-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	~~~~~	eavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	.134	0.036	0.022	785.400	0.027
		NA		otorcycles	1.260	0.003	14.710	2.000	0.037	0.021	177.400	0.011
		Gasoline		ght-Duty Vehicles (Passenger Cars)	0.256	0.007	6.47	0.392	0.025	0.011	368.000	0.102
		Gasoline		ght-Duty Trucks (0-8,500 lbs)	0.523	0.010	8 590	0.661	0.025	0.011	551.500	0.102
		Gasoline		eavy-Duty Vehicles (8,501+ lbs)	0.493	0.016	23.090	0.625	0.037	0.022	875.700	0.045
	HIGH	Diesel		ght-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		ght-Duty Trucks (0-8,500 lbs)	0.257	0.036	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		eavy-Duty Vehicles (8,501+ lbs)	0.583	5.007	0.524	0.271	0.036	0.022	785.400	0.027
PACIFIC ISLANDS		NA		otorcycles	0.810	0.003	25.480	2.780	0.037	0.021	177.400	0.011
THEIR IS ISLANDS		Gasoline		ght-Duty Vehicles (Passenger Cars)	0.25 3	0.007	6.470	0.391	0.025	0.011	368.000	0.102
		Gasoline		ght-Duty Trucks (0-8,500 lbs)	0 523	0.010	8.090	0.654	0.025	0.011	551.500	0.102
		Gasoline		eavy-Duty Vehicles (8,501+ lbs)	0.602	0.016	7.260	0.488	0.037	0.022	875.700	0.045
	LOW	Diesel	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ght-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		ght-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		eavy-Duty Vehicles (8,501+1/s)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA		otorcycles	1.160	0.003	13.500	2.080	0.037	0.021	177.400	0.011
		Gasoline		ght-Duty Vehicles (Parsenger Cars)	0.279	0.007	9.290	0.407	0.025	0.011	368.000	0.102
		Gasoline		ght-Duty Trucks (0,5,500 lbs)	0.570	0.010	10.890	0.703	0.025	0.011	551.500	0.102
		Gasoline		eavy-Duty Vehicles (8,501+ lbs)	0.507	0.016	25.160	0.624	0.037	0.022	875.700	0.045
	HIGH	Diesel		ght-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Lig	ght-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		eavy-Day Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
PENNSYLVANIA		NA		otor ycles	0.870	0.003	27.810	2.750	0.037	0.021	177.400	0.011
		Gasoline		nt-Duty Vehicles (Passenger Cars)	0.279	0.007	9.290	0.405	0.025	0.011	368.000	0.102
		Gasoline		ght-Duty Trucks (0-8,500 lbs)	0.570	0.010	10.890	0.696	0.025	0.011	551.500	0.102
	Y 0377	Gasoline		eavy-Duty Vehicles (8,501+ lbs)	0.618	0.016	7.910	0.468	0.037	0.022	875.700	0.045
	LOW	Diesel		ght-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		ght-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		eavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		N/		otorcycles	1.250	0.003	14.810	2.050	0.037	0.021	177.400	0.011
		Casoline		ght-Duty Vehicles (Passenger Cars)	0.274	0.007	5.050	0.401	0.025	0.011	368.000	0.102
		Gasoline		ght-Duty Trucks (0-8,500 lbs)	0.521	0.010	6.710	0.675	0.025	0.011	551.500	0.102
		Gasoline		eavy-Duty Vehicles (8,501+ lbs)	0.486	0.016	22.410	0.658	0.037	0.022	875.700	0.045
	HYGH	Diesel		cht-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		ght-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		eavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
PUERTO RIGO		NA		otorcycles	0.760	0.003	25.900	2.960	0.037	0.021	177.400	0.011
		Gasoline		ght-Duty Vehicles (Passenger Cars)	0.274	0.007	5.050	0.400	0.025	0.011	368.000	0.102
		Gasoline		ght-Duty Trucks (0-8,500 lbs)	0.521	0.010	6.710	0.662	0.025	0.011	551.500	0.102
		Gasoline	***************************************	eavy-Duty Vehicles (8,501+ lbs)	0.593	0.016	7.040	0.523	0.037	0.022	875.700	0.045
	LOW	Diesel		ght-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		ght-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		eavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC Mo	otorcycles	1.090	0.003	13.710	2.260	0.037	0.021	177.400	0.011

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV (cont.)

		Е. 1			•	E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	S	
		Туре		$NO_X$	$SO_X$	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars	0.277	0.007	9.060	0.403	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.566	0.010	10.650	0.696	0.025	0.011	551,500	0.102
		Gasoline	HDGV   Heavy-Duty Vehicles (8,501+ lbs)	0.506	0.016	24.980	0.621	0.037	0.022	15.700	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.074	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	.022	785.400	0.027
RHODE ISLAND		NA	MC Motorcycles	0.860	0.003	27.580	2.740	0.037	0.021	177.400	0.011
KIIODE ISLAND		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars	0.277	0.007	9.060	0.402	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.566	0.010	10.650	0.689	0 325	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.617	0.016	7.850	0.467	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	1.134	0.036	0.022	785.400	0.027
		NA	MC Motorcycles	1.240	0.003	14.680	2.040	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	7.10	0.415	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.543	0.010	8 /40	0.707	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.496	0.016	23.880	0.663	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.056	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.583	5.007	0.524	0.271	0.036	0.022	785.400	0.027
SOUTH CAROLINA		NA	MC Motorcycles	0.800	0.003	26.920	3.190	0.037	0.021	177.400	0.011
500 III CAROLINA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	7.100	0.412	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0 543	0.010	8.740	0.696	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.604	0.016	7.500	0.516	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC Motorcycles	1.160	0.003	14.290	2.410	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars		0.007	10.010	0.399	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (02,500 lbs)	0.584	0.010	11.630	0.712	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.510	0.016	25.720	0.612	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
SOUTH DAKOTA		NA	MC Motor ycles	0.880	0.003	28.690	2.980	0.037	0.021	177.400	0.011
SOUTH BAROTA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	10.010	0.397	0.025	0.011	368.000	0.102
		Gasoline	LDGT Zight-Duty Trucks (0-8,500 lbs)	0.584	0.010	11.630	0.703	0.025	0.011	551.500	0.102
		Gasoline	HDG Heavy-Duty Vehicles (8,501+ lbs)	0.622	0.016	8.080	0.449	0.037	0.022	875.700	0.045
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars		0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		N/	MC Motorcycles	1.270	0.003	15.310	2.230	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	7.760	0.409	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.551	0.010	9.370	0.700	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.499	0.016	24.140	0.645	0.037	0.022	875.700	0.045
	H <sup>r</sup> 5H	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
TENNESSE		NA	MC Motorcycles	0.830	0.003	26.940	3.060	0.037	0.021	177.400	0.011
TENTEDOL		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	7.760	0.406	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.551	0.010	9.370	0.690	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.609	0.016	7.580	0.495	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.666	0.075	0.035	0.020	314.100	0.007
											0.005
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)  HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600 785.400	0.007

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV (cont.)

		Fl			•	E	mission Fa	ctors (g/n	ni)		
State	Altitude	Fuel Type	Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precursor	s	
		Туре		$NO_X$	$SO_X$	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV Light-Duty Vehicles (Passe	nger Cars) 0.278	0.007	6.980	0.421	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500	lbs) 0.544	0.010	8.630	0.715	0.025	0.011	551,500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50	1+ lbs) 0.495	0.016	23.980	0.676	0.037	0.022	15.700	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passe	nger Cars) 0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500	lbs) 0.257	0.006	0.508	0.253	0.039	0.074	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50	1+ lbs) 0.583	0.007	0.524	0.271	0.036	.022	785.400	0.027
TEXAS		NA	MC Motorcycles	0.790	0.003	27.500	3.370	0.037	0.021	177.400	0.011
IEAAS		Gasoline	LDGV Light-Duty Vehicles (Passe	nger Cars) 0.278	0.007	6.980	0.417	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500	lbs) 0.544	0.010	8.630	0.701	0 325	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50	1+ lbs) 0.604	0.016	7.540	0.528	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passe	nger Cars) 0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500	lbs) 0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50	1+ lbs) 0.572	0.007	0.213	J.134	0.036	0.022	785.400	0.027
		NA	MC Motorcycles	1.140	0.003	14.590	2.560	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passe	nger Cars) 0.280	0.007	9.27	0.385	0.025	0.011	368.000	0.102
		Gasoline	LDGT   Light-Duty Trucks (0-8,500	lbs) 0.571	0.010	10.880	0.683	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50	1+ lbs) 0.507	0.016	25.150	0.599	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passe	nger Cars) 0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500	<u> </u>	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50	1+ lbs) 0.583	3.007	0.524	0.271	0.036	0.022	785.400	0.027
		NA	MC Motorcycles	0.870	0.003	27.870	2.830	0.037	0.021	177.400	0.011
UTAH		Gasoline	LDGV Light-Duty Vehicles (Passe		0.007	9.270	0.382	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500		0.010	10.880	0.676	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50		0.016	7.900	0.442	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passe	······································	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500	~~~~~~ <del>~~</del> ~~~~~~~~~~~~~~~~~~~~~~~~~~~~	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50		0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC Motorcycles	1.250	0.003	14.850	2.110	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parse		0.007	10.600	0.396	0.025	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0.500		0.010	12.220	0.704	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehices (8,50		0.016	26.150	0.598	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passe		0.003	0.666	0.075	0.035	0.020	314.100	0.007
	mon	Diesel	LDDT Light-Duty Trucks (0-8,500		0.005	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,50	1+ lbs) 0.583	0.007	0.524	0.233	0.039	0.024	785.400	0.007
		NA	MC Motor yeles	0.900	0.003	28.930	2.720	0.037	0.022	177.400	0.027
VERMONT		Gasoline	LDGV Light-Duty Vehicles (Passe		0.003	10.600	0.394	0.037	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500		0.007	12.220	0.394	0.025	0.011	551.500	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,50		0.010	8.220	0.698	0.025	0.011	875.700	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (Passe		0.003	0.666	0.433	0.037	0.022	314.100	0.043
	LOW	Diesel			0.003	0.508	0.073	0.039	0.020	598,600	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 HDDV Heavy-Duty Vehicles (8,50		0.006	0.308	0.233	0.039	0.024	785.400	0.007
		N	MC Motorcycles	1.300	0.007	15.440	2.030	0.036	0.022	177.400	0.027
					•						
		Casoline	LDGV Light-Duty Vehicles (Passe LDGT Light-Duty Trucks (0-8,500		0.007	5.080 6.770	0.409 0.686	0.025	0.011	368.000 551.500	0.102 0.102
		Gasoline									
	HUGH	Gasoline	HDGV Heavy-Duty Vehicles (8,50		0.016	22.880	0.675	0.037	0.022	875.700	0.045
	HJH	Diesel	LDDV Light-Duty Vehicles (Passe	<u> </u>	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500		0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50		0.007	0.524	0.271	0.036	0.022	785.400	0.027
VIRGIN ISLAYOS		NA C. J.	MC Motorcycles	0.730	0.003	27.660	3.060	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passe	<u></u>	0.007	5.080	0.407	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500	······	0.010	6.770	0.672	0.025	0.011	551.500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,50		0.016	7.190	0.538	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passe		0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500		0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,50		0.007	0.213	0.134	0.036	0.022	785.400	0.027
<u> </u>	4	NA	MC Motorcycles	1.060	0.003	14.620	2.350	0.037	0.021	177.400	0.011

Table 5-31. On-Road Vehicle Emission Factors - 2019 POV (cont.)

		ъ.,					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	rs	
		Турс			NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$N_{A_3}$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.275	0.007	8.060	0.405	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.554	0.010	9.660	0.695	0.025	0.011	551.500	0.102
	шси	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.501	0.016	24.250	0.635	0.037	0.022	875.760	0.045
	HIGH	Diesel Diesel	LDDV LDDT	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.063	0.003	0.666	0.075	0.035	0.020	314 100 5 8.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.237	0.006 0.007	0.524	0.233	0.039	0.024	785.400	0.007
		NA	MC	Motorcycles	0.840	0.007	26.900	2.900	0.037	0.021	177.400	0.027
VIRGINIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.275	0.007	8.060	0.403	0.025	0.021	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.554	0.010	9.660	0.686	0.025	.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.611	0.016	7.620	0.485	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.07	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC	Motorcycles	1.210	0.003	14.300	2.170	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	9.580	0.397	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.572	0.010	11.170	0.68	0.025	0.011	551.500	0.102
	HIGH	Gasoline Diesel	HDGV LDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.509 0.063	0.016	25.360 0.666	0.075	0.037 0.035	0.022	875.700 314.100	0.045 0.007
	піоп	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.063	0.003	0.508	0.075	0.039	0.020	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.508	0.233	0.036	0.024	785.400	0.007
		NA	MC	Motorcycles	0.880	0.007	27 /80	2.690	0.037	0.021	177.400	0.027
WASHINGTON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	2.580	0.396	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.572	0.010	11.170	0.682	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.620	0.016	7.970	0.453	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.53	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC	Motorcycles	1.260	0.003	14.790	2.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.2 6	0.007	8.760	0.403	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	£.562	0.010	10.360	0.693	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.016	24.760	0.623	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
WEST VIRGINIA		NA	MC	Motorcycles	0.860	0.003	27.370	2.770	0.037	0.021	177.400	0.011
		Gasoline Gasoline	LDGV LDGT	Light-Duty Vehicles (Passe ger Cars) Light-Duty Trucks (0-8,5,0 lbs)	0.276 0.562	0.007	8.760 10.360	0.401	0.025	0.011	368.000	0.102 0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (5.501+ lbs)	0.562	0.016	7.780	0.471	0.023	0.011	551.500 875.700	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.471	0.037	0.022	314.100	0.007
	LOW	Diesel	LDDT	Light-Duty Truck (0-8,500 lbs)	0.003	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty V nicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC	Motorcycles	1.230	0.003	14.560	2.070	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Dut Vehicles (Passenger Cars)	0.287	0.007	10.620	0.402	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Daty Trucks (0-8,500 lbs)	0.591	0.010	12.240	0.716	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heary-Duty Vehicles (8,501+ lbs)	0.513	0.016	26.170	0.607	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDY	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
WISCONSIN		NA C. F	M	Motorcycles	0.900	0.003	29.090	2.780	0.037	0.021	177.400	0.011
		Gasoline	I DGV	Light-Duty Vehicles (Passenger Cars)	0.287	0.007	10.620	0.400	0.025	0.011	368.000	0.102
		Gasoline	LDGT		0.591	0.010	12.240	0.709	0.025	0.011	551.500	0.102
	LOW	Gasolin Die el	LDDV	Heavy-Duty Vehicles (8,501+ lbs)  Light-Duty Vehicles (Passenger Cars)	0.626	0.016	8.220 0.666	0.442	0.037	0.022	875.700 314.100	0.045
	LOW	Desel	LDDV	Light-Duty Trucks (0-8,500 lbs)	0.063	0.003	0.508	0.075	0.035	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.007
		NA	MC	Motorcycles	1.290	0.003	15.530	2.080	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.284	0.007	10.510	0.392	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.587	0.010	12.130	0.697	0.025	0.011	551.500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.513	0.016	26.080	0.594	0.037	0.022	875.700	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.007	0.524	0.271	0.036	0.022	785.400	0.027
WYOMP G		NA	MC	Motorcycles	0.900	0.003	28.760	2.710	0.037	0.021	177.400	0.011
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.284	0.007	10.510	0.390	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.587	0.010	12.130	0.691	0.025	0.011	551.500	0.102
	1.677	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.625	0.016	8.190	0.432	0.037	0.022	875.700	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.007	0.213	0.134	0.036	0.022	785.400	0.027
		NA	MC	Motorcycles	1.290	0.003	15.340	2.020	0.037	0.021	177.400	0.011

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV

		Fuel						mission Fa			•	
State	Altitude	Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV L	ight-Duty Vehicles (Passenger Cars)	0.263	0.007	6.970	0.396	0.025	0.011	368.00	0.102
		Gasoline	LDGT L	ight-Duty Trucks (0-8,500 lbs)	0.528	0.010	8.520	0.658	0.025	0.011	551,400	0.102
		Gasoline	HDGV H	leavy-Duty Vehicles (8,501+ lbs)	0.443	0.016	23.700	0.612	0.036	0.021	15.500	0.045
	HIGH	Diesel	LDDV L	ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.073	598.600	0.007
		Diesel		leavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	.020	785.200	0.027
		NA		Motorcycles	0.800	0.003	26.910	3.180	0.037	0.021	177.400	0.011
ALABAMA		Gasoline		ight-Duty Vehicles (Passenger Cars)	0.263	0.007	6.970	0.393	0.025	0.011	368.000	0.102
		Gasoline		ight-Duty Trucks (0-8,500 lbs)	0.528	0.010	8.520	0.648	0.25	0.011	551.400	0.102
		Gasoline		leavy-Duty Vehicles (8,501+ lbs)	0.540	0.016	7.450	0.473	0.036	0.021	875.500	0.045
	LOW	Diesel		ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2.6	0.038	0.023	598.600	0.007
		Diesel		leavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	.131	0.034	0.020	785,200	0.027
		NA		Aotorcycles	1.160	0.007	14.280	2.410	0.037	0.021	177.400	0.027
		Gasoline		ight-Duty Vehicles (Passenger Cars)	0.295	0.007	13.68	0.413	0.025	0.011	368.000	0.102
		Gasoline		ight-Duty Trucks (0-8,500 lbs)	0.625	0.007	15.150	0.734	0.025	0.011	551.400	0.102
		Gasoline		leavy-Duty Vehicles (8,501+ lbs)	0.023	0.016	28.370	0.754	0.025	0.021	875.500	0.102
	HIGH	Diesel		ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.021	314.100	0.007
	mon	Diesel		ight-Duty Trucks (0-8,500 lbs)	0.036	0.003	0.486	0.071	0.038	0.019	598.600	0.007
		Diesel		leavy-Duty Vehicles (8,501+ lbs)	0.230	3.007	0.472	0.230	0.034	0.023	785.200	0.007
		NA		Actorcycles	0.980	0.003	31.650	2.760	0.034	0.020	177.400	0.027
ALASKA					0.980	0.003	13.680	0.412	0.037	0.021		
		Gasoline		ight-Duty Vehicles (Passenger Cars)		0.007			0.025	0.011	368.000	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ight-Duty Trucks (0-8,500 lbs)	023		15.150	0.733			551.400	0.102
	LOW	Gasoline		leavy-Duty Vehicles (8,501+ lbs)	0.576	0.016	8.910	0.395	0.036	0.021	875.500	0.045
	LOW	Diesel		ight-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		leavy-Duty Vehicles (8,501+11s)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA		Motorcycles	1.410	0.003	16.960	2.050	0.037	0.021	177.400	0.011
		Gasoline		ight-Duty Vehicles (Parsenger Cars)	0.265	0.007	7.310	0.399	0.025	0.011	368.000	0.102
		Gasoline		ight-Duty Trucks (0,500 lbs)	0.533	0.010	8.850	0.666	0.025	0.011	551.400	0.102
		Gasoline		leavy-Duty Vehicles (8,501+ lbs)	0.444	0.016	23.930	0.615	0.036	0.021	875.500	0.045
	HIGH	Diesel		ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT L	ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		leavy-Day Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
ARIZONA		NA		Iotor ycles	0.810	0.003	27.160	3.280	0.037	0.021	177.400	0.011
		Gasoline	***************************************	ight-Duty Vehicles (Passenger Cars)	0.265	0.007	7.310	0.396	0.025	0.011	368.000	0.102
		Gasoline		ight-Duty Trucks (0-8,500 lbs)	0.533	0.010	8.850	0.655	0.025	0.011	551.400	0.102
		Gasoline		leavy-Duty Vehicles (8,501+ lbs)	0.542	0.016	7.520	0.473	0.036	0.021	875.500	0.045
	LOW	Diesel		ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		leavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		N/		Iotorcycles	1.170	0.003	14.420	2.480	0.037	0.021	177.400	0.011
		Casoline		ight-Duty Vehicles (Passenger Cars)	0.266	0.007	7.440	0.400	0.025	0.011	368.000	0.102
		Gasoline	LDGT L	ight-Duty Trucks (0-8,500 lbs)	0.535	0.010	8.980	0.669	0.025	0.011	551.400	0.102
		Gasoline	HDGV H	leavy-Duty Vehicles (8,501+ lbs)	0.445	0.016	24.060	0.616	0.036	0.021	875.500	0.045
	H) GH	Diesel	LDDV L	ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT L	ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
	1	Diesel	HDDV H	Ieavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
ARKANSAS	L	NA	MC M	Iotorcycles	0.810	0.003	27.370	3.340	0.037	0.021	177.400	0.011
AKKANSA		Gasoline	LDGV L	ight-Duty Vehicles (Passenger Cars)	0.266	0.007	7.440	0.397	0.011	0.025	368.000	0.102
		Gasoline	LDGT L	ight-Duty Trucks (0-8,500 lbs)	0.535	0.010	8.980	0.658	0.011	0.025	551.400	0.102
		Gasoline	HDGV H	leavy-Duty Vehicles (8,501+ lbs)	0.543	0.016	7.560	0.473	0.021	0.036	875.500	0.045
	LOW	Diesel		ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.019	0.033	314.100	0.007
		Diesel		ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.023	0.038	598.600	0.007
		Diesel		leavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.020	0.034	785.200	0.027
		NA		Aotorcycles	1.170	0.003	14.540	2.530	0.021	0.037	177.400	0.011
		. 1/1	1110 111	<i>y</i>	1.170	0.005	1540	2.550	0.021	0.007	177.700	0.011

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV (cont.)

		Fl				•	E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.258	0.007	7.220	0.387	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.528	0.010	8.730	0.646	0.025	0.011	551,400	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.445	0.016	23.530	0.593	0.036	0.021	15.500	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.073	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	.020	785.200	0.027
CALIFORNIA		NA		Motorcycles	0.820	0.003	26.280	2.880	0.037	0.021	177.400	0.011
CALIFORNIA		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.258	0.007	7.220	0.385	0.025	0.011	368.000	0.102
		Gasoline	~~~~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.528	0.010	8.730	0.638	0 325	0.011	551.400	0.102
		Gasoline	**********	Heavy-Duty Vehicles (8,501+ lbs)	0.542	0.016	7.400	0.456	0.036	0.021	875.500	0.045
	LOW	Diesel	*******************	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2.6	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	J.131	0.034	0.020	785.200	0.027
		NA		Motorcycles	1.180	0.003	13.960	2.160	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.267	0.007	9.84	0.368	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.563	0.010	11.300	0.645	0.025	0.011	551.400	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.456	0.016	25.470	0.549	0.036	0.021	875.500	0.045
	HIGH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.036	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.504	5.007	0.472	0.267	0.034	0.020	785.200	0.027
COLORADO		NA		Motorcycles	0.880	0.003	28.240	2.710	0.037	0.021	177.400	0.011
COLORIDO		Gasoline	*********	Light-Duty Vehicles (Passenger Cars)	0.26	0.007	9.840	0.366	0.025	0.011	368.000	0.102
		Gasoline	~~~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0 563	0.010	11.300	0.640	0.025	0.011	551.400	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.556	0.016	8.000	0.399	0.036	0.021	875.500	0.045
	LOW	Diesel	~~~~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+14s)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA		Motorcycles	1.270	0.003	15.050	2.020	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Parsenger Cars)	0.266	0.007	9.250	0.391	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0,500 lbs)	0.555	0.010	10.720	0.664	0.025	0.011	551.400	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.453	0.016	25.030	0.581	0.036	0.021	875.500	0.045
	HIGH	Diesel		Light-Duty Veh cles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Day Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
CONNECTICUT		NA		Motor ycles	0.870	0.003	27.860	2.760	0.037	0.021	177.400	0.011
		Gasoline	*********	Light-Duty Vehicles (Passenger Cars)	0.266	0.007	9.250	0.389	0.025	0.011	368.000	0.102
		Gasoline	************	Light-Duty Trucks (0-8,500 lbs)	0.555	0.010	10.720	0.658	0.025	0.011	551.400	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.553	0.016	7.870	0.433	0.036	0.021	875.500	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		N/		Motorcycles	1.250	0.003	14.840	2.060	0.037	0.021	177.400	0.011
		Casoline		Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.010	0.390	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.540	0.010	9.500	0.657	0.025	0.011	551.400	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.448	0.016	24.150	0.593	0.036	0.021	875.500	0.045
	HYGH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
DELAWARI		NA		Motorcycles	0.840	0.003	27.020	2.990	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.010	0.388	0.025	0.011	368.000	0.102
		Gasoline	~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.540	0.010	9.500	0.648	0.025	0.011	551.400	0.102
		Gasoline	*********	Heavy-Duty Vehicles (8,501+ lbs)	0.546	0.016	7.590	0.449	0.036	0.021	875.500	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
7		NA	MC	Motorcycles	1.210	0.003	14.370	2.240	0.037	0.021	177.400	0.011

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV (cont.)

		Fuel						mission Fa			•	
State	Altitude	Type	Vehicl	e Type			Criteria Po		nd Ozone	Precursor	S	
		Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Ve	ehicles (Passenger Cars)	0.261	0.007	5.980	0.391	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Tr	ucks (0-8,500 lbs)	0.517	0.010	7.560	0.643	0.025	0.011	551,400	0.102
		Gasoline	HDGV Heavy-Duty	/ehicles (8,501+ lbs)	0.439	0.016	23.110	0.612	0.036	0.021	15.500	0.045
	HIGH	Diesel	LDDV Light-Duty Ve	ehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Tr	ucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.07.5	598.600	0.007
		Diesel	HDDV Heavy-Duty	/ehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	.020	785.200	0.027
FLORIDA		NA	MC Motorcycles		0.770	0.003	26.730	2.990	0.037	0.021	177.400	0.011
FLORIDA		Gasoline	LDGV Light-Duty Ve	ehicles (Passenger Cars)	0.261	0.007	5.980	0.389	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Tr	ucks (0-8,500 lbs)	0.517	0.010	7.560	0.632	0 325	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty	/ehicles (8,501+ lbs)	0.535	0.016	7.260	0.479	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV Light-Duty Ve	ehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Tr	ucks (0-8,500 lbs)	0.236	0.006	0.486	0.2/6	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty	/ehicles (8,501+ lbs)	0.494	0.007	0.191	.131	0.034	0.020	785.200	0.027
		NA	MC Motorcycles		1.110	0.003	14.160	2.270	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Ve	ehicles (Passenger Cars)	0.262	0.007	6.88	0.395	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Tr	ucks (0-8,500 lbs)	0.527	0.010	8 +30	0.656	0.025	0.011	551.400	0.102
		Gasoline	······································	/ehicles (8,501+ lbs)	0.442	0.016	23.630	0.611	0.036	0.021	875.500	0.045
	HIGH	Diesel		ehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		ucks (0-8,500 lbs)	0.236	0.036	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		/ehicles (8,501+ lbs)	0.504	3.007	0.472	0.267	0.034	0.020	785.200	0.027
		NA	MC Motorcycles		0.800	0.003	26.850	3.160	0.037	0.021	177.400	0.011
GEORGIA		Gasoline		ehicles (Passenger Cars)	0.26	0.007	6.880	0.392	0.025	0.011	368.000	0.102
		Gasoline		ucks (0-8,500 lbs)	0.27	0.010	8.430	0.646	0.025	0.011	551.400	0.102
		Gasoline		/ehicles (8,501+ lbs)	0.540	0.016	7.420	0.473	0.036	0.021	875.500	0.045
	LOW	Diesel		ehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
	2011	Diesel		ucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	0	/ehicles (8,501+1/s)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA	MC Motorcycles	(CHCC3 (0,5011 / 3)	1.150	0.003	14.250	2.390	0.037	0.021	177.400	0.011
		Gasoline		ehicles (Parsenger Cars)	0.249	0.007	5.670	0.377	0.025	0.021	368.000	0.102
		Gasoline		ucks (0.3,500 lbs)	0.506	0.010	7.220	0.618	0.025	0.011	551.400	0.102
		Gasoline		/ehic es (8,501+ lbs)	0.438	0.016	22.400	0.587	0.036	0.021	875.500	0.045
	HIGH	Diesel		el cles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
	111011	Diesel		ucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		/ehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.007
		NA	MC Motor ycles	CHEES (0,001+ 103)	0.790	0.007	25.120	2.810	0.037	0.020	177.400	0.027
HAWAII		Gasoline		ehicles (Passenger Cars)	0.730	0.003	5.670	0.376	0.037	0.021	368.000	0.102
		Gasoline		ucks (0-8,500 lbs)	0.506	0.007	7.220	0.609	0.025	0.011	551.400	0.102
		Gasoline		/ehicles (8,501+ lbs)	0.534	0.016	7.040	0.459	0.023	0.021	875.500	0.102
	LOW	Diesel		chicles (Passenger Cars)	0.056	0.003	0.658	0.439	0.033	0.021	314.100	0.043
	LOW	Diesel			0.036	0.003	0.638	0.071	0.033	0.019	598,600	0.007
		Diesel	<u>/</u>	ucks (0-8,500 lbs) 7ehicles (8,501+ lbs)	0.236	0.006	0.480	0.236	0.034	0.023	785.200	0.007
		N	MC Motorcycles	/ enicles (8,501+ 108)	1.140	0.007	13.310	2.110	0.034	0.020	177.400	0.027
		Casoline		hiolas (Passanaar Ca)	0.268	0.003	10.080	0.369	0.037	0.021	368.000	0.102
				chicles (Passenger Cars)	0.268	0.007	11.540	0.369	0.025	0.011	551.400	0.102
		Gasoline		ucks (0-8,500 lbs)				0.648	0.025	0.011		0.102
	HLPH	Gasoline		/ehicles (8,501+ lbs)	0.457	0.016	25.650	0.071	0.036	0.021	875.500 314.100	0.043
	поп	Diesel		chicles (Passenger Cars)			0.658					
		Diesel		ucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		/ehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
IDAHO		NA	MC Motorcycles	histor (Donouna C. )	0.890	0.003	28.410	2.690	0.037	0.021	177.400	0.011
		Gasoline		chicles (Passenger Cars)	0.268	0.007	10.080	0.368	0.025	0.011	368.000	0.102
		Gasoline		ucks (0-8,500 lbs)	0.566	0.010	11.540	0.643	0.025	0.011	551.400	0.102
	1.037	Gasoline		/ehicles (8,501+ lbs)	0.557	0.016	8.060	0.397	0.036	0.021	875.500	0.045
	LOW	Diesel		chicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		ucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		/ehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA	MC Motorcycles		1.280	0.003	15.140	2.000	0.037	0.021	177.400	0.011

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV (cont.)

		Fuel				•		mission Fa			•	
State	Altitude	Type		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precursor	S	
		Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV L	ight-Duty Vehicles (Passenger Cars)	0.267	0.007	8.740	0.397	0.025	0.011	368.00	0.102
		Gasoline	LDGT L	ight-Duty Trucks (0-8,500 lbs)	0.551	0.010	10.230	0.672	0.025	0.011	551,400	0.102
		Gasoline	HDGV H	Heavy-Duty Vehicles (8,501+ lbs)	0.451	0.016	24.690	0.596	0.036	0.021	15.500	0.045
	HIGH	Diesel	LDDV L	ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.073	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	.020	785.200	0.027
		NA		Aotorcycles	0.860	0.003	27.670	3.060	0.037	0.021	177.400	0.011
ILLINOIS		Gasoline	LDGV L	ight-Duty Vehicles (Passenger Cars)	0.267	0.007	8.740	0.394	0.025	0.011	368.000	0.102
		Gasoline		ight-Duty Trucks (0-8,500 lbs)	0.551	0.010	10.230	0.663	0 325	0.011	551.400	0.102
		Gasoline	HDGV H	Heavy-Duty Vehicles (8,501+ lbs)	0.550	0.016	7.760	0.447	0.036	0.021	875.500	0.045
	LOW	Diesel	***************************************	ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2.6	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	.131	0.034	0.020	785.200	0.027
		NA		Aotorcycles	1.230	0.003	14.730	2.300	0.037	0.021	177.400	0.011
		Gasoline		ight-Duty Vehicles (Passenger Cars)	0.266	0.007	8.72	0.393	0.025	0.011	368.000	0.102
		Gasoline		ight-Duty Trucks (0-8,500 lbs)	0.550	0.010	10.200	0.665	0.025	0.011	551.400	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.350	0.016	24.640	0.590	0.025	0.021	875.500	0.102
	HIGH	Diesel		ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.021	314.100	0.007
	mon	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.036	0.003	0.486	0.071	0.038	0.019	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+lbs)	0.504	3.007	0.472	0.267	0.034	0.023	785.200	0.007
		NA			0.860	0.003		2.950	0.034	0.020		
INDIANA				Motorcycles	0.860		27.550				177.400	0.011
		Gasoline	***************************************	Light-Duty Vehicles (Passenger Cars)		0.007	8.720	0.390	0.025	0.011	368.000	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	330	0.010	10.200	0.657	0.025	0.011	551.400	0.102
	Y 0777	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.550	0.016	7.740	0.442	0.036	0.021	875.500	0.045
	LOW	Diesel	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ight-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+1/s)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA		Motorcycles	1.230	0.003	14.670	2.220	0.037	0.021	177.400	0.011
		Gasoline		ight-Duty Vehicles (Parsenger Cars)	0.272	0.007	9.600	0.378	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0,5,500 lbs)	0.563	0.010	11.080	0.666	0.025	0.011	551.400	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.455	0.016	25.320	0.568	0.036	0.021	875.500	0.045
	HIGH	Diesel		ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT L	ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Day Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
IOWA		NA		Motor ycles	0.880	0.003	28.410	3.000	0.037	0.021	177.400	0.011
		Gasoline	***************************************	ight-Duty Vehicles (Passenger Cars)	0.272	0.007	9.600	0.376	0.025	0.011	368.000	0.102
		Gasoline		ight-Duty Trucks (0-8,500 lbs)	0.563	0.010	11.080	0.658	0.025	0.011	551.400	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.555	0.016	7.960	0.415	0.036	0.021	875.500	0.045
	LOW	Diesel		ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		N/		Motorcycles	1.260	0.003	15.150	2.250	0.037	0.021	177.400	0.011
		Casoline		ight-Duty Vehicles (Passenger Cars)	0.269	0.007	8.320	0.399	0.025	0.011	368.000	0.102
	1	Gasoline	LDGT L	ight-Duty Trucks (0-8,500 lbs)	0.548	0.010	9.830	0.672	0.025	0.011	551.400	0.102
		Gasoline	HDGV H	Heavy-Duty Vehicles (8,501+ lbs)	0.449	0.016	24.590	0.606	0.036	0.021	875.500	0.045
	HYGH	Diesel	LDDV L	ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT L	ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
	7	Diesel	HDDV H	Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
MANICAC		NA	MC N	Motorcycles	0.840	0.003	27.810	3.290	0.037	0.021	177.400	0.011
KANSAS		Gasoline	LDGV L	ight-Duty Vehicles (Passenger Cars)	0.269	0.007	8.320	0.396	0.025	0.011	368.000	0.102
		Gasoline		ight-Duty Trucks (0-8,500 lbs)	0.548	0.010	9.830	0.662	0.025	0.011	551.400	0.102
		Gasoline	~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.547	0.016	7.730	0.458	0.036	0.021	875.500	0.045
	LOW	Diesel		ight-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		ight-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA		Motorcycles	1.200	0.003	14.800	2.490	0.037	0.021	177.400	0.011
		. 1/1			1.200	0.005	1000	2.770	0.007	0.021	177.700	0.011

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV (cont.)

		El				E	mission Fa	actors (g/n	ni)		
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	$CO_2$	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars	0.264	0.007	8.010	0.391	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.541	0.010	9.500	0.658	0.025	0.011	551,400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.448	0.016	24.160	0.594	0.036	0.021	75.500	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.073	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	.020	785.200	0.027
KENTUCKY		NA	MC Motorcycles	0.840	0.003	27.070	3.010	0.037	0.021	177.400	0.011
112.1100111		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	8.010	0.389	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.541	0.010	9.500	0.649	0 325	0.011	551.400	0.102
	Y 0337	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.546	0.016	7.590	0.451	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.000 00.000.000.000.000.000.000	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2.6	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	J.131	0.034	0.020	785.200	0.027
		NA	MC Motorcycles	1.210	0.003	14.390	2.260	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	6.64	0.397	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.526	0.010	8 210	0.657	0.025	0.011	551.400	0.102
	HIGH	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.441	0.016	23.610	0.618	0.036	0.021	875.500	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	3.007	0.472	0.267	0.034	0.020	785.200	0.027
LOUISIANA		NA C ''	MC Motorcycles	0.790	0.003	27.220	3.260	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars	0.26	0.007	6.640	0.395	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)  HDGV Heavy-Duty Vehicles (8,501+ lbs)	320	0.010	8.210	0.646	0.025	0.011	551.400	0.102
	LOW	Gasoline		0.538	0.016	7.420			0.021	875.500	
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100 598.600	0.007 0.007
		Diesel Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)  HDDV Heavy-Duty Vehicles (8,501+1/8)	0.236	0.008	0.486	0.236	0.034	0.023	785.200	0.007
		NA	MC Motorcycles	1.130	0.007	14.430	2.480	0.034	0.020	177.400	0.027
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars		0.003	10.840	0.384	0.037	0.021	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.274	0.007	12.300	0.564	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.460	0.016	26.230	0.561	0.025	0.011	875.500	0.102
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.658	0.071	0.033	0.021	314.100	0.007
	mon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.005	0.486	0.236	0.038	0.013	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
		NA	MC Motor ycles	0.910	0.003	29.210	2.730	0.037	0.021	177.400	0.011
MAINE		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	10.840	0.382	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.578	0.010	12.300	0.672	0.025	0.011	551.400	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.561	0.016	8.240	0.404	0.036	0.021	875.500	0.045
	LOW	Diesel	LP DV Light-Duty Vehicles (Passenger Cars		0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		N/	MC Motorcycles	1.310	0.003	15.590	2.030	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	8.190	0.387	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.542	0.010	9.680	0.651	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.449	0.016	24.250	0.585	0.036	0.021	875.500	0.045
	H <sup>y</sup> <sub>J</sub> H	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
MADAYANY		NA	MC Motorcycles	0.840	0.003	27.100	2.920	0.037	0.021	177.400	0.011
MARYLANI		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars	_	0.007	8.190	0.384	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.542	0.010	9.680	0.643	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.547	0.016	7.620	0.441	0.036	0.021	875.500	0.045
<i></i>	(	*****				0.658	0.071	0.033	0.019	314.100	0.007
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.056	0.071	0.055	0.017	314.100	
	LOW	Diesel Diesel	LDDV Light-Duty Vehicles (Passenger Cars  LDDT Light-Duty Trucks (0-8,500 lbs)	0.036	0.003	0.486	0.236	0.038	0.013	598.600	0.007
	LOW										

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV (cont.)

		Fuel					E	mission Fa	actors (g/n	ni)		
State	Altitude	Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.266	0.007	9.400	0.391	0.025	0.011	368.003	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.557	0.010	10.870	0.666	0.025	0.011	551,400	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.454	0.016	25.150	0.580	0.036	0.021	75.500	0.045
	HIGH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.073	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	.020	785.200	0.027
MASSACHUSETTS		NA	MC	Motorcycles	0.870	0.003	27.960	2.750	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.266	0.007	9.400	0.389	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.557	0.010	10.870	0.660	0.025	0.011	551.400	0.102
	LOW	Gasoline Diesel	HDGV LDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.554	0.016	7.900 0.658	0.431	0.036	0.021	875.500 314.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.036	0.003	0.486	0.071	0.033	0.019	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.480	.131	0.034	0.023	785.200	0.007
		NA	MC	Motorcycles	1.260	0.007	14.900	2.050	0.034	0.020	177.400	0.027
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.270	0.003	10.12	0.375	0.037	0.021	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.568	0.010	11.600	0.659	0.025	0.011	551.400	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.457	0.016	25.700	0.556	0.036	0.021	875.500	0.045
	HIGH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.936	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.504	3.007	0.472	0.267	0.034	0.020	785.200	0.027
NATIONAL NA		NA	MC	Motorcycles	0.890	0.003	28.590	2.730	0.037	0.021	177.400	0.011
MICHIGAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.27	0.007	10.130	0.373	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9 368	0.010	11.600	0.653	0.025	0.011	551.400	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.558	0.016	8.080	0.403	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+11s)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA	MC	Motorcycles	1.280	0.003	15.250	2.030	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Parsenger Cars)	0.277	0.007	11.090	0.398	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (05,500 lbs)	0.584	0.010	12.560	0.704	0.025	0.011	551.400	0.102
	111011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.461	0.016	26.440	0.578	0.036	0.021	875.500	0.045
	HIGH	Diesel		Light-Duty Velicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel NA	HDDV MC	Heavy-Daty Vehicles (8,501+ lbs)  Motor ycles	0.504	0.007	0.472 29.750	0.267 2.840	0.034	0.020	785.200 177.400	0.027
MINNESOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.910	0.003	11.090	0.396	0.037	0.021	368.000	0.102
		Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.584	0.007	12.560	0.590	0.025	0.011	551.400	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+lbs)	0.563	0.016	8.310	0.417	0.025	0.011	875.500	0.102
	LOW	Diesel	LPDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		N/	MC	Motorcycles	1.310	0.003	15.900	2.120	0.037	0.021	177.400	0.011
		Casoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	6.980	0.398	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.529	0.010	8.530	0.661	0.025	0.011	551.400	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.443	0.016	23.760	0.616	0.036	0.021	875.500	0.045
	H <sup>r</sup> <sub>G</sub> H	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
	ĺ	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
MISSISSIPP		NA	MC	Motorcycles	0.800	0.003	27.120	3.260	0.037	0.021	177.400	0.011
W11001001F		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	6.980	0.395	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.529	0.010	8.530	0.650	0.025	0.011	551.400	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.540	0.016	7.470	0.476	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
<u> </u>		NA	MC	Motorcycles	1.150	0.003	14.400	2.470	0.037	0.021	177.400	0.011

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV (cont.)

State	PM <sub>2.5</sub> 0.011 0.011	CO <sub>2</sub>	NH <sub>3</sub>
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.268   0.007   8.310   0.396   0.025	0.011		NH <sub>3</sub>
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.546   0.010   9.810   0.667   0.025			5
Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.449   0.016   24.480   0.599   0.036	0.011	368.00	0.102
HIGH         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.056         0.003         0.658         0.071         0.033           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.236         0.006         0.486         0.236         0.038		551,400	0.102
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.236 0.006 0.486 0.236 0.038	0.021	75.500	0.045
	0.019	314.100	0.007
Diesel HDDV Heavy-Duty Vehicles (8.501+ lbs) 0.504 0.007 0.472 0.267 0.034	0.07.5	598.600	0.007
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	.020	785.200	0.027
MISSOURI NA MC Motorcycles 0.840 0.003 27.560 3.170 0.037	0.021	177.400	0.011
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.268 0.007 8.310 0.393 0.025	0.011	368.000	0.102
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.546 0.010 9.810 0.657 0.25	0.011	551.400	0.102
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.548 0.016 7.690 0.453 0.036	0.021	875.500	0.045
LOW Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.056 0.003 0.658 0.071 0.033	0.019	314.100	0.007
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.236 0.006 0.486 0.76 0.038	0.023	598.600	0.007
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 0.494 0.007 0.191 1.131 0.034	0.020	785.200	0.027
NA MC Motorcycles 1.210 0.003 14.660 2.390 0.037	0.021	177.400	0.011
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.271 0.007 10.51 0.378 0.025	0.011	368.000	0.102
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.573 0.010 1970 0.666 0.025	0.011	551.400	0.102
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.459 0.016 25.980 0.557 0.036	0.021	875.500	0.045
HIGH Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.056 0.003 0.658 0.071 0.033	0.019	314.100	0.007
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.236 0.06 0.486 0.236 0.038	0.023	598.600	0.007
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 0.504 0.007 0.472 0.267 0.034	0.020	785.200	0.027
MONTANA NA MC Motorcycles 0.900 0.003 28.890 2.710 0.037	0.021	177.400	0.011
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.27   0.007   10.510   0.377   0.025	0.011	368.000	0.102
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 973 0.010 11.970 0.661 0.025	0.011	551.400	0.102
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.560 0.016 8.160 0.402 0.036	0.021	875.500	0.045
LOW Diesel LDDV Light-Duty Vehicles (Passenger Cary 0.056 0.003 0.658 0.071 0.033	0.019	314.100	0.007
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.236 0.006 0.486 0.236 0.038	0.023	598.600	0.007
Diesel HDDV Heavy-Duty Vehicles (8,501+1/8) 0.494 0.007 0.191 0.131 0.034	0.020	785.200	0.027
NA MC Motorcycles 1.300 0.003 15.410 2.020 0.037	0.021	177.400	0.011
Gasoline         LDGV         Light-Duty Vehicles (Parenger Cars)         0.269         0.007         9.090         0.373         0.025	0.011	368.000	0.102
Gasoline LDGT Light-Duty Trucks (0.500 lbs) 0.556 0.010 10.570 0.656 0.025	0.011	551.400	0.102
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.453 0.016 24.930 0.568 0.036	0.021	875.500	0.045
HIGH Diesel LDDV Light-Duty Velocies (Passenger Cars) 0.056 0.003 0.658 0.071 0.033	0.019	314.100	0.007
Diesel LDDT Light-Duty tucks (0-8,500 lbs) 0.236 0.006 0.486 0.236 0.038	0.023	598.600	0.007
Diesel HDDV Heavy-D ty Vehicles (8,501+ lbs) 0.504 0.007 0.472 0.267 0.034	0.020	785.200	0.027
NEBRASKA NA MC Moto yeles 0.860 0.003 27.940 3.040 0.037	0.021	177.400	0.011
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.269 0.007 9.090 0.371 0.025	0.011	368.000	0.102
Gasoline LDGT _ight-Duty Trucks (0-8,500 lbs)	0.011	551.400	0.102
Gasoline HDG Heavy-Duty Vehicles (8,501+ lbs) 0.552 0.016 7.830 0.417 0.036	0.021	875.500	0.045
LOW Diesel LDOV Light-Duty Vehicles (Passenger Cars) 0.056 0.003 0.658 0.071 0.033	0.019	314.100	0.007
Diesel DDT Light-Duty Trucks (0-8,500 lbs) 0.236 0.006 0.486 0.236 0.038	0.023	598.600	0.007
Diese HDDV Heavy-Duty Vehicles (8,501+ lbs) 0.494 0.007 0.191 0.131 0.034	0.020	785.200	0.027
N MC Motorcycles 1.240 0.003 14.890 2.280 0.037	0.021	177.400	0.011
Goldine         LDGV         Light-Duty Vehicles (Passenger Cars)         0.264         0.007         8.790         0.387         0.025	0.011	368.000	0.102
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.549 0.010 10.260 0.655 0.025	0.011	551.400	0.102
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.451 0.016 24.690 0.579 0.036	0.021	875.500	0.045
Hight Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.056 0.003 0.658 0.071 0.033	0.019	314.100	0.007
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.236 0.006 0.486 0.236 0.038	0.023	598.600	0.007
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 0.504 0.007 0.472 0.267 0.034	0.020	785.200	0.027
NEVADA NA MC Motorcycles 0.860 0.003 27.480 2.780 0.037	0.021	177.400	0.011
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.264 0.007 8.790 0.385 0.025	0.011	368.000	0.102
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.549 0.010 10.260 0.648 0.025	0.011	551.400	0.102
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.551 0.016 7.760 0.434 0.036	0.021	875.500	0.045
LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.056         0.003         0.658         0.071         0.033	0.019	314.100	0.007
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.236 0.006 0.486 0.236 0.038	0.023	598.600	0.007
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 0.494 0.007 0.191 0.131 0.034	0.020	785.200	0.027
NA MC Motorcycles 1.240 0.003 14.620 2.070 0.037	0.021	177.400	0.011

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV (cont.)

		Fl			Emission Factors (g/mi)  Criteria Pollutants and Ozone Precursors  NO: SO: CO VOC PM. PM. CO.							
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Туре			$NO_X$	$SO_X$	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV 1	Light-Duty Vehicles (Passenger Cars)	0.270	0.007	10.320	0.376	0.025	0.011	368.00	0.102
		Gasoline	LDGT 1	Light-Duty Trucks (0-8,500 lbs)	0.570	0.010	11.780	0.662	0.025	0.011	551,400	0.102
		Gasoline	HDGV 1	Heavy-Duty Vehicles (8,501+ lbs)	0.458	0.016	25.840	0.557	0.036	0.021	15.500	0.045
	HIGH	Diesel	LDDV 1	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.07.5	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	.020	785.200	0.027
NEW HAMPSHIRE		NA		Motorcycles	0.900	0.003	28.730	2.730	0.037	0.021	177.400	0.011
NEW HAMISHIKE		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.270	0.007	10.320	0.375	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.570	0.010	11.780	0.657	0 325	0.011	551.400	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.559	0.016	8.120	0.403	0.036	0.021	875.500	0.045
	LOW	Diesel	*********************	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2.6	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	.131	0.034	0.020	785.200	0.027
		NA		Motorcycles	1.290	0.003	15.330	2.030	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.45	0.388	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.546	0.010	9 30	0.656	0.025	0.011	551.400	0.102
	***	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.450	0.016	24.440	0.585	0.036	0.021	875.500	0.045
	HIGH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.036	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.504	3.007	0.472	0.267	0.034	0.020	785.200	0.027
NEW JERSEY		NA		Motorcycles	0.850	0.003	27.280	2.900	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.26	0.007	8.450	0.386	0.025	0.011	368.000	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.546	0.010	9.930	0.648	0.025	0.011	551.400	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.549	0.016	7.680	0.440	0.036	0.021	875.500	0.045
	LOW	Diesel	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+11s)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA		Motorcycles	1.220	0.003	14.520	2.170	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Parsenger Cars)	0.262	0.007	8.300	0.384	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0,500 lbs)	0.542	0.010	9.780	0.647	0.025	0.011	551.400	0.102
	YYY CYY	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.449	0.016	24.320	0.579	0.036	0.021	875.500	0.045
	HIGH	Diesel		Light-Duty Velicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT I	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Day Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
NEW MEXICO		NA		Motor ycles	0.850	0.003	27.090	2.810	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.262	0.007	8.300	0.382	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.542	0.010	9.780	0.640	0.025	0.011	551.400	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.548	0.016	7.640	0.436	0.036	0.021	875.500	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658		0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006		0.236			598.600	0.007
		Diesel N		Heavy-Duty Vehicles (8,501+ lbs)	0.494 1.220	0.007	0.191 14.410	0.131 2.100	0.034	0.020	785.200 177.400	0.027
				Motorcycles								
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.269	0.007 0.010	9.930 11.390	0.372	0.025 0.025	0.011	368.000 551.400	0.102 0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.565			0.653				
	HZH	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.456	0.016	25.540	0.554	0.036	0.021	875.500	0.045
	поп	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
NEW YORK		NA Casalina		Motorcycles	0.890	0.003	28.410	2.720	0.037	0.021	177.400	0.011
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.269	0.007	9.930	0.370	0.025	0.011	368.000	0.102
		Gasoline	~~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.565	0.010	11.390	0.648	0.025	0.011	551.400	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.557	0.016	8.030	0.402	0.036	0.021	875.500	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071			314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA	MC I	Motorcycles	1.280	0.003	15.150	2.030	0.037	0.021	177.400	0.011

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV (cont.)

		Fl			Emission Factors (g/mi)  Criteria Pollutants and Ozone Precursors  NO: SO: CO VOC PM. PM. CO NE							
State	Altitude	Fuel Type		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Туре			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.261	0.007	7.400	0.393	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.532	0.010	8.910	0.657	0.025	0.011	551,400	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.445	0.016	23.770	0.602	0.036	0.021	15.500	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.07.5	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	.020	785.200	0.027
NORTH CAROLINA		NA	MC	Motorcycles	0.820	0.003	26.700	3.060	0.037	0.021	177.400	0.011
NORTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.261	0.007	7.400	0.391	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.532	0.010	8.910	0.648	0 325	0.011	551.400	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.543	0.016	7.470	0.462	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2.6	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	.131	0.034	0.020	785.200	0.027
		NA	MC	Motorcycles	1.180	0.003	14.180	2.300	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.278	0.007	11.20	0.400	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.586	0.010	12.680	0.708	0.025	0.011	551.400	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.462	0.016	26.530	0.579	0.036	0.021	875.500	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.036	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.504	3.007	0.472	0.267	0.034	0.020	785.200	0.027
NORTH DAKOTA		NA	MC	Motorcycles	0.920	0.003	29.870	2.840	0.037	0.021	177.400	0.011
NORTH BILLIOTH		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.273	0.007	11.200	0.398	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.586	0.010	12.680	0.702	0.025	0.011	551.400	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.563	0.016	8.340	0.417	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA	MC	Motorcycles	1.320	0.003	15.970	2.120	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.266	0.007	8.880	0.391	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.551	0.010	10.360	0.662	0.025	0.011	551.400	0.102
	****	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.452	0.016	24.760	0.585	0.036	0.021	875.500	0.045
	HIGH	Diesel	LDDV	Light-Duty Vel cles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
OHIO		NA	MC	Motor ycles	0.860	0.003	27.610	2.850	0.037	0.021	177.400	0.011
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.266	0.007	8.880	0.389	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.551	0.010	10.360	0.655	0.025	0.011	551.400	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.551	0.016	7.780	0.438	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658 0.486	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006		0.236	0.038		598.600	0.007
		Diesel N	HDDV MC	Heavy-Duty Vehicles (8,501+ lbs)	0.494 1.240	0.007	0.191 14.700	0.131 2.130	0.034	0.020	785.200 177.400	0.027
				Motorcycles								
		Gasoline Gasoline	LDGV LDGT	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.269 0.540	0.007 0.010	7.640 9.190	0.402 0.671	0.025 0.025	0.011	368.000 551.400	0.102 0.102
			HDGV	· · · · · · · · · · · · · · · · · · ·	0.340				0.025	0.011		0.102
	H' JH	Gasoline	LDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.446	0.016	24.300	0.618	0.036	0.021	875.500 314.100	0.043
	поп	Diesel		Light-Duty Vehicles (Passenger Cars)			0.658					
		Diesel Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	0.236 0.504	0.006	0.486 0.472	0.236	0.038	0.023	598.600 785.200	0.007 0.027
		NA	MC	Motorcycles  Motorcycles	0.810	0.007	27.830	3.440	0.034	0.020	177.400	0.027
OKLAHOM		Gasoline	LDGV	·	0.810	0.003	7.640	0.398	0.037	0.021	368.000	0.011
				Light-Duty Vehicles (Passenger Cars)						0.011		
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.540	0.010	9.190	0.660	0.025	***************************************	551.400	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.544	0.016	7.630	0.473	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071		0.019	314.100	0.007
		Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)		0.007	0.191	0.131			785.200	0.027
		NA	MC	Motorcycles	1.170	0.003	14.790	2.610	0.037	0.021	177.400	0.011

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV (cont.)

		Б.1			•	State Altitude Fuel Type Vehicle Type Emission Factors (g/mi)  Vehicle Type Criteria Pollutants and Ozone Precursors  NOv. SOv. CO. VOC. PM. p. PM. s. CO.							
State	Altitude		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s			
		Туре		$NO_X$	$SO_X$	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$		
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.263	0.007	9.340	0.379	0.025	0.011	368.00	0.102		
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.554	0.010	10.800	0.645	0.025	0.011	551,400	0.102		
OREGON PACIFIC ISLANDS		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.454	0.016	25.080	0.563	0.036	0.021	15.500	0.045		
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007		
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.073	598.600	0.007		
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	.020	785.200	0.027		
OPECON		NA	MC Motorcycles	0.870	0.003	27.650	2.690	0.037	0.021	177.400	0.011		
OKEGON		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.263	0.007	9.340	0.378	0.025	0.011	368.000	0.102		
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.554	0.010	10.800	0.640	0 325	0.011	551.400	0.102		
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.554	0.016	7.880	0.418	0.036	0.021	875.500	0.045		
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007		
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2/6	0.038	0.023	598.600	0.007		
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	.131	0.034	0.020	785.200	0.027		
		NA	MC Motorcycles	1.260	0.003	14.710	2.000	0.037	0.021	177.400	0.011		
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.244	0.007	6.41	0.374	0.025	0.011	368.000	0.102		
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.509	0.010	7 /40	0.616	0.025	0.011	551.400	0.102		
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.441	0.016	22.940	0.577	0.036	0.021	875.500	0.045		
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007		
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.056	0.486	0.236	0.038	0.023	598.600	0.007		
		Diesel	HDDV   Heavy-Duty Vehicles (8,501+ lbs)	0.504	5.007	0.472	0.267	0.034	0.020	785.200	0.027		
PACIFIC ISLANDS		NA	MC Motorcycles	0.810	0.003	25.480	2.780	0.037	0.021	177.400	0.011		
TACIFIC ISLANDS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.24	0.007	6.410	0.373	0.025	0.011	368.000	0.102		
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.509	0.010	7.940	0.609	0.025	0.011	551.400	0.102		
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.538	0.016	7.210	0.446	0.036	0.021	875.500	0.045		
PACIFIC ISLANDS PENNSYLVANIA	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007		
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007		
		Diesel	HDDV Heavy-Duty Vehicles (8,501+11s)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027		
		NA	MC Motorcycles	1.160	0.003	13.500	2.080	0.037	0.021	177.400	0.011		
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.266	0.007	9.210	0.390	0.025	0.011	368.000	0.102		
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.555	0.010	10.680	0.662	0.025	0.011	551.400	0.102		
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.453	0.016	25.000	0.580	0.036	0.021	875.500	0.045		
	HIGH	Diesel	LDDV Light-Duty Veh cles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007		
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007		
		Diesel	HDDV Heavy-Daty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027		
PENNSYLVANIA		NA	MC Motor ycles	0.870	0.003	27.810	2.750	0.037	0.021	177.400	0.011		
LINIBILATION		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.266	0.007	9.210	0.388	0.025	0.011	368.000	0.102		
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.555	0.010	10.680	0.656	0.025	0.011	551.400	0.102		
		Gasoline	HDG Heavy-Duty Vehicles (8,501+ lbs)	0.553	0.016	7.860	0.432	0.036	0.021	875.500	0.045		
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007		
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007		
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027		
		N/	MC Motorcycles	1.250	0.003	14.810	2.050	0.037	0.021	177.400	0.011		
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.262	0.007	4.980	0.382	0.025	0.011	368.000	0.102		
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.508	0.010	6.590	0.624	0.025	0.011	551.400	0.102		
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.435	0.016	22.270	0.603	0.036	0.021	875.500	0.045		
	HV JH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007		
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007		
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027		
PUERTO RICO		NA	MC Motorcycles	0.760	0.003	25.900	2.960	0.037	0.021	177.400	0.011		
1 CERTO RIV		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.262	0.007	4.980	0.381	0.025	0.011	368.000	0.102		
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.508	0.010	6.590	0.613	0.025	0.011	551.400	0.102		
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.530	0.016	7.000	0.476	0.036	0.021	875.500	0.045		
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007		
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007		
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027		
									0.021				

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV (cont.)

		F1		Emission Factors (g/mi)  Criteria Pollutants and Ozone Precursors  NO. SO. CO. VOC PM. PM. CO.							
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	s	
		Турс		NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.970	0.386	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.551	0.010	10.440	0.655	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.452	0.016	24.820	0.577	0.036	0.021	75.500	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.07.5	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	.020	785.200	0.027
RHODE ISLAND		NA	MC Motorcycles	0.860	0.003	27.580	2.740	0.037	0.021	177.400	0.011
KHODE ISLAND		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.970	0.385	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.551	0.010	10.440	0.649	0 325	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.552	0.016	7.800	0.431	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2.6	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	J.131	0.034	0.020	785.200	0.027
		NA	MC Motorcycles	1.240	0.003	14.680	2.040	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.263	0.007	7.02	0.396	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.529	0.010	8 570	0.659	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.443	0.016	23.720	0.612	0.036	0.021	875.500	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.036	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	5.007	0.472	0.267	0.034	0.020	785.200	0.027
SOUTH CAROLINA		NA	MC Motorcycles	0.800	0.003	26.920	3.190	0.037	0.021	177.400	0.011
SOCIH CHROLINI		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.26	0.007	7.020	0.393	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0 529	0.010	8.570	0.648	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.540	0.016	7.450	0.472	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA	MC Motorcycles	1.160	0.003	14.290	2.410	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.273	0.007	9.920	0.383	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.568	0.010	11.400	0.674	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.456	0.016	25.560	0.571	0.036	0.021	875.500	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
SOUTH DAKOTA		NA	MC Motor ycles	0.880	0.003	28.690	2.980	0.037	0.021	177.400	0.011
200111111111111111111111111111111111111		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.273	0.007	9.920	0.380	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.568	0.010	11.400	0.667	0.025	0.011	551.400	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.556	0.016	8.030	0.416	0.036	0.021	875.500	0.045
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		N/	MC Motorcycles	1.270	0.003	15.310	2.230	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.263	0.007	7.680	0.391	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.536	0.010	9.190	0.655	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.446	0.016	23.980	0.596	0.036	0.021	875.500	0.045
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
TENNESSE		NA	MC Motorcycles	0.830	0.003	26.940	3.060	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.263	0.007	7.680	0.388	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.536	0.010	9.190	0.646	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.544	0.016	7.540	0.455	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA	MC Motorcycles	1.190	0.003	14.320	2.300	0.037	0.021	177.400	0.011

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV (cont.)

		Fuel			•		mission Fa				
State	Altitude	Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precursor	S	
		Турс		NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.266	0.007	6.900	0.401	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.529	0.010	8.470	0.665	0.025	0.011	551,400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.443	0.016	23.830	0.623	0.036	0.021	15.500	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	.020	785.200	0.027
		NA	MC Motorcycles	0.790	0.003	27.500	3,370	0.037	0.021	177.400	0.011
TEXAS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.266	0.007	6,900	0.398	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.529	0.010	8.470	0.653	0.325	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.540	0.016	7.490	0.483	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2.6	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	.131	0.034	0.020	785.200	0.027
		NA	MC Motorcycles	1.140	0.003	14.590	2.560	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.267	0.007	9.19	0.368	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.555	0.007	10.660	0.646	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.453	0.016	24.990	0.558	0.025	0.021	875.500	0.102
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.455	0.003	0.658	0.071	0.033	0.021	314.100	0.043
	mon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.036	0.005	0.486	0.071	0.038	0.013	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	3.007	0.472	0.230	0.034	0.023	785.200	0.007
		NA	MC Motorcycles	0.870	0.003	27.870	2.830	0.034	0.020	177.400	0.027
UTAH			•	0.870	0.003	9.190		0.037	0.021		0.102
		Gasoline		0.26	0.007		0.366		0.011	368.000 551.400	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	333	***************************************	10.660		0.025			
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.553	0.016	7.850	0.409	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA	MC Motorcycles	1.250	0.003	14.850	2.110	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.272	0.007	10.520	0.379	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.573	0.010	11.980	0.668	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.459	0.016	25.990	0.559	0.036	0.021	875.500	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
VERMONT		NA	MC Motor ycles	0.900	0.003	28.930	2.720	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.272	0.007	10.520	0.378	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.573	0.010	11.980	0.663	0.025	0.011	551.400	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.560	0.016	8.170	0.403	0.036	0.021	875.500	0.045
	LOW	Diesel	LPDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	ZDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		N/	MC Motorcycles	1.300	0.003	15.440	2.030	0.037	0.021	177.400	0.011
		Casoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.271	0.007	5.010	0.390	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.515	0.010	6.650	0.632	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.436	0.016	22.740	0.618	0.036	0.021	875.500	0.045
	HYGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
VIRGIN ISLANDS		NA	MC Motorcycles	0.730	0.003	27.660	3.060	0.037	0.021	177.400	0.011
VINGIN ISLATIOS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.271	0.007	5.010	0.388	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.515	0.010	6.650	0.620	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.531	0.016	7.140	0.488	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
<u> </u>		NA	MC Motorcycles	1.060	0.003	14.620	2.350	0.037	0.021	177.400	0.011

Table 5-32. On-Road Vehicle Emission Factors - 2020 POV (cont.)

		Fuel						actors (g/r			
State	Altitude	Type	Vehicle Type			Criteria Po					
				NOx	$SO_X$	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.262	0.007	7.980	0.387	0.025	0.011	368.000	0.1/2
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)  HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.539	0.010	9.470	0.652	0.025	0.011	551.400	0.045
	HIGH	Gasoline Diesel	HDGV Heavy-Duty Vehicles (8,501+ lbs)  LDDV Light-Duty Vehicles (Passenger Cars)	0.448	0.016	24.090 0.658	0.588	0.036	0.021	875.500 314.100	0.043
	mon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.036	0.003	0.486	0.071	0.033	0.013	598, 30	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	78 .200	0.027
		NA	MC Motorcycles	0.840	0.003	26.900	2.900	0.037	0.021	77.400	0.011
VIRGINIA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.262	0.007	7.980	0.385	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.539	0.010	9.470	0.644	0.025	0.01	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.546	0.016	7.570	0.446	0.036	0 321	875.500	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.03	0.020	785.200	0.027
		NA Gasoline	MC Motorcycles  LDGV Light-Duty Vehicles (Passenger Cars)	1.210 0.264	0.003	14.300 9.490	2.170 0.381	0.025	0.021	177.400 368.000	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)  LDGT Light-Duty Trucks (0-8,500 lbs)	0.264	0.007	10.950	0.381	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.336	0.016	25.200	0.56	0.023	0.021	875.500	0.102
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.30	0.033	0.021	314.100	0.007
	111011	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	3.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
		NA	MC Motorcycles	0.880	0.003	27.78	2.690	0.037	0.021	177.400	0.011
WASHINGTON		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.264	0.007	9.40	0.380	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.556	0.010	13.950	0.644	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.554	0.016	7.920	0.418	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.056	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA	MC Motorcycles	1.260	0.003	14.790	2.000	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.263	0.007	8.680	0.386	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.5 1	0.010	10.160	0.652	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	9.451	0.016	24.610	0.578	0.036	0.021	875.500	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
WEST VIRGINIA		NA	MC Motorcycles	0.860	0.003	27.370	2.770	0.037	0.021	177.400	0.011
		Gasoline Gasoline	LDGV Light-Duty Vehicles (Passeng Cars)  LDGT Light-Duty Trucks (0-8,500 os)	0.263	0.007	8.680 10.160	0.384	0.025	0.011	368.000 551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8, 01+ lbs)	0.550	0.016	7.730	0.434	0.023	0.021	875.500	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.434	0.033	0.021	314.100	0.043
	LOW	Diesel	LDDT Light-Duty Trucks (-8,500 lbs)	0.036	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Veh des (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		NA	MC Motorcycles	1.230	0.003	14.560	2.070	0.037	0.021	177.400	0.011
		Gasoline	LDGV Light-Duty ehicles (Passenger Cars)	0.273	0.007	10.530	0.385	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Du Trucks (0-8,500 lbs)	0.575	0.010	11.990	0.679	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy Juty Vehicles (8,501+ lbs)	0.459	0.016	26.010	0.567	0.036	0.021	875.500	0.045
	HIGH	Diesel	LDDV Light Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Lent-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
WISCONSIN		NA	MC Motorcycles	0.900	0.003	29.090	2.780	0.037	0.021	177.400	0.011
		Gasoline	LD V Light-Duty Vehicles (Passenger Cars)	0.273	0.007	10.530	0.383	0.025	0.011	368.000	0.102
		Gasoline	DGT Light-Duty Trucks (0-8,500 lbs)	0.575	0.010	11.990	0.673	0.025	0.011	551.400	0.102
	1.011/	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.560	0.016	8.170	0.410	0.036	0.021	875.500	0.045
	LOW	Diese	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Digsel Liesel	LDDT Light-Duty Trucks (0-8,500 lbs)  HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600 785.200	0.007
		NA	MC Motorcycles	1.290	0.007	0.191 15.530	0.131 2.080	0.034	0.020	177.400	
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.271	0.003	10.430	0.376	0.037	0.021	368.000	0.011
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.271	0.007	11.880	0.661	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.459	0.016	25.910	0.554	0.025	0.021	875.500	0.102
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.021	314.100	0.007
	1	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.007	0.472	0.267	0.034	0.020	785.200	0.027
HANOLES		NA	MC Motorcycles	0.900	0.003	28.760	2.710	0.037	0.021	177.400	0.011
WYOMING		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.271	0.007	10.430	0.374	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.572	0.010	11.880	0.656	0.025	0.011	551.400	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.559	0.016	8.140	0.401	0.036	0.021	875.500	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
· —		D:1	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.494	0.007	0.191	0.131	0.034	0.020	785.200	0.027
		Diesel NA	MC Motorcycles	1.290	0.003	15.340	2.020	0.037	0.021	177.400	0.011

Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV

		ъ.				Eı	nission Fa	actors (g/ı	ni)		
State	Altitude	Fuel Type	Vehicle Type		(	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Турс		NOx	SOX	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	$H_3$
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.436	0.007	8.110	0.605	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.774	0.010	10.530	0.980	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.307	0.018	30.460	1.439	0.051	0.033	98 3.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	514.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0687	1246.800	0.027
ALABAMA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)  LDGT Light-Duty Trucks (0-8.500 lbs)	0.436	0.007	8.110	0.600	0.025	0.011	368.100	0.102
		Gasoline		0.774	0.010	10.530	0.962	0.023	0.011	549.800	0.102
	LOW	Gasoline Diesel	HDGV Heavy-Duty Vehicles (8,501+ lbs)  LDDV Light-Duty Vehicles (Passenger Cars)	1.593 0.200	0.018	9.600 0.808	1.177 0.132	0.051	0.033	988.900 314.000	0.045
	LOW	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.003	0.657	0.132	0.060	0.037	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.000	0.037	0.38	0.115	0.044	1246.800	0.007
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.453	0.007	14.940	0.564	0.025	0.014	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.868	0.010	18,230	0.997	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.170	0.018	23.460	1.102	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.00	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.745	0 312	2.002	0.630	0.099	0.072	1246.100	0.027
A T. A CITZ A		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ALASKA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.453	0.007	14.940	0.563	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.838	0.010	18.280	0.995	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.426	0.018	11.170	0.830	0.048	0.030	987.600	0.045
ALASKA  ARIZONA  ARKANSAS	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passinger Cars)	0.440	0.007	8.470	0.610	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8 00 lbs)	0.782	0.010	10.950	0.991	0.025	0.011	549.800	0.102
	****	Gasoline	HDGV Heavy-Duty Vehicle (8,501+ lbs)	1.312	0.018	30.770	1.442	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Tricks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Dut Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
ARIZONA		NA	MC Motorcy les  LDGV Light Duty Vehicles (Passenger Cars)	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline Gasoline	LDGV Light Duty Vehicles (Passenger Cars)  LDGT Lint-Duty Trucks (0-8,500 lbs)	0.440	0.007	8.470 10.950	0.603	0.025	0.011	368.100 549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.598	0.018	9.690	1.175	0.023	0.033	988.900	0.102
	LOW	Diesel	LDD Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.033	314.000	0.007
	2011	Diesel	L'DT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gastine	LDGV Light-Duty Vehicles (Passenger Cars)	0.442	0.007	8.620	0.612	0.025	0.011	368.100	0.102
		Casoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.786	0.010	11.120	0.994	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.313	0.018	30.930	1.443	0.051	0.033	988.900	0.045
	HIC	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
ARKANGAG		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ARRANSAS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.442	0.007	8.620	0.606	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.786	0.010	11.120	0.975	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.600	0.018	9.750	1.174	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV (cont.)

		ъ.					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		••	NO <sub>x</sub>	SOx	CO	VOC	PM <sub>10</sub>	PM25	CO <sub>2</sub>	NH,
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.430	0.007	8.320	0.589	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.775	0.010	10.800	0.957	0.025	0.011	549 800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.312	0.018	30.250	1.378	0.051	0.033	\$8.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.04	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	2.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
CALIFORNIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.430	0.007	8.320	0.585	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.775	0.010	10.800	0.943	0 25	0.011	549.800	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.599	0.018	9.530	1.123	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.331	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.449	0.007	11.123	0.554	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.832	0.010	14.080	0.937	0.025	0.011	549.800	0.102
		Gasoline	HDGV		1.346	0.018	32.740	1.236	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV		0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+ lbs)	3.208	J.012	2.262	0.662	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
COLORADO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.44	0.007	11.120	0.552	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.832	0.010	14.080	0.928	0.025	0.011	549.800	0.102
		Gasoline	HDGV		1.640	0.018	10.310	0.964	0.051	0.033	988,900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+1/s)	3.148	0.012	0.919	0.332	0.115	0.087	1246,800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.446	0.007	10.490	0.588	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.820	0.010	13.340	0.971	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.339	0.018	32.180	1.311	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
	111011	Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
CONNECTICUT		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446	0.007	10.490	0.584	0.025	0.011	368.100	0.102
		Gasoline	LDGT	aght-Duty Trucks (0-8,500 lbs)	0.820	0.010	13.340	0.960	0.025	0.011	549.800	0.102
		Gasoline	~~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	1.631	0.018	10.140	1.040	0.051	0.033	988.900	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	<b>/</b>	Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	9.180	0.592	0.025	0.011	368,100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.795	0.010	11.790	0.968	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.322	0.018	31.040	1.364	0.051	0.033	988.900	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
DELAWARI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	9.180	0.587	0.025	0.014	368.100	0.102
		Gasoline	LDGT	Light-Duty Veneus (1 assenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.795	0.010	11.790	0.953	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.611	0.018	9.780	1.099	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.033	314.000	0.007
	2011	Diesel	LDDT	Light-Duty Venicles (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.460	0.005	0.657	0.132	0.060	0.037	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.000	0.037	0.332	0.115	0.044	1246.800	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.037	0.000	0.000
	1	11/1	IVIC		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV (cont.)

		ъ.				Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel	Vehicle Type		C	riteria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.432	0.007	7.060	0.599	0.025	0.011	368.10	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.756	0.010	9.310	0.964	0.025	0.011	549 300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.295	0.018	29.710	1.463	0.051	0.033	\$8.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.0/4	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	°.087	1246.800	0.027
EI ODIDA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
FLORIDA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.432	0.007	7.060	0.595	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.756	0.010	9.310	0.944	0/25	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.578	0.018	9.360	1.209	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.31	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	.332	0.115	0.087	1246.800	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.436	0.007	8.00	0.604	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.772	0.010	16,420	0.977	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.306	0.018	30.370	1.439	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0,236	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV   Heavy-Duty Vehicles (8,501+ lbs)	3.208	5.012	2.262	0.662	0.115	0.087	1246.800	0.027
CEODCIA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
GEORGIA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.425	0.007	8.000	0.599	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	9.172	0.010	10.420	0.959	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.591	0.018	9.570	1.178	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ Vs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.415	0.007	6.650	0.574	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.741	0.010	8.880	0.922	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.292	0.018	28.800	1.393	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HAWAII		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.415	0.007	6.650	0.571	0.025	0.011	368.100	0.102
		Gasoline	LDGT Aght-Duty Trucks (0-8,500 lbs)	0.741	0.010	8.880	0.906	0.025	0.011	549.800	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.574	0.018	9.070	1.152	0.051	0.033	988.900	0.045
	LOW	Diesel	LDOV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV Light-Duty Vehicles (Passenger Cars)	0.451	0.007	11.380	0.555	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.837	0.010	14.380	0.939	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.349	0.018	32.970	1.228	0.051	0.033	988.900	0.045
	HLPH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
IDAHO		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.451	0.007	11.380	0.553	0.025	0.014	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.837	0.010	14.380	0.931	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.644	0.018	10.390	0.955	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.051	0.033	314.000	0.007
	2011	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.003	0.657	0.132	0.055	0.037	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.000	0.037	0.332	0.115	0.044	1246.800	0.007
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
i		11/1	me monteyers	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV (cont.)

		E . I					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.447	0.007	9.980	0.600	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.812	0.010	12.720	0.987	0.025	0.011	549 800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.332	0.018	31.730	1.361	0.051	0.033	\$8.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.0/4	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	£.087	1246.800	0.027
ILLINOIS		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ILLINOIS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.447	0.007	9.980	0.595	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.812	0.010	12.720	0.972	0/25	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.623	0.018	10.000	1.087	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.337	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446	0.007	9.94	0.594	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.811	0.010	12,680	0.976	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.332	0.018	31.680	1.344	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0,836	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	5.012	2.262	0.662	0.115	0.087	1246.800	0.027
INDIANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
INDIANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.4/3	0.007	9.940	0.589	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	6.811	0.010	12.680	0.963	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.622	0.018	9.980	1.073	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.455	0.007	10.900	0.574	0.025	0.011	368.100	0.102
		Gasoline		Light-Duty Trucks (0,5,500 lbs)	0.832	0.010	13.800	0.971	0.025	0.011	549.800	0.102
		Gasoline	~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	1.343	0.018	32.540	1.298	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Day Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
IOWA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.455	0.007	10.900	0.569	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Aght-Duty Trucks (0-8,500 lbs)	0.832	0.010	13.800	0.958	0.025	0.011	549.800	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.636	0.018	10.250	1.017	0.051	0.033	988.900	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.449	0.007	9.550	0.606	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.805	0.010	12.210	0.992	0.025	0.011	549.800	0.102
	,,,,	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.325	0.018	31.600	1.400	0.051	0.033	988.900	0.045
	HYJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
KANSAS		NA C "	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.449	0.007	9.550	0.600	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.805	0.010	12.210	0.974	0.025	0.011	549.800	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.614	0.018	9.960	1.123	0.051	0.033	988.900	0.045
	LOW	Diesel	~~~~~~~~~~	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV (cont.)

		ъ.					E	mission Fa	actors (g/ı	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	SOx	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	9.180	0.594	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.795	0.010	11.790	0.970	0.025	0.011	549 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.322	0.018	31.060	1.368	0.051	0.033	\$8.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.0/4	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	2.087	1246.800	0.027
TATA MONTO CATA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
KENTUCKY		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	9.180	0.589	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.795	0.010	11.790	0.955	0/25	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.611	0.018	9.780	1.102	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.3/1	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.438	0.007	7.77	0.609	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.770	0.010	10.140	0.982	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.303	0.018	30.350	1.466	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.656	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	5.012	2.262	0.662	0.115	0.087	1246.800	0.027
LOUISIANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOUISIANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.423	0.007	7.770	0.603	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.170	0.010	10.140	0.962	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.588	0.018	9.560	1.204	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.461	0.007	12.210	0.576	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,5,500 lbs)	0.857	0.010	15.360	0.981	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.359	0.018	33.720	1.248	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehcles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
MAINE		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
WAINE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.461	0.007	12.210	0.574	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.857	0.010	15.360	0.973	0.025	0.011	549.800	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.656	0.018	10.620	0.966	0.051	0.033	988.900	0.045
	LOW	Diesel	LDJV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	9.370	0.584	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.798	0.010	12.020	0.957	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.325	0.018	31.180	1.340	0.051	0.033	988.900	0.045
	HV JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
	1	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
MARYLAND		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MAKILAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	9.370	0.580	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.798	0.010	12.020	0.944	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.614	0.018	9.820	1.075	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
<u> </u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV (cont.)

		ъ.					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	SOx	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.447	0.007	10.660	0.588	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.823	0.010	13.530	0.973	0.025	0.011	549 500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.341	0.018	32.320	1.305	0.051	0.033	\$8.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.0/4	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	2.087	1246.800	0.027
MA GGA CHILICETERG		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.447	0.007	10.660	0.585	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.823	0.010	13.530	0.962	0/25	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.633	0.018	10.180	1.034	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.31	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.453	0.007	11.45 8	0.565	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.840	0.010	1/460	0.956	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.350	0.018	33.030	1.249	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	***************************************	Light-Duty Trucks (0-8,500 lbs)	0.460	0.956	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	5.012	2.262	0.662	0.115	0.087	1246.800	0.027
MICHIGAN		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MICHIGAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.453	0.007	11.450	0.562	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.840	0.010	14.460	0.948	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.645	0.018	10.410	0.972	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+11s)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Partienger Cars)	0.467	0.007	12.500	0.600	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.866	0.010	15.700	1.025	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.362	0.018	33.990	1.293	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
MINNESOTA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.467	0.007	12.500	0.596	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.866	0.010	15.700	1.014	0.025	0.011	549.800	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.659	0.018	10.710	1.001	0.051	0.033	988.900	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.438	0.007	8.120	0.609	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.776	0.010	10.540	0.985	0.025	0.011	549.800	0.102
	ну⊿н	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.307	0.018	30.540	1.451	0.051	0.033	988.900	0.045
	нън	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
MISSISSIPP		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.438	0.007	8.120	0.603	0.025	0.011	368.100	0.102
		Gasoline	LDGT		0.776	0.010	10.540	0.966	0.025	0.011	549.800	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.593	0.018	9.620	1.187	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDV	Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501+ lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200 1246.800	0.007
		Diesel			3.148	0.012	0.919	0.332	0.115	0.087	****************	0.027
<u> </u>	l	NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV (cont.)

		E. J					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446	0.007	9.520	0.600	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.804	0.010	12.180	0.983	0.025	0.011	549 500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.325	0.018	31.460	1.380	0.051	0.033	98.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.0/4	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	£.087	1246.800	0.027
MISSOURI		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MISSOURI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446	0.007	9.520	0.594	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.804	0.010	12.180	0.966	0/125	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.615	0.018	9.910	1.108	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.3.7	0.060	0.044	599.200	0.007
		Diesel	HDDV		3.148	0.012	0.919	.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.457	0.007	11.853	0.569	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.849	0.010	14.940	0.966	0.025	0.011	549.800	0.102
		Gasoline	HDGV	·/	1.355	0.018	33.400	1.243	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	<del>/</del>	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	***************************************	Light-Duty Trucks (0-8,500 lbs)	0.460	0.056	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.208	5.012	2.262	0.662	0.115	0.087	1246.800	0.027
MONTANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MONTHINI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.45	0.007	11.850	0.566	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.849	0.010	14.940	0.958	0.025	0.011	549.800	0.102
		Gasoline	HDGV		1.651	0.018	10.520	0.965	0.051	0.033	988.900	0.045
	LOW	Diesel	~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+11s)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Partienger Cars)	0.451	0.007	10.350	0.569	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.821	0.010	13.150	0.959	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.336	0.018	32.040	1.307	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh eles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-D ty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
NEBRASKA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.451	0.007	10.350	0.564	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.821	0.010	13.150	0.945	0.025	0.011	549.800	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.628	0.018	10.100	1.030	0.051	0.033	988.900	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.442	0.007	10.000	0.583	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.810	0.010	12.760	0.959	0.025	0.011	549.800	0.102
	ну⊿н	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.333	0.018	31.740	1.313	0.051	0.033	988.900	0.045
	нын	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
NEVADA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.442	0.007	10.000	0.579	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.810	0.010	12.760	0.947	0.025	0.011	549.800	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.624	0.018	10.000	1.047	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
<u> </u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV (cont.)

		F1					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.455	0.007	11.640	0.567	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.844	0.010	14.690	0.961	0.025	0.011	549 500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.352	0.018	33.210	1.247	0.051	0.033	\$8.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.0/4	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	£.087	1246.800	0.027
NEW HAMPSHIRE		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEW HAMITSHIKE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.455	0.007	11.640	0.564	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.844	0.010	14.690	0.953	0/125	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.648	0.018	10.460	0.969	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.337	0.060	0.044	599.200	0.007
		Diesel	HDDV		3.148	0.012	0.919	.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.442	0.007	9.65	0.587	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.804	0.010	12.340	0.963	0.025	0.011	549.800	0.102
		Gasoline	HDGV	·/	1.328	0.018	31.420	1.335	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	<del>/</del>	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	***************************************	Light-Duty Trucks (0-8,500 lbs)	0.460	0.056	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.208	5.012	2.262	0.662	0.115	0.087	1246.800	0.027
NEW JERSEY		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEW SERSET		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.412	0.007	9.650	0.583	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	6.804	0.010	12.340	0.950	0.025	0.011	549.800	0.102
		Gasoline	HDGV		1.618	0.018	9.900	1.069	0.051	0.033	988.900	0.045
	LOW	Diesel	~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+11s)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Partienger Cars)	0.439	0.007	9.480	0.579	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.799	0.010	12.140	0.950	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.326	0.018	31.270	1.322	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Veheles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
NEW MEXICO		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.439	0.007	9.480	0.576	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.799	0.010	12.140	0.938	0.025	0.011	549.800	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.616	0.018	9.850	1.060	0.051	0.033	988.900	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.452	0.007	11.230	0.561	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.835	0.010	14.200	0.948	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.018	32.840	1.248	0.051	0.033	988.900	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
NEW YORK		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.452	0.007	11.230	0.558	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.835	0.010	14.200	0.939	0.025	0.011	549.800	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.642	0.018	10.350	0.973	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV (cont.)

		E d					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.435	0.007	8.530	0.599	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.781	0.010	11.040	0.975	0.025	0.011	549 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.314	0.018	30.560	1.402	0.051	0.033	\$8.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.0/4	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	£.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.435	0.007	8.530	0.595	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.781	0.010	11.040	0.959	0/25	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.601	0.018	9.630	1.141	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.3 1	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.468	0.007	12.62	0.603	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.868	0.010	15.850	1.031	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.363	0.018	34.100	1.295	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.236	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+ lbs)	3.208	J.012	2.262	0.662	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH DAKOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.463	0.007	12.630	0.599	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.868	0.010	15.850	1.021	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.661	0.018	10.740	1.002	0.051	0.033	988,900	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Care	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+1/s)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.445	0.007	10.110	0.589	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.813	0.010	12.880	0.971	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.334	0.018	31.830	1.327	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehcles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-D ty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
OHIO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.445	0.007	10.110	0.585	0.025	0.011	368.100	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.813	0.010	12.880	0.958	0.025	0.011	549.800	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	1.625	0.018	10.030	1.058	0.051	0.033	988.900	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	<del></del>	Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446	0.007	8.850	0.614	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.792	0.010	11.380	0.997	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.316	0.018	31.230	1.447	0.051	0.033	988.900	0.045
	HY 5H	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
OW 1803		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
OKLAHOM		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446	0.007	8.850	0.607	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.792	0.010	11.380	0.977	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.603	0.018	9.840	1.173	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
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Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV (cont.)

		ъ.,					Eı	mission Fa	actors (g/ı	mi)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.442	0.007	10.560	0.568	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.818	0.010	13.430	0.938	0.025	0.011	549 800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.340	0.018	32.240	1.257	0.051	0.033	\$8.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.0/4	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	£.087	1246.800	0.027
OREGON		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
OKEGON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.442	0.007	10.560	0.566	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.818	0.010	13.430	0.931	0/25	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.633	0.018	10.160	0.995	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.311	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.409	0.007	7.39	0.565	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.748	0.010	9/80	0.912	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.302	0.018	29.490	1.346	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	***************************************	Light-Duty Trucks (0-8,500 lbs)	0.460	0.236	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.208	5.012	2.262	0.662	0.115	0.087	1246.800	0.027
PACIFIC ISLANDS		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
Then ie isenius		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.40	0.007	7.390	0.564	0.025	0.011	368.100	0.102
		Gasoline	~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.748	0.010	9.780	0.900	0.025	0.011	549.800	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.587	0.018	9.290	1.105	0.051	0.033	988.900	0.045
	LOW	Diesel	~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+1/s)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parkenger Cars)	0.446	0.007	10.450	0.586	0.025	0.011	368.100	0.102
		Gasoline		Light-Duty Trucks (05,500 lbs)	0.819	0.010	13.290	0.968	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.338	0.018	32.140	1.307	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Day Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
PENNSYLVANIA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446	0.007	10.450	0.583	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.819	0.010	13.290	0.957	0.025	0.011	549.800	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.630	0.018	10.130	1.038	0.051	0.033	988.900	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.431	0.007	6.010	0.586	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.740	0.010	8.090	0.940	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.283	0.018	28.620	1.463	0.051	0.033	988.900	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
PUERTO RICO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.431	0.007	6.010	0.583	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.740	0.010	8.090	0.920	0.025	0.011	549.800	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.563	0.018	9.020	1.219	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
<b></b>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV (cont.)

		ъ.,				Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel	Vehicle Type		C	rite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.442	0.007	10.190	0.581	0.025	0.011	368.10	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.813	0.010	12.990	0.957	0.025	0.011	549 300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.335	0.018	31.910	1.302	0.051	0.033	\$8.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.0/4	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	£.087	1246.800	0.027
DHODE ISLAND		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
RHODE ISLAND		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.442	0.007	10.190	0.578	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.813	0.010	12.990	0.947	0/125	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.627	0.018	10.050	1.036	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.337	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	.332	0.115	0.087	1246.800	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.437	0.007	8.16	0.605	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.776	0.010	10.600	0.981	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.308	0.018	30.490	1.438	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT   Light-Duty Trucks (0-8,500 lbs)	0.460	0.056	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.208	5.012	2.262	0.662	0.115	0.087	1246.800	0.027
SOUTH CAROLINA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
BOCTH CAROLINA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.42	0.007	8.160	0.600	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	9.176	0.010	10.600	0.963	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.594	0.018	9.610	1.176	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+108)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.457	0.007	11.250	0.580	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0,5,500 lbs)	0.839	0.010	14.210	0.983	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.018	32.850	1.299	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vebrues (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
SOUTH DAKOTA		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.457	0.007	11.250	0.575	0.025	0.011	368.100	0.102
		Gasoline	LDGT Jight-Duty Trucks (0-8,500 lbs)	0.839	0.010	14.210	0.971	0.025	0.011	549.800	0.102
	1.011	Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.641	0.018	10.350	1.015	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV Light-Duty Vehicles (Passenger Cars)	0.438	0.007	8.840	0.594	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.788	0.010	11.390	0.968	0.025	0.011	549.800	0.102
	777 77	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.318	0.018	30.830	1.382	0.051	0.033	988.900	0.045
	HUJH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
TENNESSE		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.438	0.007	8.840	0.589	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.788	0.010	11.390	0.952	0.025	0.011	549.800	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.605	0.018	9.710	1.118	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV (cont.)

							Eı	mission Fa	actors (g/ı	ni)		
State	Altitude	Fuel		Vehicle Type		C			nd Ozone		rs	
		Туре			NOx	SOx	CO	voc	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	8.050	0.615	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.776	0.010	10.470	0.993	0.025	0.011	549 800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.306	0.018	30.630	1.474	0.051	0.033	\$8.900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.0/4	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	¢.087	1246.800	0.027
mm**** G		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
TEXAS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.440	0.007	8.050	0.609	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.776	0.010	10.470	0.972	0/25	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.592	0.018	9.650	1.208	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.331	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	.332	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.447	0.007	10.44	0.559	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.820	0.010	12.270	0.943	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.338	0.018	32.130	1.276	0.051	0.033	988,900	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.836	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	3.012	2.262	0.662	0.115	0.087	1246.800	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
UTAH		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.44	0.007	10.440	0.555	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.820	0.010	13.270	0.931	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.630	0.018	10.120	1.004	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Care	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
	LOW	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.132	0.060	0.037	599.200	0.007
		Diesel	HDDV		3.148	0.000	0.037	0.332	0.115	0.047	1246.800	0.007
		NA	MC	Heavy-Duty Vehicles (8,501+1/8) Motorcycles	0.000	0.000	0.000	0.000	0.021	0.037	0.000	0.027
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.457	0.007	11.860	0.571	0.021	0.014	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0.500 lbs)	0.437	0.007	14.950	0.970	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.355	0.018	33,400	1.249	0.023	0.033	988,900	0.102
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.033	314.000	0.043
	mon	Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.460	0.006	0.708	0.132	0.060	0.037	599.200	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+lbs)	3.208	0.000	2.262	0.662	0.115	0.044	1246.800	0.007
		NA	MC	Motor ycles	0.000	0.000	0.000	0.002	0.021	0.087	0.000	0.027
VERMONT			LDGV	Light-Duty Vehicles (Passenger Cars)	0.457	0.007	11.860	0.568	0.021	0.014	368.100	0.102
		Gasoline	LDGV		0.437	0.007	14.950	0.368	0.025	0.011		
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Ight-Duty Trucks (0-8,500 lbs)	1.651	0.010	10.520	0.961	0.023	0.011	549.800 988.900	0.102 0.045
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)								
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.200 0.460	0.003 0.006	0.808 0.657	0.132 0.387	0.053	0.037 0.044	314.000 599.200	0.007 0.007
		Diesel	<u> </u>	Light-Duty Trucks (0-8,500 lbs)								
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)  Motorcycles	3.148 0.000	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		N/I G soline	MC LDCV								0.000	0.000
			LDGV	Light-Duty Vehicles (Passenger Cars)	0.443	0.007	6.100	0.598	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.749	0.010	8.160	0.959	0.025	0.011	549.800	0.102
	нузн	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.286	0.018	29.230	1.511	0.051	0.033	988.900	0.045
	нън	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
	]	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
VIRGIN ISLANDS		NA C "	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.443	0.007	6.100	0.595	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.749	0.010	8.160	0.936	0.025	0.011	549.800	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.567	0.018	9.210	1.260	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
<u></u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-33. On-Road Vehicle Emission Factors - 2013 GOV (cont.)

		Fuel				Eı	nission F	actors (g/r	ni)		
State	Altitude	Type	Vehicle Type			Criteria Po					
				NO <sub>X</sub>	SO <sub>X</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	9.140	0.587	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.793	0.010	11.750	0.960	0.025	0.011	549.800	0.102
	111011	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.322	0.018	30.970	1.350	0.051	0.033	985.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.808	0.132	0.053	0.037	74.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel NA	HDDV Heavy-Duty Vehicles (8,501+ lbs)  MC Motorcycles	3.208 0.000	0.012	2.262 0.000	0.662	0.115 0.021	0.087	1246.800 0.000	0.027
VIRGINIA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	9.140	0.583	0.021	.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.793	0.010	11.750	0.946	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.611	0.018	9.760	1.088	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.808	0.132	0.0 3	0.037	314,000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars	0.444	0.007	10.740	0.57	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.822	0.010	13.630	0 /43	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.342	0.018	32.390	1.257	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.70	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2/62	0.662	0.115	0.087	1246.800	0.027
WASHINGTON		NA	MC Motorcycles	0.000	0.000	5.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	10.740	0.568	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.822	0.010	13.630	0.936	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.635	0.078	10.200	0.993	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460 3.148	0.006	0.657 0.919	0.387	0.060	0.044	599.200 1246.800	0.007 0.027
		Diesel NA	HDDV Heavy-Duty Vehicles (8,501+ lbs)  MC Motorcycles	0.00	0.012	0.000	0.000	0.115 0.021	0.087	0.000	0.027
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	9.880	0.581	0.021	0.014	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.807	0.010	12.620	0.955	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.331	0.018	31.630	1.312	0.023	0.033	988.900	0.102
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Car	0.200	0.003	0.808	0.132	0.053	0.033	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
WEST VIRGINIA		Gasoline	LDGV Light-Duty Vehicles (Passinger Cars	0.441	0.007	9.880	0.577	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,00 lbs)	0.807	0.010	12.620	0.944	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.622	0.018	9.970	1.047	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicle (Passenger Cars	0.200	0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Du Vehicles (Passenger Cars	***	0.007	11.890	0.581	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Puty Trucks (0-8,500 lbs)	0.851	0.010	14.970	0.987	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heary-Duty Vehicles (8,501+ lbs)	1.355	0.018	33.430	1.272	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDY Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
WISCONSIN		NA	Motorcycles  I GV Light-Duty Vehicles (Passenger Cars	0.000	0.000	0.000 11.890	0.000	0.021	0.014	0.000	0.000
		Gasoline Gasoline		0.460	0.007 0.010	14.970	0.577	0.025	0.011	368.100 549.800	0.102
		Gasolin	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.651	0.018	10.530	0.988	0.023	0.033	988.900	0.102
	LOW	Diegel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Desel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	11.760	0.565	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.846	0.010	14.830	0.959	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.354	0.018	33.310	1.238	0.051	0.033	988.900	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.808	0.132	0.053	0.037	314.000	0.007
	1	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.708	0.393	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.208	0.012	2.262	0.662	0.115	0.087	1246.800	0.027
WYOMING		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
WIGHT		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars		0.007	11.760	0.563	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.846	0.010	14.830	0.951	0.025	0.011	549.800	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.649	0.018	10.490	0.961	0.051	0.033	988.900	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars		0.003	0.808	0.132	0.053	0.037	314.000	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.460	0.006	0.657	0.387	0.060	0.044	599.200	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	3.148	0.012	0.919	0.332	0.115	0.087	1246.800	0.027
	1	NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV

		Fuel				Eı	mission Fa	actors (g/ı	ni)		
State	Altitude	Fuel Type	Vehicle Type			riteria Po	llutants a	nd Ozone	Precurso	rs	
		Турс		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.399	0.007	7.830	0.557	0.025	0.011	368.10	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.723	0.010	10.130	0.923	0.025	0.011	550 200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.098	0.018	29.620	1.318	0.048	0.030	\$7.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.070	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	2.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ALABAMA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.399	0.007	7.830	0.553	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.723	0.010	10.130	0.906	0/25	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.337	0.018	9.330	1.084	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.3/3	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	.316	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.453	0.007	14.94	0.564	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.868	0.010	18.280	0.997	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.170	0.018	35.460	1.102	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0,956	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.745	5.012	2.002	0.630	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ALASKA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.453	0.007	14.940	0.563	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	2.868	0.010	18.280	0.995	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.426	0.018	11.170	0.830	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598,600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.402	0.007	8.190	0.562	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.730	0.010	10.530	0.933	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.101	0.018	29.910	1.320	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-D (y Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
A DATE ON A		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ARIZONA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.402	0.007	8.190	0.557	0.025	0.011	368.100	0.102
		Gasoline	LDGT Aight-Duty Trucks (0-8,500 lbs)	0.730	0.010	10.530	0.916	0.025	0.011	550.200	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.342	0.018	9.420	1.082	0.048	0.030	987.600	0.045
	LOW	Diesel	LDJV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.404	0.007	8.330	0.563	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.734	0.010	10.700	0.936	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.103	0.018	30.080	1.321	0.048	0.030	987.600	0.045
	HV 5H	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
ADIZANGAG		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ARKANSAS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.404	0.007	8.330	0.558	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.734	0.010	10.700	0.918	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.343	0.018	9.470	1.081	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
					2.000	5.500					0.500

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV (cont.)

		ъ.					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.393	0.007	8.060	0.543	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.724	0.010	10.390	0.902	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.102	0.018	29.410	1.262	0.048	0.030	\$57.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.070	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	2.072	1246.100	0.027
GAT IPODATA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
CALIFORNIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.393	0.007	8.060	0.540	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.724	0.010	10.390	0.888	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.343	0.018	9.260	1.034	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.333	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.410	0.007	10.813	0.512	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.776	0.010	12.540	0.883	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.130	0.018	31.830	1.129	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	***************************************	Light-Duty Trucks (0-8,500 lbs)	0.416	0.936	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.745	5.012	2.002	0.630	0.099	0.072	1246.100	0.027
COLORADO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
COLORADO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.415	0.007	10.810	0.509	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.176	0.010	13.540	0.875	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.377	0.018	10.020	0.887	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+118)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Partienger Cars)	0.407	0.007	10.200	0.543	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.765	0.010	12.830	0.915	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.124	0.018	31.290	1.198	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
CONNECTICUT		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.407	0.007	10.200	0.540	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.765	0.010	12.830	0.905	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.369	0.018	9.850	0.957	0.048	0.030	987.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	8.900	0.546	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.742	0.010	11.340	0.912	0.025	0.011	550.200	0.102
	111	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.110	0.018	30.180	1.248	0.048	0.030	987.600	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
	]	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
DELAWARI		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	8.900	0.542	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.742	0.010	11.340	0.898	0.025	0.011	550.200	0.102
	1.037	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.353	0.018	9.500	1.011	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
<u> </u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV (cont.)

		Fuel				Eı	mission Fa	actors (g/ı	mi)		
State	Altitude	Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Турс		NOx	SO <sub>X</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.395	0.007	6.800	0.552	0.025	0.011	368.10	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.706	0.010	8.960	0.907	0.025	0.011	550 200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.087	0.018	28.880	1.342	0.048	0.030	37.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.075	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	9.072	1246.100	0.027
FLORIDA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LONDA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.395	0.007	6.800	0.548	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.706	0.010	8.960	0.888	0/25	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.324	0.018	9.100	1.115	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.3/3	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	.316	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.398	0.007	7.74	0.556	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.721	0.010	10.020	0.920	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.097	0.018	29.530	1.318	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.656	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.745	5.012	2.002	0.630	0.099	0.072	1246.100	0.027
GEORGIA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
GLORGIA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.393	0.007	7.740	0.552	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	9.721	0.010	10.020	0.903	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.336	0.018	9.300	1.085	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ 1/s)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.379	0.007	6.410	0.529	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.692	0.010	8.540	0.868	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.085	0.018	28.000	1.279	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV Light-Duty Veheles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
** * *** **		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HAWAII		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.379	0.007	6.410	0.527	0.025	0.011	368.100	0.102
		Gasoline	LDGT Aight-Duty Trucks (0-8,500 lbs)	0.692	0.010	8.540	0.854	0.025	0.011	550.200	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.322	0.018	8.820	1.063	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.411	0.007	11.070	0.512	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.781	0.010	13.830	0.885	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.133	0.018	32.050	1.122	0.048	0.030	987.600	0.045
	HUJH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.007
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
IDAHO		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.411	0.007	11.070	0.510	0.025	0.014	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.781	0.010	13.830	0.878	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.380	0.018	10.090	0.878	0.048	0.030	987.600	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.048	0.033	314.100	0.043
	LOW	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.163	0.003	0.774	0.119	0.049	0.033	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.006	0.814	0.303	0.036	0.040	1246.100	0.007
		NA	MC Motorcycles	0.000	0.012	0.000	0.000	0.099	0.072	0.000	0.027
		INA	IVIC IVIOLOTCYCLES	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		1 ype			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	9.680	0.553	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.758	0.010	12.230	0.930	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.118	0.018	30.850	1.244	0.048	0.030	\$ 37.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.0/3	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	2.072	1246.100	0.027
W I INOIG		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ILLINOIS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	9.680	0.549	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.758	0.010	12.230	0.916	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.362	0.018	9.720	0.999	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.333	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.407	0.007	9.65	0.547	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.757	0.010	12.190	0.920	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.118	0.018	30.800	1.229	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.056	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.745	5.012	2.002	0.630	0.099	0.072	1246.100	0.027
INDIANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
INDIANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.40	0.007	9.650	0.543	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.157	0.010	12.190	0.907	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.362	0.018	9.700	0.987	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.415	0.007	10.590	0.529	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.776	0.010	13.280	0.915	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.127	0.018	31.640	1.186	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehcles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
IOWA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.415	0.007	10.590	0.525	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Aght-Duty Trucks (0-8,500 lbs)	0.776	0.010	13.280	0.903	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.018	9.960	0.935	0.048	0.030	987.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	<del></del>	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.410	0.007	9.260	0.559	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.752	0.010	11.740	0.934	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.112	0.018	30.730	1.280	0.048	0.030	987.600	0.045
	HUJH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
KANSAS		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.410	0.007	9.260	0.553	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.752	0.010	11.740	0.918	0.025	0.011	550.200	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)  Light-Duty Vehicles (Passenger Cars)	1.355	0.018	9.680	1.033	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV		0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT HDDV	Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501+ lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Motorcycles  Motorcycles	2.695	0.012	0.814	0.316	***************	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	8.900	0.547	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.742	0.010	11.340	0.914	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.110	0.018	30.200	1.252	0.048	0.030	\$ 37.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.0	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	£.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
KENTUCKY		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	8.900	0.543	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.742	0.010	11.340	0.900	0/25	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.352	0.018	9.510	1.014	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
	20	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.373	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.400	0.007	7.50	0.561	0.025	0.014	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.719	0.010	9/50	0.924	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.094	0.018	29.510	1.343	0.023	0.030	987.600	0.102
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.048	0.030	314.100	0.043
	IIIGII			· · · · · · · · · · · · · · · · · · ·	0.416	0.003	0.774	0.368	0.049	0.033	598.600	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	2.745					0.040	1246.100	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)		0.012	2.002	0.630	0.099			
LOUISIANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.403	0.007	7.500	0.556	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.719	0.010	9.750	0.906	0.025	0.011	550.200	0.102
	1.011/	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.333	0.018	9.290	1.109	0.048	0.030	987.600	0.045
	LOW	Diesel	~~~~~	Light-Duty Vehicles (Passenger Cars	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ 1/s)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parkenger Cars)	0.420	0.007	11.890	0.532	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.799	0.010	14.780	0.924	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.141	0.018	32.780	1.139	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Zucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
MAINE		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.420	0.007	11.890	0.530	0.025	0.011	368.100	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.799	0.010	14.780	0.917	0.025	0.011	550.200	0.102
		Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	1.390	0.018	10.320	0.887	0.048	0.030	987.600	0.045
	LOW	Diesel	LDJV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	9.090	0.539	0.025	0.011	368.100	0.102
	4	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.745	0.010	11.560	0.902	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.112	0.018	30.310	1.226	0.048	0.030	987.600	0.045
	HI JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
	<b>T</b>	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
MADVI AND		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MARYLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	9.090	0.535	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.745	0.010	11.560	0.889	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.355	0.018	9.550	0.989	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
	1	2.723			0.000	0.000	0.000	0.000	0.021	0.017	0.000	0.000

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV (cont.)

		E . I					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	SOx	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	10.360	0.543	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.768	0.010	13.020	0.917	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.125	0.018	31.430	1.193	0.048	0.030	\$7.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.0	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	6.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	10.360	0.540	0.025	0.011	368.100	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.768	0.010	13.020	0.907	0/25	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.371	0.018	9.900	0.951	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
	20	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.33	0.056	0.040	598.600	0.007
		Diesel	HDDV		2.695	0.012	0.814	.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.414	0.007	11.14	0.521	0.025	0.014	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.783	0.010	12.910	0.902	0.025	0.011	550.200	0.102
		Gasoline	HDGV		1.133	0.018	32.120	1.141	0.023	0.030	987.600	0.102
	HIGH	Diesel	LDDV	·/	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
	mon	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.00	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+ lbs)	2.745	3.012	2.002	0.630	0.099	0.072	1246.100	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.072	0.000	0.000
MICHIGAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.000	0.007	11.140	0.518	0.021	0.014	368.100	0.102
		Gasoline	LDGV	Light-Duty Venices (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	2.783	0.007	13.910	0.893	0.025	0.011	550.200	0.102
		Gasoline	HDGV		1.381	0.018	10.110	0.893	0.023	0.030	987.600	0.102
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.043
	LOW		~~~~~~~~	······································						***************************************	598.600	
		Diesel		Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ 1/8)	0.416	0.006	0.631	0.363	0.056	0.040	1246.100	0.007
		Diesel	***************************************	······································	2.695	0.012	0.814	0.316		***************************************	~~~~~	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000		0.021	0.014	0.000	0.000
		Gasoline Gasoline	LDGV LDGT	Light-Duty Vehicles (Parsenger Cars) Light-Duty Trucks (0.5,500 lbs)	0.426	0.007	12.160 15.090	0.553 0.965	0.025 0.025	0.011	368.100 550.200	0.102 0.102
					***************************************				0.023			
	HIGH	Gasoline	HDGV LDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.143	0.018	33.050 0.774	1.180 0.119	0.048	0.030	987.600	0.045
	поп	Diesel		Light-Duty Veb eles (Passenger Cars)	0.163						314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV MC	Heavy-Day Vehicles (8,501+ lbs)	2.745 0.000	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
MINNESOTA		NA C "		Motor ycles		0.000	0.000		0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.426	0.007	12.160	0.549	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.807	0.010	15.090	0.956	0.025	0.011	550.200	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.393	0.018	10.410	0.919	0.048	0.030	987.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.401	0.007	7.840	0.560	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.724	0.010	10.140	0.927	0.025	0.011	550.200	0.102
	нузн	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.098	0.018	29.700	1.329	0.048	0.030	987.600	0.045
	нън	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
MISSISSIPP		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.401	0.007	7.840	0.555	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.724	0.010	10.140	0.910	0.025	0.011	550.200	0.102
	r ow.	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.337	0.018	9.350	1.093	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	9.230	0.553	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.750	0.010	11.720	0.926	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.113	0.018	30.590	1.262	0.048	0.030	\$ 37.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.0	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	9.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MISSOURI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	9.230	0.548	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.750	0.010	11.720	0.910	0/25	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.356	0.018	9.630	1.019	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
	20	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.373	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.417	0.007	11.543	0.525	0.025	0.014	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.791	0.007	14.370	0.910	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.137	0.018	32.470	1.136	0.023	0.030	987.600	0.102
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.048	0.030	314.100	0.043
	IIIGII	Diesel		· · · · · · · · · · · · · · · · · · ·	0.103	0.003	0.774	0.368	0.049	0.033	598.600	0.007
				Light-Duty Trucks (0-8,500 lbs)	2.745		***************************************			0.040		
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)		0.012	2.002	0.630	0.099		1246.100	0.027
MONTANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.41/	0.007	11.540	0.522	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.791	0.010	14.370	0.903	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.386	0.018	10.230	0.886	0.048	0.030	987.600	0.045
	LOW	Diesel	~~~~~	Light-Duty Vehicles (Passenger Cars	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+1/s)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.411	0.007	10.050	0.524	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.766	0.010	12.650	0.904	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.122	0.018	31.160	1.195	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
NEBRASKA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEDRASKA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.411	0.007	10.050	0.520	0.025	0.011	368.100	0.102
		Gasoline	LDGT	light-Duty Trucks (0-8,500 lbs)	0.766	0.010	12.650	0.891	0.025	0.011	550.200	0.102
		Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	1.367	0.018	9.810	0.947	0.048	0.030	987.600	0.045
	LOW	Diesel	LDJV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.404	0.007	9.710	0.538	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.755	0.010	12.270	0.904	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.119	0.018	30.860	1.201	0.048	0.030	987.600	0.045
	HI JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEVADA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.404	0.007	9.710	0.535	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.755	0.010	12.270	0.893	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.363	0.018	9.720	0.963	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
	20	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.005	0.631	0.363	0.056	0.033	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.000	0.814	0.303	0.099	0.040	1246.100	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.072	0.000	0.000
		11/1	IVIC	1.10.010 90.000	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV (cont.)

		E . I					E	mission Fa	actors (g/r	mi)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.415	0.007	11.330	0.523	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.787	0.010	14.130	0.906	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.135	0.018	32.290	1.139	0.048	0.030	\$7.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.070	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	£.072	1246.100	0.027
NEW HAMPSHIRE		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEW HAMPSHIKE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.415	0.007	11.330	0.521	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.787	0.010	14.130	0.898	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.383	0.018	10.170	0.891	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.333	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.404	0.007	9.37	0.541	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.750	0.010	11.870	0.907	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.115	0.018	30.550	1.222	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.745	5.012	2.002	0.630	0.099	0.072	1246.100	0.027
NEW JERSEY		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEW JERSET		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.40 4	0.007	9.370	0.537	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.750	0.010	11.870	0.895	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.359	0.018	9.620	0.983	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+118)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.400	0.007	9.200	0.535	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.746	0.010	11.680	0.895	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.114	0.018	30.400	1.210	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
NEW MEXICO		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.400	0.007	9.200	0.531	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.746	0.010	11.680	0.884	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.357	0.018	9.570	0.975	0.048	0.030	987.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.412	0.007	10.920	0.517	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.779	0.010	13.660	0.894	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.131	0.018	31.930	1.140	0.048	0.030	987.600	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
NEW YORK		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.412	0.007	10.920	0.514	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.779	0.010	13.660	0.885	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.378	0.018	10.050	0.895	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV (cont.)

		ъ.					Eı	mission Fa	actors (g/ı	mi)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.398	0.007	8.260	0.552	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.730	0.010	10.620	0.918	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.103	0.018	29.710	1.283	0.048	0.030	\$57.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.070	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	2.072	1246.100	0.027
NO DESTRUCTION OF THE PARTY OF		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.398	0.007	8.260	0.548	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.730	0.010	10.620	0.903	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.344	0.018	9.360	1.050	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.3.3	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.427	0.007	12.29	0.556	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.810	0.010	15.240	0.971	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.144	0.018	33.160	1.182	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0,236	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.745	5.012	2.002	0.630	0.099	0.072	1246.100	0.027
NODELL DATOTA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH DAKOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.42	0.007	12.290	0.552	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.810	0.010	15.240	0.962	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.394	0.018	10.440	0.920	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.406	0.007	9.820	0.544	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.759	0.010	12.390	0.915	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.120	0.018	30.950	1.214	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Veheles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
ОНЮ		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
Onio		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.406	0.007	9.820	0.540	0.025	0.011	368.100	0.102
		Gasoline	LDGT	light-Duty Trucks (0-8,500 lbs)	0.759	0.010	12.390	0.903	0.025	0.011	550.200	0.102
		Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	1.364	0.018	9.750	0.973	0.048	0.030	987.600	0.045
	LOW	Diesel	LDJV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	8.560	0.565	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.739	0.010	10.950	0.939	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.105	0.018	30.370	1.324	0.048	0.030	987.600	0.045
	HUSH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	
OKLAHOM		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	8.560	0.559	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.739	0.010	10.950	0.920	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.346	0.018	9.560	1.079	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV (cont.)

		ъ.,				Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel	Vehicle Type		C	rite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type		NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.403	0.007	10.270	0.525	0.025	0.011	368.10	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.763	0.010	12.920	0.884	0.025	0.011	550 200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.125	0.018	31.340	1.150	0.048	0.030	\$7.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.00	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	° .072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
OREGON		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.403	0.007	10.270	0.523	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.763	0.010	12.920	0.878	0 25	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.371	0.018	9.870	0.915	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.3.3	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	.316	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.373	0.007	7.16	0.522	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.699	0.010	9 420	0.859	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.093	0.018	28.680	1.235	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0,936	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.745	5.012	2.002	0.630	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
PACIFIC ISLANDS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.373	0.007	7.160	0.520	0.025	0.011	368,100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	2.699	0.010	9.420	0.848	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.332	0.018	9.030	1.020	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Care	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.407	0.007	10.160	0.541	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0.7,500 lbs)	0.764	0.010	12.780	0.912	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.123	0.018	31.250	1.195	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
PENNSYLVANIA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.407	0.007	10.160	0.538	0.025	0.011	368.100	0.102
		Gasoline	LDGT Aght-Duty Trucks (0-8,500 lbs)	0.764	0.010	12.780	0.902	0.025	0.011	550.200	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.369	0.018	9.840	0.954	0.048	0.030	987.600	0.045
	LOW	Diesel	LDOV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.394	0.007	5.760	0.539	0.025	0.014	368.100	0.102
	.	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.692	0.010	7.780	0.884	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.077	0.018	27.830	1.343	0.048	0.030	987.600	0.045
	HIJH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
PUERTO RICO		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.394	0.007	5.760	0.537	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.692	0.010	7.780	0.865	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.313	0.018	8.760	1.125	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
	1			0.000	0.000	0.000	0.000	0.021	0.017	0.000	0.000

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV (cont.)

		E. J					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.404	0.007	9.900	0.536	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.758	0.010	12.490	0.902	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.121	0.018	31.030	1.191	0.048	0.030	\$ 37.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.0	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	2.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
RHODE ISLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.404	0.007	9.900	0.533	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.758	0.010	12.490	0.893	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.366	0.018	9.770	0.953	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.3 3	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.399	0.007	7.89	0.558	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.724	0.010	10.190	0.924	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.098	0.018	29.650	1.317	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0,936	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.745	3.012	2.002	0.630	0.099	0.072	1246.100	0.027
COLUMN CAROLINA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
SOUTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.39	0.007	7.890	0.553	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.124	0.010	10.190	0.907	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.338	0.018	9.340	1.083	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.417	0.007	10.930	0.535	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.783	0.010	13.670	0.926	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.131	0.018	31.940	1.186	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Veheles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
SOUTH DAKOTA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
300 III DAKOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.417	0.007	10.930	0.530	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.783	0.010	13.670	0.914	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.378	0.018	10.060	0.933	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.400	0.007	8.560	0.547	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.736	0.010	10.950	0.912	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.106	0.018	29.970	1.265	0.048	0.030	987.600	0.045
	HUSH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
TENNESSE		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.400	0.007	8.560	0.543	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.736	0.010	10.950	0.897	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.348	0.018	9.440	1.029	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV (cont.)

		E. J					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	7.780	0.566	0.025	0.011	368.10	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.724	0.010	10.070	0.934	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.097	0.018	29.780	1.350	0.048	0.030	\$7.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.070	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	£.072	1246.100	0.027
TEXAS		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
IEAAS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.402	0.007	7.780	0.560	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.724	0.010	10.070	0.915	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.336	0.018	9.380	1.112	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.333	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.408	0.007	10.143	0.516	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.765	0.010	12.760	0.888	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.123	0.018	31.240	1.167	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.936	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.745	5.012	2.002	0.630	0.099	0.072	1246.100	0.027
UTAH		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
UIAII		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.40 3	0.007	10.140	0.512	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.765	0.010	12.760	0.877	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.368	0.018	9.840	0.923	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Pausenger Cars)	0.417	0.007	11.540	0.527	0.025	0.011	368.100	0.102
		Gasoline		Light-Duty Trucks (05,500 lbs)	0.792	0.010	14.380	0.914	0.025	0.011	550.200	0.102
		Gasoline	~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	1.137	0.018	32.480	1.141	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Tucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		Heavy-Day Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
VERMONT		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.417	0.007	11.540	0.524	0.025	0.011	368.100	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.792	0.010	14.380	0.906	0.025	0.011	550.200	0.102
	I OW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.386	0.018	10.230	0.891	0.048	0.030	987.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.406	0.007	5.830	0.550	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.700	0.010	7.850	0.901	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.080	0.018	28.420	1.386	0.048	0.030	987.600	0.045
	HL3H	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
VIRGIN ISLANDS		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.406	0.007	5.830	0.547	0.025	0.011	368.100	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.700	0.010	7.850	0.880	0.025	0.011	550.200	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.315	0.018	8.950	1.163	0.048	0.030	987.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.695	0.012	0.814	0.316	0.099	0.072	1246.100	0.027
<b></b>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-34. On-Road Vehicle Emission Factors - 2014 GOV (cont.)

		ъ.				Eı	mission Fa	actors (g/r	mi)		
State	Altitude	Fuel Type	Vehicle Type			Criteria Po					
				NO <sub>X</sub>	SO <sub>X</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	$H_3$
		Gasoline	LDGV Light-Duty Vehicles (Passenger		0.007	8.870	0.541	0.025	0.011	368.100	0.102
		Gasoline Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)  HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.741 s) 1.110	0.010	11.300 30.110	0.904 1.236	0.025 0.048	0.011	550.200 987.00	0.102
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger		0.018	0.774	0.119	0.048	0.033	31 .100	0.043
	mon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.005	0.676	0.368	0.056	0.040	98.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs		0.012	2.002	0.630	0.099	0.072	1246.100	0.027
MDCINIA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.01	0.000	0.000
VIRGINIA		Gasoline	LDGV Light-Duty Vehicles (Passenger	Cars) 0.400	0.007	8.870	0.538	0.025	0/11	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.741	0.010	11.300	0.891	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs		0.018	9.480	1.001	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger		0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)  HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.416	0.006	0.631	0.363	0.099	0.040	598.600 1246.100	0.007
		NA	MC Motorcycles	0.000	0.012	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger		0.007	10.440	0.527	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.767	0.010	13.120	0.839	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs	s) 1.127	0.018	31.490	.150	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger	Cars) 0.163	0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs		0.012	2.0/2	0.630	0.099	0.072	1246.100	0.027
WASHINGTON		NA	MC Motorcycles	0.000	0.000	000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger		0.007	10.440	0.525	0.025	0.011	368.100 550.200	0.102
		Gasoline Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)  HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.767 s) 1.373	0.010	13.120 9.920	0.883 0.914	0.025 0.048	0.011	987.600	0.102 0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger		0.03	0.774	0.119	0.048	0.033	314.100	0.043
	20	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs		0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.00	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger	Cars) 0.02	0.007	9.600	0.536	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	5.753	0.010	12.140	0.900	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs	·····	0.018	30.750	1.200	0.048	0.030	987.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger		0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel NA	HDDV Heavy-Duty Vehicles (8,501+ lb MC Motorcycles	2.745 0.000	0.012	2.002 0.000	0.630	0.099	0.072	1246.100 0.000	0.027
WEST VIRGINIA		Gasoline	MC Motorcycles  LDGV Light-Duty Vehicles (Passenger		0.007	9.600	0.533	0.021	0.014	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.753	0.010	12.140	0.889	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles 8,501+ lbs		0.018	9.690	0.964	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicle (Passenger		0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Diesel	LDDT Light-Duty Truck (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs		0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Du Vehicles (Passenger	~~~~	0.007	11.560	0.536	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Puty Trucks (0-8,500 lbs)  HDGV Hea V-Duty Vehicles (8,501+ lbs)	0.794	0.010	14.400	0.930	0.025	0.011	550.200 987.600	0.102
	HIGH	Gasoline Diesel	HDGV Heary-Duty Vehicles (8,501+ lbs LDDV Light-Duty Vehicles (Passenger		0.018	32.500 0.774	1.162 0.119	0.048	0.030	314.100	0.043
	mon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.005	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDY Heavy-Duty Vehicles (8,501+ lbs		0.012	2.002	0.630	0.099	0.072	1246.100	0.007
HIEGOCYCE.		NA	M. Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
WISCONSIN		Gasoline	IOGV Light-Duty Vehicles (Passenger	Cars) 0.419	0.007	11.560	0.532	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.794	0.010	14.400	0.921	0.025	0.011	550.200	0.102
		Gasolin	HDGV Heavy-Duty Vehicles (8,501+ lbs		0.018	10.240	0.908	0.048	0.030	987.600	0.045
	LOW	Die el	LDDV Light-Duty Vehicles (Passenger		0.003	0.774	0.119	0.049	0.033	314.100	0.007
		Desel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.631	0.363	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs		0.012	0.814	0.316	0.099	0.072	1246.100	0.027
		NA Gasoline	MC Motorcycles  LDGV Light-Duty Vehicles (Passenger	0.000 Cars) 0.415	0.000	0.000	0.000	0.021	0.014	0.000 368.100	0.000
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.789	0.007	14.260	0.322	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs		0.010	32.380	1.131	0.023	0.030	987.600	0.102
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger		0.003	0.774	0.119	0.049	0.033	314.100	0.007
	1	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.416	0.006	0.676	0.368	0.056	0.040	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs	3) 2.745	0.012	2.002	0.630	0.099	0.072	1246.100	0.027
WYOMD G		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Gasoline	LDGV Light-Duty Vehicles (Passenger		0.007	11.440	0.519	0.025	0.011	368.100	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.789	0.010	14.260	0.896	0.025	0.011	550.200	0.102
	1000	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs		0.018	10.200	0.883	0.048	0.030	987.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger LDDT Light-Duty Trucks (0-8,500 lbs)	Cars) 0.163 0.416	0.003	0.774	0.119	0.049	0.033	314.100 598.600	0.007
		Diesel Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs		0.006	0.631	0.363	0.056	0.040	1246.100	0.007
		NA	MC Motorcycles	0.000	0.012	0.000	0.000	0.099	0.072	0.000	0.027
		11/1		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV

		Fuel	•			Eı	mission Fa	actors (g/ı	mi)		
State	Altitude	Fuel Type	Vehicle Type			riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.366	0.007	7.610	0.517	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.679	0.010	9.810	0.872	0.025	0.011	550 200	0.102
		Gasoline	HDGV   Heavy-Duty Vehicles (8,501+ lbs)	0.959	0.018	29.520	1.232	0.046	0.028	\$6.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	2.060	1245.600	0.027
ALABAMA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ALADAMA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.366	0.007	7.610	0.513	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.679	0.010	9.810	0.856	0/25	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.169	0.018	9.290	1.019	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.37.5	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	.301	0.086	0.060	1245.600	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.415	0.007	14.623	0.527	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.814	0.010	17.690	0.947	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.023	0.018	35.340	1.027	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV   Heavy-Duty Vehicles (8,501+ lbs)	2.375	5.012	1.734	0.601	0.086	0.060	1245.600	0.027
AT ACTZA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ALASKA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.413	0.007	14.630	0.526	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	9.814	0.010	17.690	0.945	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.246	0.018	11.120	0.778	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cary	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.369	0.007	7.960	0.522	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0.500 lbs)	0.686	0.010	10.190	0.882	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.962	0.018	29.820	1.233	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehcles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ARIZONA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.369	0.007	7.960	0.517	0.025	0.011	368.000	0.102
		Gasoline	LDGT Aght-Duty Trucks (0-8,500 lbs)	0.686	0.010	10.190	0.866	0.025	0.011	550.200	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.172	0.018	9.390	1.016	0.046	0.028	986.800	0.045
	LOW	Diesel	LD V Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
	2011	Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.030	0.000	0.000	0.000
		Gooline	LDGV Light-Duty Vehicles (Passenger Cars)	0.370	0.007	8.110	0.523	0.021	0.014	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.570	0.007	10.350	0.323	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.089	0.018	29.980	1.234	0.023	0.011	986.800	0.102
	нудн	Diesel		0.137	0.003	0.748	0.111	0.045	0.028	314.100	0.007
	11 311	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.137	0.003	0.748	0.350	0.043	0.038	598.600	0.007
		Diesel		2.375				0.033	***************************************		0.007
		NA	HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.000	0.012	1.734 0.000	0.601	0.086	0.060	1245.600 0.000	0.027
ARKANSAS			MC Motorcycles							368,000	+
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)  LDGT Light-Duty Trucks (0-8,500 lbs)	0.370	0.007	8.110	0.518	0.025	0.011		0.102
		Gasoline		0.689	0.010	10.350	0.868	0.025	0.011	550.200	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.174	0.018	9.440	1.015	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
7	-	NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV (cont.)

		ъ.					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.360	0.007	7.850	0.504	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.680	0.010	10.060	0.852	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.963	0.018	29.320	1.181	0.046	0.028	56.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	£.060	1245.600	0.027
CAL IEODNIA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
CALIFORNIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.360	0.007	7.850	0.501	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.680	0.010	10.060	0.840	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.173	0.018	9.230	0.973	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.376	0.007	10.577	0.476	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.729	0.010	12.100	0.837	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.988	0.018	31.720	1.055	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0,936	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	5.012	1.734	0.601	0.086	0.060	1245.600	0.027
COLORADO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
COLORADO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.37.5	0.007	10.570	0.474	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.129	0.010	13.100	0.830	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.203	0.018	9.990	0.833	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.373	0.007	9.960	0.505	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,5,500 lbs)	0.718	0.010	12.420	0.867	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.982	0.018	31.180	1.119	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
CONNECTICUT		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
COMMEDIACE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.373	0.007	9.960	0.502	0.025	0.011	368.000	0.102
		Gasoline	LDGT	light-Duty Trucks (0-8,500 lbs)	0.718	0.010	12.420	0.858	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.197	0.018	9.820	0.898	0.046	0.028	986.800	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	8.670	0.507	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.697	0.010	10.970	0.863	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.970	0.018	30.080	1.166	0.046	0.028	986.800	0.045
	HVJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
DELAWAR		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
DELIMINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	8.670	0.504	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.697	0.010	10.970	0.850	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.182	0.018	9.470	0.950	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
<u> </u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV (cont.)

		Engl					E	mission Fa	actors (g/ı	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.363	0.007	6.580	0.512	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.663	0.010	8.670	0.856	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.950	0.018	28.790	1.255	0.046	0.028	66.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.028	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	2.060	1245.600	0.027
FLORIDA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
FLORIDA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.363	0.007	6.580	0.508	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.663	0.010	8.670	0.839	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.157	0.018	9.060	1.049	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.365	0.007	7.51	0.516	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.678	0.010	9/00	0.869	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.958	0.018	29.440	1.232	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	5.012	1.734	0.601	0.086	0.060	1245.600	0.027
GEORGIA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
GLOKGIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.363	0.007	7.510	0.512	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.678	0.010	9.700	0.853	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.168	0.018	9.270	1.020	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+118)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.348	0.007	6.220	0.491	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.650	0.010	8.270	0.820	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.948	0.018	27.910	1.198	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
HAWAII		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.348	0.007	6.220	0.489	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.650	0.010	8.270	0.806	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.155	0.018	8.790	1.002	0.046	0.028	986.800	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	<del></del>	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.377	0.007	10.820	0.477	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.733	0.010	13.390	0.840	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.990	0.018	31.950	1.048	0.046	0.028	986.800	0.045
	HV5H	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	~~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
IDAHO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.377	0.007	10.820	0.475	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.733	0.010	13.390	0.833	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.206	0.018	10.060	0.825	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	9.450	0.515	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.712	0.010	11.840	0.880	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.977	0.018	30.750	1.161	0.046	0.028	\$6.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.073	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	2.060	1245.600	0.027
W I INIOIG		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ILLINOIS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	9.450	0.510	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.712	0.010	11.840	0.868	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.190	0.018	9.680	0.938	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.373	0.007	9.41	0.509	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.710	0.010	11.800	0.871	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.977	0.018	30.700	1.148	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0,936	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	5.012	1.734	0.601	0.086	0.060	1245.600	0.027
INDIANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
INDIANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.373	0.007	9.410	0.506	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	<b>9.7</b> 10	0.010	11.800	0.859	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.190	0.018	9.660	0.927	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.381	0.007	10.350	0.492	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.729	0.010	12.850	0.867	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.985	0.018	31.540	1.107	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
IOWA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
10 11.1		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.381	0.007	10.350	0.488	0.025	0.011	368.000	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.729	0.010	12.850	0.855	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.200	0.018	9.930	0.877	0.046	0.028	986.800	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.376	0.007	9.020	0.519	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.706	0.010	11.360	0.884	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.972	0.018	30.630	1.195	0.046	0.028	986.800	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
KANSAS		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.376	0.007	9.020	0.514	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.706	0.010	11.360	0.868	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.184	0.018	9.640	0.969	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV (cont.)

		F1					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	8.680	0.508	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.697	0.010	10.980	0.865	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.970	0.018	30.100	1.170	0.046	0.028	56.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.028	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	£.060	1245.600	0.027
IZENIONI CIZAZ		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
KENTUCKY		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	8.680	0.505	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.697	0.010	10.980	0.852	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.182	0.018	9.470	0.953	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.367	0.007	7.28	0.520	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.675	0.010	9 440	0.873	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.956	0.018	29.410	1.256	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.236	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	5.012	1.734	0.601	0.086	0.060	1245.600	0.027
T OTHOTA NA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOUISIANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.36	0.007	7.280	0.515	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.675	0.010	9.440	0.856	0.025	0.011	550.200	0.102
		Gasoline	HDGV		1.165	0.018	9.260	1.043	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598,600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+1/s)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.385	0.007	11.630	0.496	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0.3,500 lbs)	0.750	0.010	14.300	0.877	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.997	0.018	32.680	1.063	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MAINE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.385	0.007	11.630	0.493	0.025	0.011	368.000	0.102
		Gasoline	LDGT	aght-Duty Trucks (0-8,500 lbs)	0.750	0.010	14.300	0.870	0.025	0.011	550.200	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	1.215	0.018	10.290	0.833	0.046	0.028	986.800	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	<b>/</b>	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	8.870	0.501	0.025	0.014	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.700	0.010	11.190	0.854	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.972	0.018	30.210	1.145	0.046	0.028	986.800	0.045
	HLTH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.005	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.000	1.734	0.601	0.033	0.060	1245.600	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.030	0.014	0.000	0.000
MARYLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	8.870	0.498	0.021	0.014	368.000	0.102
		Gasoline	LDGV	Light-Duty Venices (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.700	0.007	11.190	0.498	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.184	0.010	9.510	0.842	0.023	0.011	986.800	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.018	0.748	0.929	0.046	0.028	314.100	0.043
	LOW	Diesel	LDDV	Light-Duty Trucks (0-8,500 lbs)	0.137	0.003	0.748	0.111	0.043	0.030	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.006	0.614	0.345	0.053	0.038	1245.600	0.007
		****************	MC	Motorcycles  Motorcycles	************************	*****************	*************	0.000		0.060	****************	****************
<u> </u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV (cont.)

		F1					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	10.120	0.505	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.721	0.010	12.600	0.868	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.984	0.018	31.330	1.114	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.028	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	9.060	1245.600	0.027
MACCACILICETTC		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	10.120	0.503	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.721	0.010	12.600	0.859	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.198	0.018	9.860	0.893	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.379	0.007	10.893	0.485	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.735	0.010	12.460	0.855	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.990	0.018	32.010	1.065	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.956	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	o.012	1.734	0.601	0.086	0.060	1245.600	0.027
MICHIGAN		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MICHIGAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.37	0.007	10.890	0.482	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.135	0.010	13.460	0.847	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.207	0.018	10.080	0.839	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Care	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.390	0.007	11.900	0.515	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.757	0.010	14.610	0.915	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.999	0.018	32.940	1.101	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
MINNESOTA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
1711 11 1250 111		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.390	0.007	11.900	0.512	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Aght-Duty Trucks (0-8,500 lbs)	0.757	0.010	14.610	0.907	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.217	0.018	10.370	0.862	0.046	0.028	986.800	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.368	0.007	7.620	0.520	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.680	0.010	9.810	0.876	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.959	0.018	29.600	1.242	0.046	0.028	986.800	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
MISSISSIPP		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
111101010011		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.368	0.007	7.620	0.515	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.680	0.010	9.810	0.860	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.169	0.018	9.320	1.027	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV (cont.)

		F1					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	9.000	0.514	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.705	0.010	11.340	0.876	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.972	0.018	30.490	1.178	0.046	0.028	\$6.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.028	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	£.060	1245.600	0.027
MICCOUDI		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MISSOURI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	9.000	0.510	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.705	0.010	11.340	0.862	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.185	0.018	9.600	0.956	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.382	0.007	11.28	0.489	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.743	0.010	12.910	0.863	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.994	0.018	32.360	1.060	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0,936	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	5.012	1.734	0.601	0.086	0.060	1245.600	0.027
MONTEANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MONTANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.39	0.007	11.280	0.487	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.143	0.010	13.910	0.856	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.018	10.190	0.832	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.377	0.007	9.810	0.487	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.719	0.010	12.240	0.856	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehices (8,501+ lbs)	0.980	0.018	31.050	1.116	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
NEDD A GIZ A		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEBRASKA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.377	0.007	9.810	0.483	0.025	0.011	368.000	0.102
		Gasoline	LDGT	light-Duty Trucks (0-8,500 lbs)	0.719	0.010	12.240	0.844	0.025	0.011	550.200	0.102
		Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	1.194	0.018	9.780	0.889	0.046	0.028	986.800	0.045
	LOW	Diesel	LDOV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.370	0.007	9.480	0.500	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.709	0.010	11.880	0.856	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.978	0.018	30.760	1.122	0.046	0.028	986.800	0.045
	HV JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEVADA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.370	0.007	9.480	0.498	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.709	0.010	11.880	0.846	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.191	0.018	9.680	0.905	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.000	0.705	0.301	0.033	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.000	0.014	0.000	0.000
	1	1121	1710		0.000	0.000	0.000	0.000	0.021	0.01-	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV (cont.)

		F1					E	mission Fa	actors (g/ı	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.380	0.007	11.080	0.487	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.739	0.010	13.680	0.859	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.992	0.018	32.180	1.063	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.028	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	2.060	1245.600	0.027
NEW HAMPSHIRE		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEW HAMITSHIKE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.380	0.007	11.080	0.485	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.739	0.010	13.680	0.852	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.209	0.018	10.130	0.836	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV		2.331	0.012	0.705	.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.370	0.007	9.14	0.503	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.705	0.010	11.490	0.859	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.975	0.018	30.450	1.141	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	<del>/</del>	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	***************************************	Light-Duty Trucks (0-8,500 lbs)	0.383	0.056	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.375	5.012	1.734	0.601	0.086	0.060	1245.600	0.027
NEW JERSEY		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEW GERSEI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.375	0.007	9.140	0.500	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.705	0.010	11.490	0.847	0.025	0.011	550.200	0.102
		Gasoline	HDGV		1.187	0.018	9.580	0.924	0.046	0.028	986.800	0.045
	LOW	Diesel	~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+11s)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Partienger Cars)	0.367	0.007	8.970	0.497	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.700	0.010	11.300	0.847	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.973	0.018	30.300	1.130	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
NEW MEXICO		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.367	0.007	8.970	0.494	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.700	0.010	11.300	0.837	0.025	0.011	550.200	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.186	0.018	9.540	0.916	0.046	0.028	986.800	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.378	0.007	10.680	0.481	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.731	0.010	13.220	0.848	0.025	0.011	550.200	0.102
	,,,,	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.989	0.018	31.820	1.065	0.046	0.028	986.800	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
NEW YORK		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.378	0.007	10.680	0.479	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.731	0.010	13.220	0.840	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.204	0.018	10.020	0.840	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV (cont.)

		F - 1					E	mission Fa	actors (g/ı	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.365	0.007	8.040	0.513	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.685	0.010	10.270	0.868	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.964	0.018	29.620	1.200	0.046	0.028	6.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.028	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	£.060	1245.600	0.027
NORTH CAROLINA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.365	0.007	8.040	0.509	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.685	0.010	10.270	0.854	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.175	0.018	9.320	0.987	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.391	0.007	12.023	0.518	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.760	0.010	14.750	0.921	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.000	0.018	33.050	1.102	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0,936	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	5.012	1.734	0.601	0.086	0.060	1245.600	0.027
NORTH DAKOTA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH DAROTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.391	0.007	12.020	0.514	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.760	0.010	14.750	0.912	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.218	0.018	10.400	0.863	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+118)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Partienger Cars)	0.372	0.007	9.580	0.506	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.712	0.010	11.990	0.866	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.979	0.018	30.850	1.133	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
OHIO		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.372	0.007	9.580	0.503	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Aght-Duty Trucks (0-8,500 lbs)	0.712	0.010	11.990	0.856	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.192	0.018	9.710	0.914	0.046	0.028	986.800	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	8.320	0.524	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.694	0.010	10.590	0.887	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.965	0.018	30.270	1.236	0.046	0.028	986.800	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
OKLAHOM		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	8.320	0.519	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.694	0.010	10.590	0.870	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.176	0.018	9.530	1.013	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV (cont.)

		F1					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	10.040	0.489	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.717	0.010	12.510	0.838	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.983	0.018	31.240	1.074	0.046	0.028	56.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	£.060	1245.600	0.027
OPECON		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
OREGON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	10.040	0.487	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.717	0.010	12.510	0.832	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.198	0.018	9.830	0.860	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.342	0.007	6.96	0.485	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.656	0.010	9 120	0.812	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.956	0.018	28.580	1.157	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.236	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	5.012	1.734	0.601	0.086	0.060	1245.600	0.027
D. 07777 0 707 1 1 1 1 1 1 1 1 1 1 1 1 1 1		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
PACIFIC ISLANDS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.342	0.007	6.960	0.483	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.656	0.010	9.120	0.802	0.025	0.011	550.200	0.102
		Gasoline	HDGV		1.164	0.018	9.000	0.961	0.046	0.028	986.800	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598,600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+1/s)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.373	0.007	9.920	0.503	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.717	0.010	12.370	0.864	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.982	0.018	31.150	1.116	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
	111011	Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
PENNSYLVANIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.373	0.007	9.920	0.501	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Veneus (1 assenger cars)	0.717	0.007	12.370	0.855	0.025	0.011	550.200	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	1.196	0.018	9.800	0.896	0.023	0.028	986.800	0.102
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
	LOW	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.005	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	<b>/</b>	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.033	0.060	1245.600	0.027
		N	MC	Motorcycles	0.000	0.000	0.000	0.000	0.080	0.014	0.000	0.027
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.362	0.007	5.550	0.500	0.021	0.014	368.000	0.102
		Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.650	0.007	7.520	0.834	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.941	0.018	27.740	1.258	0.025	0.028	986.800	0.102
	ну⊿н	***************			0.137	0.018	0.748	0.111	0.045	0.028	314.100	0.043
	111311	Diesel		Light-Duty Vehicles (Passenger Cars)	***************************************				0.043	0.030	598.600	
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350		***************************************		0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)  Motorcycles	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
PUERTO RICO		NA	MC	·	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.362	0.007	5.550	0.498	0.025	0.011	368.000	0.102
		Gasoline	LDGT		0.650	0.010	7.520	0.816	0.025	0.011	550.200	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.147	0.018	8.730	1.059	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
<u> </u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.370	0.007	9.670	0.499	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.712	0.010	12.090	0.855	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.980	0.018	30.920	1.113	0.046	0.028	\$6.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	2.060	1245.600	0.027
DITODE ICL AND		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
RHODE ISLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.370	0.007	9.670	0.497	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.712	0.010	12.090	0.846	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.194	0.018	9.730	0.895	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.366	0.007	7.67	0.517	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.680	0.010	9 360	0.873	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.960	0.018	29.550	1.231	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.056	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	5.012	1.734	0.601	0.086	0.060	1245.600	0.027
SOUTH CAROLINA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
SOUTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.363	0.007	7.670	0.513	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.680	0.010	9.860	0.857	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.169	0.018	9.300	1.018	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ 1/s)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.383	0.007	10.680	0.497	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.735	0.010	13.230	0.878	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.988	0.018	31.840	1.107	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehcles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
SOUTH DAKOTA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
SOCIA DAROTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.383	0.007	10.680	0.493	0.025	0.011	368.000	0.102
		Gasoline	LDGT	light-Duty Trucks (0-8,500 lbs)	0.735	0.010	13.230	0.867	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.204	0.018	10.020	0.875	0.046	0.028	986.800	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.367	0.007	8.340	0.508	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.691	0.010	10.600	0.862	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.967	0.018	29.880	1.182	0.046	0.028	986.800	0.045
	HV5H	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
TENNESSE		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
1 221 11 1200032		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.367	0.007	8.340	0.504	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.691	0.010	10.600	0.849	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.178	0.018	9.400	0.967	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV (cont.)

		E. J					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	rite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	7.550	0.525	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.680	0.010	9.740	0.883	0.025	0.011	550 200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.958	0.018	29.680	1.261	0.046	0.028	66.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.028	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	9.060	1245.600	0.027
TEXAS		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
IEAAS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.369	0.007	7.550	0.520	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.680	0.010	9.740	0.865	0/25	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.168	0.018	9.340	1.045	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.3.5	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.374	0.007	9.90	0.479	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.718	0.010	12.350	0.842	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.981	0.018	31.140	1.089	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.936	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.375	5.012	1.734	0.601	0.086	0.060	1245.600	0.027
UTAH		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
UIAII		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.37+	0.007	9.900	0.476	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.718	0.010	12.350	0.831	0.025	0.011	550.200	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.196	0.018	9.800	0.867	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Pausenger Cars)	0.382	0.007	11.290	0.491	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (05,500 lbs)	0.743	0.010	13.910	0.867	0.025	0.011	550.200	0.102
		Gasoline	~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.994	0.018	32.370	1.065	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Tucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel		Heavy-Day Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
VERMONT		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.382	0.007	11.290	0.488	0.025	0.011	368.000	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.743	0.010	13.910	0.860	0.025	0.011	550.200	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.018	10.190	0.836	0.046	0.028	986.800	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	<del></del>	Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.373	0.007	5.610	0.510	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.658	0.010	7.590	0.849	0.025	0.011	550.200	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.943	0.018	28.320	1.298	0.046	0.028	986.800	0.045
	HUSH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
VIRGIN ISLANDS		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.373	0.007	5.610	0.507	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.658	0.010	7.590	0.830	0.025	0.011	550.200	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.149	0.018	8.920	1.095	0.046	0.028	986.800	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
<b></b>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-35. On-Road Vehicle Emission Factors - 2015 GOV (cont.)

		F1				Eı	mission F	actors (g/r	ni)		
State	Altitude	Fuel Type	Vehicle Type			Criteria Po					
				NOx	SOX	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.367	0.007	8.640	0.503	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.696	0.010	10.940	0.856	0.025	0.011	550.200	0.102
	HIGH	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)  LDDV Light-Duty Vehicles (Passenger Cars)	0.970	0.018	30.010 0.748	1.155	0.046	0.028	986 800 3 4.100	0.045
	пібп	Diesel Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.137	0.003	0.748	0.111	0.045	0.030	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.004	0.000	0.000
VIRGINIA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.367	0.007	8.640	0.500	0.025	g.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.696	0.010	10.940	0.844	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.182	0.018	9.450	0.941	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.0/3	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0 053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.371	0.007	10.210	0.49	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.720 0.985	0.010	12.700 31.390	0.43	0.025	0.011	550.200 986.800	0.102
	HIGH	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)  LDDV Light-Duty Vehicles (Passenger Cars)	0.985	0.018	0.748	0.111	0.046	0.028	314.100	0.045
	mon	Diesel Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.137	0.005	0.748	0.350	0.043	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.007
		NA	MC Motorcycles	0.000	0.000	.000	0.000	0.021	0.014	0.000	0.000
WASHINGTON		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.371	0.007	10.210	0.489	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.720	0.010	12.700	0.837	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.200	0.0 8	9.880	0.859	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC Motorcycles	0.00	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0,69	0.007	9.370	0.499	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.707	0.010	11.750	0.852	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.977	0.018	30.650	1.121	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Care	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lb)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
WEST VIRGINIA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passe Iger Cars)	0.369	0.007	9.370	0.496	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.707	0.010	11.750	0.842	0.025	0.011	550.200	0.102
	LOW	Gasoline Diesel	HDGV Heavy-Duty Vehicles (8,501+ lbs)  LDDV Light-Duty Vehicles (Passenger Cars)	1.190 0.137	0.018	9.650 0.748	0.905 0.111	0.046 0.045	0.028	986.800 314.100	0.045
	LOW	Diesel	LDDT Light-Duty Truck (0-8,500 lbs)	0.137	0.003	0.614	0.345	0.043	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty V nicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Dut Vehicles (Passenger Cars)	0.384	0.007	11.310	0.499	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Daty Trucks (0-8,500 lbs)	0.745	0.010	13.940	0.882	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heav -Duty Vehicles (8,501+ lbs)	0.994	0.018	32.400	1.084	0.046	0.028	986.800	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Aght-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.659	0.350	0.053	0.038	598.600	0.007
		Diesel	HDDY Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
WISCONSIN		NA	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MISCORSIN		Gasoline	LIGV Light-Duty Vehicles (Passenger Cars)	0.384	0.007	11.310	0.496	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.745	0.010	13.940	0.874	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.018	10.200	0.852	0.046	0.028	986.800	0.045
	LOW	Dies	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Di sel	LDDT Light-Duty Trucks (0-8,500 lbs)  HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		iesel		2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027
		NA	MC Motorcycles  LDGV Light-Duty Vehicles (Passenger Cars)	0.000	0.000	0.000	0.000	0.021	0.014	0.000 368.000	0.000
		Gasoline Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)  LDGT Light-Duty Trucks (0-8,500 lbs)	0.381	0.007	11.190 13.800	0.486 0.857	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.741	0.010	32.280	1.056	0.025	0.011	986.800	0.102
	HIGH	Diesel	LDDV Light-Duty Vehicles (8,301+ 108)	0.993	0.003	0.748	0.111	0.045	0.028	314.100	0.043
	111311	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.137	0.005	0.659	0.350	0.043	0.038	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.375	0.012	1.734	0.601	0.086	0.060	1245.600	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
WYOMIN		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.381	0.007	11.190	0.484	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.741	0.010	13.800	0.850	0.025	0.011	550.200	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.210	0.018	10.160	0.829	0.046	0.028	986.800	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	0.748	0.111	0.045	0.030	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.006	0.614	0.345	0.053	0.038	598.600	0.007
		Diesei				0.01.				570.000	
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.331	0.012	0.705	0.301	0.086	0.060	1245.600	0.027

Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV

		Fuel				E	mission F	actors (g/ı	ni)		
State	Altitude	Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Турс		NOx	SO <sub>X</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.337	0.007	7.430	0.484	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.635	0.010	9.460	0.823	0.025	0.011	550 500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.842	0.018	29.360	1.155	0.044	0.027	66.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	9.053	1245.200	0.027
ALABAMA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.337	0.007	7.430	0.480	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.635	0.010	9.460	0.808	0 25	0.011	550.600	0.102
	1.011	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.026	0.018	9.240	0.958	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	2.291	0.079	0.053	1245.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.381	0.007	14.363	0.496	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.757	0.010	16.990	0.887	0.025	0.011	550.600	0.102
	HIGH	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)  LDDV Light-Duty Vehicles (Passenger Cars)	0.898	0.018 0.003	35.150 0.715	0.960 0.097	0.044 0.041	0.027 0.026	986.100	0.045 0.007
	піоп	Diesel Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.108 0.342	0.003	0.614	0.320	0.041	0.026	314.100 598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.076	5.012	1.544	0.583	0.049	0.053	1245.200	0.007
		NA		0.000	0.000	0.000	0.000	0.079	0.033	0.000	0.027
ALASKA		Gasoline	MC Motorcycles  LDGV Light-Duty Vehicles (Passenger Cars)	0.000	0.007	14.360	0.495	0.021	0.014	368.000	0.102
		Gasoline	LDGV Light-Duty Venices (Passenger Cars)  LDGT Light-Duty Trucks (0-8,500 lbs)	9.757	0.007	16.990	0.493	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.094	0.018	11.060	0.730	0.023	0.011	986.100	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Care	0.108	0.003	0.715	0.097	0.041	0.027	314.100	0.043
	LOW	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.005	0.579	0.316	0.041	0.020	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+18)	2.038	0.003	0.628	0.291	0.049	0.053	1245.200	0.007
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.079	0.033	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.340	0.007	7.770	0.488	0.025	0.014	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0.,500 lbs)	0.641	0.010	9.820	0.832	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.845	0.018	29.660	1.156	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV Light-Duty Veh cles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ARIZONA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.340	0.007	7.770	0.484	0.025	0.011	368.000	0.102
		Gasoline	LDGT Aght-Duty Trucks (0-8,500 lbs)	0.641	0.010	9.820	0.817	0.025	0.011	550.600	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.029	0.018	9.330	0.955	0.044	0.027	986.100	0.045
	LOW	Diesel	LDOV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV Light-Duty Vehicles (Passenger Cars)	0.341	0.007	7.920	0.489	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.644	0.010	9.980	0.835	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.846	0.018	29.820	1.156	0.044	0.027	986.100	0.045
	HVJH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
ARKANSAS		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ARRANSA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.341	0.007	7.920	0.485	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.644	0.010	9.980	0.819	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.030	0.018	9.380	0.954	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
<u> </u>		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV (cont.)

		E d					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.332	0.007	7.670	0.472	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.635	0.010	9.690	0.805	0.025	0.011	550 500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.845	0.018	29.160	1.107	0.044	0.027	\$6.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.024	598.600	0.007
		Diesel	HDDV		2.076	0.012	1.544	0.583	0.079	2.053	1245.200	0.027
CALIFORNIA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
CALIFORNIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.332	0.007	7.670	0.470	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.635	0.010	9.690	0.794	0/25	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.030	0.018	9.170	0.915	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.346	0.007	10.36	0.447	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.679	0.010	12.610	0.789	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.867	0.018	31.560	0.988	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.036	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.076	5.012	1.544	0.583	0.079	0.053	1245.200	0.027
COLORADO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
COLORADO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.3/3	0.007	10.360	0.445	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.679	0.010	12.610	0.782	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.056	0.018	9.930	0.783	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ 1/s)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.344	0.007	9.760	0.474	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,5,500 lbs)	0.670	0.010	11.950	0.817	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.862	0.018	31.020	1.049	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehcles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
CONNECTICUT		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
CONNECTICUT		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.344	0.007	9.760	0.471	0.025	0.011	368.000	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.670	0.010	11.950	0.808	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.050	0.018	9.760	0.844	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.339	0.007	8.480	0.475	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.650	0.010	10.570	0.814	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.852	0.018	29.920	1.093	0.044	0.027	986.100	0.045
	HYJH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
DELAWAR		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
DELLATIAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.339	0.007	8.480	0.472	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.650	0.010	10.570	0.802	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.038	0.018	9.410	0.893	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
				* I I T	0.040	0.00 =	0.570	0.216	0.040	0.024	500 500	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	
		Diesel Diesel NA	HDDV MC		2.038 0.000	0.006 0.012 0.000	0.579 0.628 0.000	0.316	0.049	0.054 0.053 0.014	598.600 1245.200 0.000	0.007

Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV (cont.)

						Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel	Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Туре	••	NOx	SOx	co	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.335	0.007	6.410	0.479	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.620	0.010	8.370	0.808	0.025	0.011	550 500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.834	0.018	28.630	1.178	0.044	0.027	\$6.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	£.053	1245.200	0.027
FLORIDA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
FLORIDA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.335	0.007	6.410	0.476	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.620	0.010	8.370	0.792	0/25	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.016	0.018	9.010	0.987	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	.291	0.079	0.053	1245.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.337	0.007	7.33	0.483	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.633	0.010	9,550	0.821	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.841	0.018	29.280	1.156	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.956	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.076	5.012	1.544	0.583	0.079	0.053	1245.200	0.027
GEORGIA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
GEORGIA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.327	0.007	7.330	0.479	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	¢.633	0.010	9.350	0.806	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.025	0.018	9.210	0.960	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.321	0.007	6.060	0.460	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,5,500 lbs)	0.608	0.010	7.980	0.775	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.832	0.018	27.760	1.125	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV Light-Duty Veb cles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
HAWAII		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
11.1 11.111		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.321	0.007	6.060	0.458	0.025	0.011	368.000	0.102
		Gasoline	LDGT Aght-Duty Trucks (0-8,500 lbs)	0.608	0.010	7.980	0.762	0.025	0.011	550.600	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.014	0.018	8.730	0.944	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.347	0.007	10.610	0.448	0.025	0.011	368.000	0.102
	4	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.683	0.010	12.880	0.791	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.869	0.018	31.780	0.981	0.044	0.027	986.100	0.045
	HI JH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
	ſ	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
IDAHO		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
IDAIIO		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.347	0.007	10.610	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.683	0.010	12.880	0.785	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.059	0.018	10.000	0.776	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV (cont.)

						Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel	Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Туре		NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.345	0.007	9.250	0.482	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.664	0.010	11.400	0.830	0.025	0.011	550 500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.858	0.018	30.590	1.088	0.044	0.027	\$6.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	£.053	1245.200	0.027
ILLINOIS		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ILLINOIS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.345	0.007	9.250	0.479	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.664	0.010	11.400	0.818	0/25	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.045	0.018	9.620	0.881	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	.291	0.079	0.053	1245.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.343	0.007	9.22	0.477	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.663	0.010	11.360	0.821	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.858	0.018	30.540	1.075	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.036	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.076	5.012	1.544	0.583	0.079	0.053	1245.200	0.027
INDIANA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.343	0.007	9.220	0.474	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	9.663	0.010	11.360	0.810	0.025	0.011	550.600	0.102
	I OW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.045	0.018	9.610	0.871	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA C "	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parkenger Cars)	0.350	0.007	10.140	0.461	0.025 0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)  HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.865	0.010	12.360 31.370	0.816 1.037	0.023	0.011	550.600 986.100	0.102
	HIGH	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)  LDDV Light-Duty Vehicles (Passenger Cars)			0.715	0.097	0.044	~~~~~~~~~~		0.043
	поп	Diesel Diesel		0.108	0.003	0.713		0.041	0.026	314.100 598.600	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)  HDDV Heavy-Day Vehicles (8,501+ lbs)	2.076	0.008	1.544	0.320 0.583	0.049	0.054	1245.200	0.007
		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.079	0.033	0.000	0.027
IOWA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.350	0.007	10.140	0.457	0.021	0.014	368.000	0.102
		Gasoline	LDGT Aght-Duty Trucks (0-8,500 lbs)	0.680	0.007	12.360	0.437	0.025	0.011	550.600	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.054	0.018	9.870	0.805	0.023	0.011	986.100	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (0,501+ lbs)	0.108	0.003	0.715	0.097	0.041	0.027	314.100	0.007
	LOW	Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.005	0.713	0.316	0.041	0.020	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.000	0.628	0.291	0.079	0.053	1245.200	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.079	0.033	0.000	0.000
		G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.346	0.007	8.820	0.486	0.025	0.014	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.659	0.010	10.950	0.833	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.853	0.018	30.460	1.119	0.044	0.027	986.100	0.045
	HI JH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
KANSAS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.346	0.007	8.820	0.482	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.659	0.010	10.950	0.819	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.040	0.018	9.580	0.911	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
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Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV (cont.)

		E d					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.340	0.007	8.490	0.476	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.651	0.010	10.570	0.816	0.025	0.011	550 500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.852	0.018	29.940	1.096	0.044	0.027	\$6.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	£.053	1245.200	0.027
ZENTUCZY		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
KENTUCKY		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.340	0.007	8.490	0.473	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.651	0.010	10.570	0.804	0/25	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.038	0.018	9.420	0.896	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.339	0.007	7.09	0.487	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.631	0.010	9 100	0.824	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.839	0.018	29.260	1.177	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0,956	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.076	o.012	1.544	0.583	0.079	0.053	1245.200	0.027
LOUISIANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOUISIANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.32	0.007	7.090	0.483	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.631	0.010	9.100	0.808	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.022	0.018	9.200	0.981	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Care	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.354	0.007	11.410	0.465	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.699	0.010	13.750	0.825	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.875	0.018	32.500	0.996	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
MAINE		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
1,1,11,12		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.354	0.007	11.410	0.463	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Aght-Duty Trucks (0-8,500 lbs)	0.699	0.010	13.750	0.818	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.066	0.018	10.230	0.782	0.044	0.027	986.100	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	<del></del>	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.340	0.007	8.670	0.470	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.653	0.010	10.770	0.805	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.853	0.018	30.050	1.073	0.044	0.027	986.100	0.045
	HUSH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
MARYLAND		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.340	0.007	8.670	0.467	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.653	0.010	10.770	0.794	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.040	0.018	9.460	0.874	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV (cont.)

		ъ.					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.344	0.007	9.920	0.474	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.672	0.010	12.120	0.818	0.025	0.011	550 500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.863	0.018	31.160	1.044	0.044	0.027	66.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	£.053	1245.200	0.027
MASSACHUSETTS		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.344	0.007	9.920	0.472	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.672	0.010	12.120	0.810	0/125	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.052	0.018	9.800	0.839	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.349	0.007	10.673	0.455	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.685	0.010	12.950	0.805	0.025	0.011	550.600	0.102
		Gasoline	~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.869	0.018	31.840	0.998	0.044	0.027	986.100	0.045
	HIGH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	***************************************	Light-Duty Trucks (0-8,500 lbs)	0.342	0.056	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.076	5.012	1.544	0.583	0.079	0.053	1245.200	0.027
MICHIGAN		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
Michigan		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.34	0.007	10.670	0.453	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.685	0.010	12.950	0.797	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.059	0.018	10.020	0.789	0.044	0.027	986.100	0.045
	LOW	Diesel	~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+11s)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.359	0.007	11.670	0.483	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0 3,500 lbs)	0.706	0.010	14.040	0.860	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.877	0.018	32.760	1.030	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-D ty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
MINNESOTA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.359	0.007	11.670	0.480	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.706	0.010	14.040	0.851	0.025	0.011	550.600	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.068	0.018	10.310	0.810	0.044	0.027	986.100	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.339	0.007	7.440	0.487	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.636	0.010	9.460	0.827	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.842	0.018	29.440	1.164	0.044	0.027	986.100	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
MISSISSIPP		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.339	0.007	7.440	0.483	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.636	0.010	9.460	0.812	0.025	0.011	550.600	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.026	0.018	9.260	0.966	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
<u> </u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV (cont.)

		ъ.					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.344	0.007	8.800	0.482	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.658	0.010	10.920	0.826	0.025	0.011	550 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.854	0.018	30.330	1.104	0.044	0.027	96.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	2.053	1245.200	0.027
MAGGOTINA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MISSOURI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.344	0.007	8.800	0.478	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.658	0.010	10.920	0.812	0/25	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.040	0.018	9.540	0.899	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.351	0.007	11.063	0.459	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.692	0.010	12.370	0.812	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.872	0.018	32.190	0.993	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.076	5.012	1.544	0.583	0.079	0.053	1245.200	0.027
MONTANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MONTANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.351	0.007	11.060	0.457	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.692	0.010	13.370	0.806	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.063	0.018	10.130	0.782	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.347	0.007	9.600	0.456	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.671	0.010	11.780	0.806	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.861	0.018	30.890	1.045	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
NEBRASKA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
TIEDICI SIKI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.347	0.007	9.600	0.452	0.025	0.011	368.000	0.102
		Gasoline	LDGT	light-Duty Trucks (0-8,500 lbs)	0.671	0.010	11.780	0.795	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.018	9.720	0.836	0.044	0.027	986.100	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.341	0.007	9.290	0.469	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.662	0.010	11.440	0.807	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.858	0.018	30.590	1.052	0.044	0.027	986.100	0.045
	HVJH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
NEVADA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
TILLYADA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.341	0.007	9.290	0.467	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.662	0.010	11.440	0.798	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.046	0.018	9.630	0.851	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	000000000000000000000000000000000000000	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
<u> </u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV (cont.)

Gasoline LDGY Light-Duy Yehicks (Passenger Cary) 0.380 0.007 10.860 0.457 0.005 0.011 38.86			Б1					E	mission Fa	actors (g/ı	ni)		
Casoline   LDGV   Light-Duy Vehicks (Passenger Cars)   0.350   0.007   10.800   0.457   0.025   0.011   308.07	State	Altitude			Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
Gasoline   LDGT   Light-Duy Tracks (0+8500 Bs)   0.689   0.010   13.10   0.809   0.025   0.011   555.00			1 ype			NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
Gasoline   LDGT   Light-Duy Tracks (0+8500 Bs)   0.689   0.010   13.10   0.809   0.025   0.011   555.00			Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.350	0.007	10.860	0.457	0.025	0.011	368.00	0.102
NEW HAMPSHIRE   Dissel   LDDV   Light-Duty Trucks (0-8.500 hs)   0.342   0.006   0.014   0.022   0.094   0.09   0.95   598.600			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.689	0.010	13.160	0.809	0.025	0.011	550 500	0.102
Diesel   LDDT   Light-Duty Trucks (0.8.500 lbs)   0.342   0.006   0.614   0.320   0.099   0.07   598.600			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.871	0.018	32.010	0.996	0.044	0.027	\$6.100	0.045
Dissel   HDDV   Heavy-Duty Vehicles (8,501+ hbs)   2,076   0,012   1,544   0,583   0,079   5673   1245,200   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000		HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
NEW HAMPSHIRE			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
Casoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.350   0.007   0.368   0.455   0.02   0.011   368.000			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	£.053	1245.200	0.027
Casoline   LDGY   Light-Duty Trucks (OR-S00 Bs)   0.099   0.001   0.455   0.097   0.011   550,600	NEW HAMDSHIDE		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   Diesel   LDDV   Light-Duty Vehicks (RS-01+ hbs)   1.061   0.018   10.070   0.786   0.044   0.027   0.986,100	NEW HAMIFSHIKE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.350	0.007	10.860	0.455		0.011	368.000	0.102
LOW   Diesel   LDDV   Light-Duty Verhicks (Passenger Cars)   0.108   0.003   0.715   0.097   0.041   0.026   314.100   Diesel   LDDV   Light-Duty Trucks (0-8.500 lbs)   0.342   0.006   0.579   0.766   0.049   0.034   598.600   Diesel   HDDV   Heavy-Duty Verhicks (8.501+lbs)   2.038   0.012   0.628   2.91   0.079   0.053   1245.200   NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.012   0.014   0.000   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.689	0.010	13.160	0.802	0/25	0.011	550.600	0.102
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.366   0.049   0.034   598,600     Diesel   HDDV   Heavy-Duty Vehicks (8,501+lbs)   2.038   0.012   0.628   .291   0.079   0.053   1245,200     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.014   0.000     Gasoline   LDGV   Light-Duty Vehicks (0-8,500 lbs)   0.658   0.010   1.0650   0.810   0.025   0.011   550,000     Gasoline   HDGV   Heavy-Duty Vehicks (8,501+lbs)   0.855   0.018   0.290   1.069   0.044   0.027   986,100     HIGH   Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.966   0.614   0.320   0.049   0.034   598,600     Diesel   HDDV   Heavy-Duty Vehicks (8,501+lbs)   2.076   6.012   1.544   0.583   0.079   0.053   1245,200     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000     Gasoline   LDGT   Light-Duty Vehicks (Passenger Cars)   0.38   0.010   1.1060   0.799   0.025   0.011   350,000     Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.38   0.009   0.000   0.000   0.000   0.001   0.014   0.000     Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.38   0.009   0.000   0.000   0.001   0.014   0.000     Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.38   0.009   0.009   0.000   0.001   0.014   0.000     Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.38   0.000   0.000   0.000   0.001   0.014   0.000     Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.38   0.007   0.053   0.053   0.053   0.053   0.053   0.053   0.053   0.053   0.053   0.053   0.053   0.054   0.054   0.055   0.011   0.005   0.053   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.055   0.011   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.061	0.018	10.070	0.786	0.044	0.027	986.100	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8.501+ lbs)   2.038   0.012   0.628   2.991   0.079   0.053   1245.200		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	***************************************	· · · · · · · · · · · · · · · · · · ·	***************************************	***************************************		0.007
NA			Diesel			0.342	0.006	0.579			0.034	598.600	0.007
NEW JERSEY   Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.341   0.007   8.94   0.472   0.025   0.011   368.000   Gasoline   LDGT   Light-Duty Trucks (0-8.500 lbs)   0.658   0.010   1.060   0.810   0.025   0.011   505.060   0.000   1.060   0.810   0.025   0.011   505.060   0.000   0.000   0.000   0.004   0.027   986.100   0.006   0.006   0.006   0.007   0.001   0.0025   0.011   0.0026   0.001   0.0026   0.001   0.0026   0.001   0.0026   0.001   0.0026   0.001   0.0026   0.001   0.0026   0.001   0.0026   0.0026   0.0026   0.0026   0.0026   0.0026   0.004   0.0026   0.004   0.0026   0.004   0.0026   0.004   0.0026   0.004   0.0026   0.004   0.0026   0.004   0.0026   0.004   0.0026   0.004   0.0026   0.004   0.0026   0.004   0.0026   0.004   0.0026   0.004   0.004   0.0026   0.004   0.004   0.0026   0.004   0.004   0.004   0.0026   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004													0.027
Casoline   LDGT   Light-Dury Trucks (0-8,500 lbs)   0.658   0.010   1.660   0.810   0.025   0.011   550,600								_					0.000
HIGH   Diesel   LDDV   Light-Duty Vehicks (8.501+ lbs)   0.885   0.018   30.290   1.069   0.044   0.027   986.100										***************************************			0.102
NEW JERSEY   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.108   0.003   0.715   0.097   0.041   0.026   314.100								·····					0.102
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.966   0.614   0.320   0.049   0.034   598,600			~~~~~					<del></del>		***************************************			0.045
NEW JERSEY   NA		HIGH			·								0.007
NEW JERSEY				~~~~~~~~~~~									0.007
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.34   0.007   8.940   0.469   0.025   0.011   368.000					<del></del>	***************************************	<del>//</del>						0.027
Casoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   658   0.010   11.060   0.799   0.025   0.011   550.600	NEW JERSEY												0.000
LOW   Dieset   LDDV   Light-Duty Vehicles (8,501+ lbs)   1.042   0.018   9.530   0.868   0.044   0.027   986.100											***************************************		0.102
LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cary   0.108   0.003   0.715   0.097   0.041   0.026   314.100				***************************************				•		***************************************	***************************************	***************************************	0.102
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598.600		1.011/											0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501+18)   2.038   0.012   0.628   0.291   0.079   0.053   1245.200		LOW		~~~~~~~	······································						***************************************		0.007
NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000							***************************************						0.007
NEW MEXICO   Gasoline   LDGV   Light-Duty Vehicles (Pasenger Cars)   0.338   0.007   8.780   0.466   0.025   0.011   368.000			~~~~~	***************************************	······································				•	***************************************	***************************************		0.027
HIGH													0.000
HIGH   Diesel   LDDV   Light-Duty Vehicles (8,501+ lbs)   0.854   0.018   30.140   1.060   0.044   0.027   986.100			***************************************	***************************************	·/		***************	************		****************			0.102 0.102
HIGH													0.102
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.614   0.320   0.049   0.034   598,600		шси	~~~~~~	~~~~~~~~~			~~~~~~			***************************************	***************************************		0.043
Diesel   HDDV   Heavy-Dufy Vehicles (8,501+ lbs)   2.076   0.012   1.544   0.583   0.079   0.053   1245.200		IIIGII											0.007
NA   MC   Motorycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000			~~~~~~~~~~					•					0.007
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.338   0.007   8.780   0.464   0.025   0.011   368.000											***************************************		0.000
Gasoline   LDGT   Aght-Duty Trucks (0-8,500 lbs)   0.653   0.010   10.890   0.790   0.025   0.011   550.600	NEW MEXICO												0.102
Gasoline HDGY Heavy-Duty Vehicles (8,501+ lbs)   1.041   0.018   9.480   0.862   0.044   0.027   986.100							***************************************						0.102
LOW   Diesel   LDV   Light-Duty Vehicles (Passenger Cars)   0.108   0.003   0.715   0.097   0.041   0.026   314.100			~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~~~~~~				***************************************	***************************************	•	0.045
Diesel   ADDT   Light-Duty Trucks (0-8,500 lbs)   0.342   0.006   0.579   0.316   0.049   0.034   598.600		LOW											0.007
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   2.038   0.012   0.628   0.291   0.079   0.053   1245.200     N/   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000     Goline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.348   0.007   10.470   0.451   0.025   0.011   368.000     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.682   0.010   12.720   0.798   0.025   0.011   550.600     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.868   0.018   31.650   0.997   0.044   0.027   986.100			~~~~~		<del>-</del>	~~~~~~~~~~				***************************************	***************************************		0.007
N/   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000							***************************************						0.027
Gooline LDGV   Light-Duty Vehicles (Passenger Cars)   0.348   0.007   10.470   0.451   0.025   0.011   368.000						*************	***************************************						0.000
Gasoline         LDGT         Light-Duty Trucks (0-8,500 lbs)         0.682         0.010         12.720         0.798         0.025         0.011         550.600           Gasoline         HDGV         Heavy-Duty Vehicles (8,501+ lbs)         0.868         0.018         31.650         0.997         0.044         0.027         986.100													0.102
Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.868 0.018 31.650 0.997 0.044 0.027 986.100				~~~~~~		~~~~~~~~~~		•		***************************************		550.600	0.102
				HDGV	· · · · · · · · · · · · · · · · · · ·	0.868	0.018				0.027	986.100	0.045
		HV JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
			Diesel			0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
			Diesel			2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
NA MC M-t											***************************************		0.000
NEW YORK	NEW YORK				· · · · · · · · · · · · · · · · · · ·								0.102
					Light-Duty Trucks (0-8,500 lbs)			•			0.011		0.102
						***************************************							0.045
		LOW					***************************************						0.007
			~~~~~~	LDDT		~~~~~~~~~~		•	•			•	0.007
				HDDV							0.053		0.027
	<b>/</b>		NA	MC	Motorcycles	0.000	0.000	0.000		0.021	0.014	***************	0.000

Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV (cont.)

						Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel	Vehicle Type		C	rite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type		NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.336	0.007	7.860	0.480	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.640	0.010	9.900	0.819	0.025	0.011	550 500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.846	0.018	29.460	1.124	0.044	0.027	\$6.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	2.053	1245.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH CAROLINA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.336	0.007	7.860	0.477	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.640	0.010	9.900	0.807	0/125	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.031	0.018	9.270	0.928	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	.291	0.079	0.053	1245.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.360	0.007	11.79	0.486	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.708	0.010	14.180	0.865	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.878	0.018	32.880	1.032	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0,236	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV   Heavy-Duty Vehicles (8,501+ lbs)	2.076	5.012	1.544	0.583	0.079	0.053	1245.200	0.027
NORTH DAKOTA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH DAKOTA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.363	0.007	11.790	0.483	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	9.708	0.010	14.180	0.857	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.069	0.018	10.340	0.810	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.343	0.007	9.380	0.475	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.664	0.010	11.540	0.817	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.859	0.018	30.680	1.062	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV Light-Duty Vebeles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
ОНЮ		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
Onio		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.343	0.007	9.380	0.472	0.025	0.011	368.000	0.102
		Gasoline	LDGT Zight-Duty Trucks (0-8,500 lbs)	0.664	0.010	11.540	0.807	0.025	0.011	550.600	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	1.047	0.018	9.650	0.859	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.345	0.007	8.130	0.491	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.649	0.010	10.210	0.837	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.847	0.018	30.110	1.158	0.044	0.027	986.100	0.045
	HV3H	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
	ĺ	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
OKLAHOM		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
51111111111		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.345	0.007	8.130	0.486	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.649	0.010	10.210	0.821	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	1.033	0.018	9.470	0.952	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.340	0.007	9.840	0.459	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.668	0.010	12.040	0.791	0.025	0.011	550 500	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.863	0.018	31.070	1.007	0.044	0.027	\$6.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	2.053	1245.200	0.027
oppos.		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
OREGON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.340	0.007	9.840	0.457	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.668	0.010	12.040	0.785	0/25	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.051	0.018	9.780	0.809	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.315	0.007	6.81	0.455	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.613	0.010	8 300	0.768	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.839	0.018	28.430	1.087	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0,956	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.076	J.012	1.544	0.583	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
PACIFIC ISLANDS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.313	0.007	6.810	0.453	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.613	0.010	8.800	0.758	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.022	0.018	8.940	0.906	0.044	0.027	986,100	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Care	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+1/s)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.343	0.007	9.720	0.472	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.669	0.010	11.910	0.814	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.862	0.018	30.980	1.046	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
PENNSYLVANIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.343	0.007	9.720	0.470	0.025	0.011	368.000	0.102
		Gasoline	LDGT	light-Duty Trucks (0-8,500 lbs)	0.669	0.010	11.910	0.806	0.025	0.011	550.600	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	1.050	0.018	9.750	0.842	0.044	0.027	986.100	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
	20	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	<del></del>	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.073	0.033	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.334	0.007	5.390	0.468	0.021	0.014	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.608	0.010	7.270	0.788	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.826	0.018	27.590	1.181	0.044	0.027	986.100	0.045
	HV⊿H	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.005	0.614	0.320	0.041	0.020	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.000	1.544	0.583	0.049	0.053	1245.200	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.079	0.033	0.000	0.027
PUERTO RICO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.334	0.007	5.390	0.466	0.021	0.014	368.000	0.102
		Gasoline	LDGV	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.608	0.007	7.270	0.466	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.007	0.010	8.680	0.771	0.023	0.011	986.100	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.018	0.715	0.998	0.044	0.027	314.100	0.043
	LOW	Diesel	LDDV	Light-Duty Trucks (0-8,500 lbs)	0.108	0.003	0.713	0.097	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.006	0.579	0.316	0.049	0.053	1245.200	0.007
		*****************	MC	Motorcycles	0.000	0.012	0.000	0.291	0.079	0.033	0.000	0.027
		NA	IVIC	Wiolorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV (cont.)

		ъ.					E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		••	NOx	SOx	CO	voc	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.341	0.007	9.470	0.468	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.664	0.010	11.640	0.806	0.025	0.011	550 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.860	0.018	30.760	1.043	0.044	0.027	96.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.074	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	£.053	1245.200	0.027
DHODE ISLAND		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
RHODE ISLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.341	0.007	9.470	0.466	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.664	0.010	11.640	0.798	0/25	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.048	0.018	9.680	0.842	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.338	0.007	7.48	0.484	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.636	0.010	9,510	0.824	0.025	0.011	550.600	0.102
		Gasoline	HDGV	·/	0.842	0.018	29.400	1.154	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	<del>/</del>	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	***************************************	Light-Duty Trucks (0-8,500 lbs)	0.342	0.056	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.076	5.012	1.544	0.583	0.079	0.053	1245.200	0.027
SOUTH CAROLINA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.323	0.007	7.480	0.481	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.636	0.010	9.510	0.809	0.025	0.011	550.600	0.102
		Gasoline	HDGV		1.026	0.018	9.250	0.957	0.044	0.027	986.100	0.045
	LOW	Diesel	~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+1/s)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parkenger Cars)	0.352	0.007	10.470	0.466	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,5,500 lbs)	0.685	0.010	12.720	0.826	0.025	0.011	550.600	0.102
	HICH	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.867	0.018	31.670	1.037	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Veb eles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel NA	HDDV MC	······································	2.076 0.000	0.012	0.000	0.583	0.079	0.053	1245.200 0.000	0.027
SOUTH DAKOTA			LDGV	Motor yeles					0.021			
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.352	0.007	10.470 12.720	0.463	0.025	0.011	368.000 550.600	0.102
		Gasoline Gasoline	~~~~~~~~~~~	Aght-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	1.057	0.010	9.960	0.816	0.023	0.011	986.100	0.102
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.027	314.100	0.043
	LOW	Diesel		Light-Duty Venices (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.108	0.003	0.713	0.097	0.041	0.026	598.600	0.007
		Diesel	<b>/</b>	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.000	0.628	0.291	0.079	0.053	1245.200	0.007
		N	MC	Motorcycles	0.000	0.000	0.000	0.000	0.079	0.033	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.338	0.007	8.150	0.476	0.021	0.014	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.645	0.007	10.220	0.470	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.849	0.018	29.720	1.108	0.023	0.027	986.100	0.102
	HV 3H	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
	THE STA	Diesel		Light-Duty Venicles (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.108	0.005	0.614	0.320	0.041	0.020	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.000	1.544	0.583	0.079	0.053	1245.200	
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.079	0.033	0.000	0.000
TENNESSE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.338	0.007	8.150	0.473	0.025	0.014	368.000	0.102
		Gasoline	LDGT	Light-Duty Veneus (1 assenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.645	0.007	10.220	0.801	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.034	0.018	9.350	0.909	0.023	0.027	986.100	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Veneus (1 assenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.342	0.005	0.579	0.316	0.049	0.020	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
				.,		5.000		5.500				

Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV (cont.)

		E . I					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.341	0.007	7.370	0.491	0.025	0.011	368.00	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.636	0.010	9.390	0.833	0.025	0.011	550 300	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.841	0.018	29.520	1.182	0.044	0.027	96.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	2.053	1245.200	0.027
mmy a		NA		Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
TEXAS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.341	0.007	7.370	0.487	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.636	0.010	9.390	0.817	0/25	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.025	0.018	9.290	0.982	0.044	0.027	986.100	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.3.6	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.344	0.007	9.70	0.449	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.670	0.010	17.890	0.793	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.862	0.018	30.970	1.021	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0,236	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	2.076	5.012	1.544	0.583	0.079	0.053	1245.200	0.027
TITEATT		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
UTAH		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.3/4	0.007	9.700	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.670	0.010	11.890	0.783	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	1.050	0.018	9.740	0.815	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ 1/s)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.352	0.007	11.070	0.460	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.693	0.010	13.380	0.816	0.025	0.011	550.600	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.872	0.018	32.200	0.997	0.044	0.027	986.100	0.045
	HIGH	Diesel	LDDV	Light-Duty Vebeles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Tucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
VERMONT		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
VERMONT		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.352	0.007	11.070	0.458	0.025	0.011	368.000	0.102
		Gasoline	LDGT	nght-Duty Trucks (0-8,500 lbs)	0.693	0.010	13.380	0.809	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.063	0.018	10.130	0.786	0.044	0.027	986.100	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		N/		Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline		Light-Duty Vehicles (Passenger Cars)	0.344	0.007	5.440	0.477	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.616	0.010	7.330	0.802	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.828	0.018	28.170	1.219	0.044	0.027	986.100	0.045
	HVJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
VIRGIN ISLANDS		NA		Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.344	0.007	5.440	0.475	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.616	0.010	7.330	0.784	0.025	0.011	550.600	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	1.009	0.018	8.860	1.031	0.044	0.027	986.100	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
<u></u>	-	NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-36. On-Road Vehicle Emission Factors - 2016 GOV (cont.)

		ъ.					Eı	nission F	actors (g/r	mi)		
State	Altitude	Fuel Type	Ve	hicle Type			Criteria Po					
					NOx	SO <sub>X</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NA <sub>3</sub>
		Gasoline	X	y Vehicles (Passenger Cars)	0.338	0.007	8.450	0.472	0.025	0.011	368.000	0.102
		Gasoline		y Trucks (0-8,500 lbs)	0.649	0.010	10.540	0.807	0.025	0.011	550.600	0.102
	HIGH	Gasoline Diesel		uty Vehicles (8,501+ lbs)	0.852 0.108	0.018	29.850 0.715	1.083 0.097	0.044 0.041	0.027 0.026	986.1.0 31,.100	0.045 0.007
	IIIGII	Diesel		y Vehicles (Passenger Cars) y Trucks (0-8,500 lbs)	0.342	0.003	0.713	0.097	0.041	0.026	318.100	0.007
		Diesel		uty Vehicles (8,501+ lbs)	2.076	0.000	1.544	0.583	0.079	0.053	1245.200	0.007
		NA	MC Motorcyc		0.000	0.000	0.000	0.000	0.021	0.033	0.000	0.000
VIRGINIA		Gasoline		y Vehicles (Passenger Cars)	0.338	0.007	8.450	0.469	0.025	0/11	368.000	0.102
		Gasoline		y Trucks (0-8,500 lbs)	0.649	0.010	10.540	0.796	0.025	5.011	550.600	0.102
		Gasoline	HDGV Heavy-D	uty Vehicles (8,501+ lbs)	1.037	0.018	9.390	0.885	0.044	0.027	986.100	0.045
	LOW	Diesel	LDDV Light-Dut	y Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel	X	y Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.0.49	0.034	598.600	0.007
		Diesel		uty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	.079	0.053	1245.200	0.027
		NA C	MC Motorcyc		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline		y Vehicles (Passenger Cars)	0.341	0.007	10.010	0.461	0.025	0.011	368.000	0.102
		Gasoline Gasoline		y Trucks (0-8,500 lbs)	0.671	0.010	12.220 31.220	0.7/5	0.025	0.011	550.600 986.100	0.102
	HIGH	Diesel		uty Vehicles (8,501+ lbs) y Vehicles (Passenger Cars)	0.864	0.018	0.715	0.097	0.044	0.027	314.100	0.045
	IIIGII	Diesel		y Trucks (0-8,500 lbs)	0.342	0.006	0.713	0.320	0.041	0.026	598.600	0.007
		Diesel		uty Vehicles (8,501+ lbs)	2.076	0.000	1.5	0.583	0.079	0.053	1245.200	0.007
		NA	MC Motorcyc		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
WASHINGTON		Gasoline		y Vehicles (Passenger Cars)	0.341	0.007	10.010	0.459	0.025	0.011	368.000	0.102
		Gasoline		y Trucks (0-8,500 lbs)	0.671	0.010	12.220	0.789	0.025	0.011	550.600	0.102
		Gasoline		uty Vehicles (8,501+ lbs)	1.053	0.01	9.820	0.807	0.044	0.027	986.100	0.045
	LOW	Diesel		y Vehicles (Passenger Cars)	0.108	0 .03	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		y Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	HDDV Heavy-D	uty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC Motorcyc	les	0.00	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Dut	y Vehicles (Passenger Cars)	0/40	0.007	9.170	0.468	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Dut	y Trucks (0-8,500 lbs)	3.660	0.010	11.310	0.804	0.025	0.011	550.600	0.102
		Gasoline	HDGV Heavy-D	uty Vehicles (8,501+ lbs)	0.857	0.018	30.490	1.051	0.044	0.027	986.100	0.045
	HIGH	Diesel		y Vehicles (Passenger Cars	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		y Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel		uty Vehicles (8,501+ lb)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
WEST VIRGINIA		NA	MC Motorcyc		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline		y Vehicles (Passe Iger Cars)	0.340	0.007	9.170	0.465	0.025	0.011	368.000	0.102
		Gasoline		y Trucks (0-8,500 lbs)	0.660	0.010	11.310	0.795	0.025	0.011	550.600	0.102
	LOW	Gasoline		uty Vehicles (8,501+ lbs)	1.045	0.018	9.590	0.851	0.044	0.027	986.100	0.045
	LOW	Diesel Diesel		y Vehicles (Passenger Cars) y Truck (0-8,500 lbs)	0.108	0.003	0.715 0.579	0.097 0.316	0.041	0.026 0.034	314.100 598.600	0.007
		Diesel		uty V nicles (8,501+ lbs)	2.038	0.006	0.579	0.316	0.049	0.053	1245.200	0.007
		NA	MC Motorcyc		0.000	0.000	0.000	0.000	0.079	0.033	0.000	0.027
		Gasoline		Vehicles (Passenger Cars)	0.354	0.007	11.090	0.468	0.025	0.014	368.000	0.102
		Gasoline		y Trucks (0-8,500 lbs)	0.694	0.010	13.400	0.830	0.025	0.011	550.600	0.102
		Gasoline		uty Vehicles (8,501+ lbs)	0.872	0.018	32.220	1.015	0.044	0.027	986.100	0.045
	HIGH	Diesel	<del></del>	y Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel		y Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600	0.007
		Diesel		uty Vehicles (8,501+ lbs)	2.076	0.012	1.544	0.583	0.079	0.053	1245.200	0.027
WISCONSIN		NA	M. Motorcyc		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
WISCONSIN		Gasoline		y Vehicles (Passenger Cars)	0.354	0.007	11.090	0.465	0.025	0.011	368.000	0.102
		Gasoline		y Trucks (0-8,500 lbs)	0.694	0.010	13.400	0.822	0.025	0.011	550.600	0.102
		Gasolin	HDGV Heavy-D	uty Vehicles (8,501+ lbs)	1.063	0.018	10.140	0.801	0.044	0.027	986.100	0.045
	LOW	Die	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	y Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Desel		y Trucks (0-8,500 lbs)	0.342	0.006	0.579	0.316	0.049	0.034	598.600	0.007
		Diesel	·····	uty Vehicles (8,501+ lbs)	2.038	0.012	0.628	0.291	0.079	0.053	1245.200	0.027
		NA	MC Motorcyc		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline		y Vehicles (Passenger Cars)	0.350	0.007	10.970	0.456	0.025	0.011	368.000	0.102
		Gasoline		y Trucks (0-8,500 lbs)	0.690	0.010	13.270	0.807	0.025	0.011	550.600	0.102
	IIICII	Gasoline		uty Vehicles (8,501+ lbs)	0.872	0.018	32.110	0.989	0.044	0.027	986.100	0.045
	HIGH	Diesel		y Vehicles (Passenger Cars)	0.108	0.003	0.715	0.097	0.041	0.026	314.100	0.007
		Diesel Diesel		y Trucks (0-8,500 lbs)	0.342	0.006	0.614	0.320	0.049	0.034	598.600 1245.200	0.007
		*****************	MC Motorcyc	uty Vehicles (8,501+ lbs)	2.076 0.000	0.012	0.000	0.583	0.079 0.021	0.053 0.014	0.000	0.027
WYOMP G		NA Gasoline		y Vehicles (Passenger Cars)	0.350	0.000	10.970	0.454	0.021	0.014	368.000	0.000
		Gasoline		y Trucks (0-8,500 lbs)	0.550	0.007	13.270	0.454	0.025	0.011	550.600	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	uty Vehicles (8,501+ lbs)	1.062	0.010	10.100	0.800	0.025	0.011	986.100	0.102
	LOW	Diesel		y Vehicles (Passenger Cars)	0.108	0.018	0.715	0.779	0.044	0.027	314.100	0.043
	LOW	Diesel		y Trucks (0-8,500 lbs)	0.108	0.003	0.713	0.097	0.041	0.026	598.600	0.007
		Diesel		uty Vehicles (8,501+ lbs)	2.038	0.000	0.628	0.291	0.049	0.053	1245.200	0.007
		NA	MC Motorcyc		0.000	0.000	0.000	0.000	0.079	0.033	0.000	0.000
		11/1	171C 1710toreye	***	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV

		Fuel	•		•	Eı	mission Fa	actors (g/ı	mi)		
State	Altitude	Fuel Type	Vehicle Type			Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.313	0.007	7.280	0.456	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.600	0.010	9.200	0.781	0.025	0.011	550 /00	0.102
		Gasoline	HDGV   Heavy-Duty Vehicles (8,501+ lbs)	0.734	0.018	29.200	1.072	0.042	0.026	\$5.400	0.045
<u> </u>	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
<u> </u>		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
<u> </u>		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	6.048	1244.700	0.027
ALABAMA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)		0.007	7.280	0.453	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.600	0.010	9.200	0.767	0/25	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.895	0.018	9.180	0.891	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/12	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	3.284	0.073	0.048	1244.700	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.353	0.007	14.150	0.470	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.714	0.010	16.490	0.844	0.025	0.011	550.700	0.102
i l	HIGH	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.783	0.018	34.960	0.892	0.042	0.026	985.400	0.045
<u> </u>	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)		0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.636	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
ALASKA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
<u> </u>		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.353	0.007	14.150	0.469	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	9.714	0.010	16.490	0.843	0.025	0.011	550.700	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.954	0.018	11.000	0.680	0.042	0.026	985.400	0.045
<u> </u>	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Care	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
<u> </u>		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
<u> </u>		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000 368.000	0.000
		Gasoline Gasoline	LDGV Light-Duty Vehicles (Parkenger Cars)  LDGT Light-Duty Trucks (0.2,500 lbs)	0.315	0.007	7.620 9.550	0.789	0.025	0.011	550.700	0.102
<u> </u>			HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.737	0.018	29.490	1.072	0.023	0.011	985.400	0.102
<u> </u>	HIGH	Gasoline Diesel	LDDV Light-Duty Vehicles (8,301+ 108)	~~	0.003	0.692	0.087	0.042	0.023	314.100	0.043
<u> </u>	IIIOII	Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.088	0.005	0.600	0.305	0.038	0.023	598.600	0.007
<u> </u>		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.047	0.032	1244.700	0.007
		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ARIZONA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.315	0.007	7.620	0.456	0.025	0.014	368.000	0.102
<u> </u>		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.605	0.010	9.550	0.775	0.025	0.011	550.700	0.102
<u> </u>		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.018	9.280	0.888	0.042	0.026	985.400	0.045
<u> </u>	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)		0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
<u> </u>		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
<u> </u>		N	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV Light-Duty Vehicles (Passenger Cars)	0.317	0.007	7.760	0.461	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.608	0.010	9.700	0.792	0.025	0.011	550.700	0.102
<u> </u>		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.738	0.018	29.650	1.072	0.042	0.026	985.400	0.045
	HV₃H	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ARKANSAS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.317	0.007	7.760	0.457	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.608	0.010	9.700	0.778	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.899	0.018	9.330	0.886	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesei	LDD1 Light-Duty Trucks (0-8.500 lbs)	0.317					0.052		
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)  HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.302	0.047	0.032	1244.700	0.027

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV (cont.)

		ъ.					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.307	0.007	7.520	0.446	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.600	0.010	9.430	0.764	0.025	0.011	550 /00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.737	0.018	29.000	1.028	0.042	0.026	\$5.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	2.048	1244.700	0.027
G. T. TEO. D. T.		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
CALIFORNIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.307	0.007	7.520	0.443	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.600	0.010	9.430	0.753	0/25	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.898	0.018	9.120	0.851	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.320	0.007	10.193	0.422	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.641	0.010	12.250	0.750	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.756	0.018	31.380	0.918	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.811	5.012	1.384	0.569	0.073	0.048	1244.700	0.027
COL OD LDO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
COLORADO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.320	0.007	10.190	0.420	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.641	0.010	12.250	0.743	0.025	0.011	550.700	0.102
		Gasoline	HDGV		0.921	0.018	9.870	0.729	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598,600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+115)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.318	0.007	9.590	0.448	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0.3,500 lbs)	0.632	0.010	11.610	0.777	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.752	0.018	30.850	0.974	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehcles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
CONNECTICUT		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.318	0.007	9.590	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT	aght-Duty Trucks (0-8,500 lbs)	0.632	0.010	11.610	0.768	0.025	0.011	550.700	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.916	0.018	9.700	0.786	0.042	0.026	985.400	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	<b>/</b>	Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	8.330	0.449	0.025	0.014	368,000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.614	0.010	10.270	0.773	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.743	0.018	29.750	1.014	0.042	0.026	985.400	0.045
	HLTH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.005	0.600	0.305	0.038	0.032	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.032	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.073	0.048	0.000	0.000
DELAWARI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	8.330	0.446	0.021	0.014	368.000	0.102
		Gasoline	LDGV	Light-Duty Venices (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.614	0.007	10.270	0.762	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.905	0.018	9.360	0.830	0.023	0.026	985.400	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.903	0.003	0.692	0.087	0.042	0.023	314.100	0.043
	LOW	Diesel	LDDV	Light-Duty Trucks (0-8,500 lbs)	0.088	0.003	0.692	0.302	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)		0.006	0.563	0.302	0.047	0.032	1244.700	0.007
		****************	MC	Motorcycles  Motorcycles	1.778	***************	*************	0.284		0.048	****************	****************
<u> </u>	l	NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV (cont.)

State			E . I					Eı	nission Fa	actors (g/r	ni)		
Gasoline   LDGV   Light-Duty Vehicks (Passenger Carp)   0.18   0.007   0.005   0.013   0.007   0.013   0.007   0.015   0.005   0.010   0.005   0.010   0.005   0.010   0.005   0.010   0.005   0.010   0.005   0.010   0.005   0.010   0.005   0.010   0.005   0.010   0.005   0.010   0.005   0.010   0.005   0.010   0.005   0.010   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005	State	Altitude			Vehicle Type		C	Criteria Po	llutants a	nd Ozone	Precurso	rs	
Casoline   DOT   Light-Day Trucks (0-8.501 hs)   0.586   0.010   0.025   0.011   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.014   0.025   0.025   0.014   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.0			Турс			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
Casoline   DiCV   Heavy-Duty Vehicles (Schil-Ibs)   Dicys			Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.311	0.007	6.260	0.451	0.025	0.011	368.00	0.102
FLORIDA   HIGH   Decel   LDDV   Light-Duy Tucks (0.500 bs)   0.317   0.006   0.000   0.003   0.001   0.007   0.006   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.586	0.010	8.140	0.766	0.025	0.011	550 /00	0.102
PLORIDA   PLOR			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.727	0.018	28.480	1.094	0.042	0.026	\$ 35.400	0.045
PLORIDA   Description   Desc		HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
FLORIDA    NA   MC   Mocrocycles   Mocrocycl			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
FLORIDA    NA   MC   Mocrocycles   Mocrocycl			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	2.048	1244.700	0.027
GEORGIA  Gasoline   DEV   Light-Duty Verbacks (Passenger Cars)   0.511   0.007   0.206   0.014   0.015   0.001   0.001   0.000   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001	ET OPTP 4		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021		0.000	0.000
LOW   Device   LDOV   Heavy-Dury Vehicles (RS01-18-b)   0.886   0.018   8.960   0.919   0.012   0.026   0.026   0.985   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.00	FLORIDA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.311	0.007	6.260	0.448	0.025	0.011	368.000	0.102
LOW   Dissel   LDDV   Light-Duty Vehicles (Passonger Care)   0.088   0.003   0.0692   0.087   0.038   0.023   398.000   0.000			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.586	0.010	8.140	0.752	0/25	0.011	550.700	0.102
Diesel LDDT Light-Duy Trucks (08-500 hs)   0.317   0.000   0.056   0.956   0.917   0.012   0.958   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.886	0.018	8.960	0.919	0.042	0.026	985.400	0.045
Dissel   LIDDY   Light-Day Tracks (0-8.500 lbs)   0.778   0.002   0.056   0.074   0.032   0.004   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
NA			Diesel	LDDT		0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.312   0.007   7,18   0.455   0.025   0.011   580,000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	.284	0.073	0.048	1244.700	0.027
Gasoline   LDGT   Light-Duty Trucks (0.8.500 lbs)   0.998   0.010   0.950   0.778   0.025   0.011   59.700   0.102     Gasoline   LDGV   Light-Duty Vehicles (R3501 lbs)   0.734   0.018   0.022   0.087   0.025   0.025   0.025   0.045     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.000   0.062   0.087   0.088   0.022   0.041   0.000     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.000   0.000   0.000   0.000   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001			NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
Gasoline   LDGT   Light-Duty Trucks (0.8-500 lbs)   0.998   0.010   0.995   0.078   0.025   0.011   59.700   0.101			Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.312	0.007	7.18	0.455	0.025	0.011	368.000	0.102
### HAWAII    Casoline   DDCV   Heavy-Duty Vehicks (R501+ lbs)   0.734   0.018   59.120   0.072   0.042   0.026   985.400   0.045			Gasoline	LDGT	~``	0.598	0.010	9 590	0.778	0.025	0.011	550.700	0.102
Diesel   LDDT   Light-Duty Trucks (0.8.500 lbs)   0.317   0.056   0.600   0.305   0.047   0.032   598,600   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.734	0.018	29.120		0.042	0.026	985.400	0.045
Disset   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1,811   5012   1,334   0,569   0,073   0,048   1244,700   0,027		HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
Disset   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1,811   5012   1,334   0,569   0,073   0,048   1244,700   0,027			Diesel	LDDT				0.600					0.007
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.34   0.007   7.180   0.452   0.025   0.011   368.000   0.102			Diesel	HDDV		1.811	5.012	1.384	0.569	0.073	0.048	1244.700	0.027
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.34   0.007   7.180   0.452   0.025   0.011   586.000   0.102	anonar.		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HOW   Heavy-Duty Vehicles (8,501+1lbs)	GEORGIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.31	0.007	7.180			0.011	368.000	0.102
LOW   Diesel   LDDV   Light-Duty Vehicke (Passenger Car)   0.088   0.003   0.692   0.087   0.038   0.023   314,100   0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.598	0.010	9.090	0.765	0.025	0.011	550.700	0.102
LOW   Diesel   LDDV   Light-Duty Verbicks (Passenger Car)   0.088   0.003   0.692   0.087   0.038   0.023   314,100   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.894	0.018	9.160	0.892	0.042	0.026	985.400	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ 8)   1,778   0,012   0,563   0,284   0,073   0,048   1244,700   0,027		LOW	Diesel	LDDV		0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
NA			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
NA			Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
HAWAII    Gasoline   LDGT   Light-Duty Trucks (0.500 lbs)   0.574   0.010   7.770   0.735   0.025   0.011   550.700   0.012			NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HIGH Diesel LDDV Light-Duty Vehicks (8,501+lbs) 0.726 0.018 27.610 1.046 0.042 0.026 985.400 0.045 Diesel LDDV Light-Duty Vehicks (Passenger Cars) 0.088 0.003 0.692 0.087 0.038 0.023 314.100 0.007 Diesel HDDV Heavy-Dirty Vehicks (0-8,500 lbs) 0.317 0.006 0.600 0.305 0.047 0.032 598.600 0.007 0.006 0.007 Diesel HDDV Heavy-Dirty Vehicks (Passenger Cars) 0.000 0.000 0.000 0.000 0.007 0.007 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001			Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.297	0.007	5.930	0.434	0.025	0.011	368.000	0.102
HAWAII  HIGH Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.088 0.003 0.692 0.087 0.038 0.023 314.100 0.007 Diesel LDDT Light-Duty Trucks (0-8.500 lbs) 0.317 0.006 0.600 0.305 0.047 0.032 598.600 0.007 NA MC Motorycles (S.501+lbs) 1.811 0.012 1.384 0.569 0.073 0.048 1244.700 0.027 NA MC Motorycles (S.501+lbs) 0.574 0.000 0.000 0.000 0.000 0.001 0.001 0.001 368.000 0.102 0.000 0.000 0.001 0.001 0.001 0.000 0.000 0.001 0.001 0.001 0.000 0.000 0.001 0.001 0.001 0.000 0.000 0.001 0.001 0.000 0.000 0.001 0.001 0.000 0.000 0.001 0.001 0.000 0.000 0.000 0.001 0.001 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0			Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.574	0.010	7.770	0.735	0.025	0.011	550.700	0.102
HAWAII  HIGH Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.088 0.003 0.692 0.087 0.038 0.023 314.100 0.007 Diesel LDDT Light-Duty Trucks (0-8.500 lbs) 0.317 0.006 0.600 0.305 0.047 0.032 598.600 0.007 NA MC Motorycles (S.501+lbs) 1.811 0.012 1.384 0.569 0.073 0.048 1244.700 0.027 NA MC Motorycles (S.501+lbs) 0.574 0.000 0.000 0.000 0.000 0.001 0.001 0.001 368.000 0.102 0.000 0.000 0.001 0.001 0.001 0.000 0.000 0.001 0.001 0.001 0.000 0.000 0.001 0.001 0.001 0.000 0.000 0.001 0.001 0.000 0.000 0.001 0.001 0.000 0.000 0.001 0.001 0.000 0.000 0.000 0.001 0.001 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0			Gasoline	HDGV	Heavy-Duty Vehices (8,501+ lbs)	0.726	0.018	27.610	1.046	0.042	0.026	985.400	0.045
HAWAII    Diesel   HDDV   Heavy-Drfy Vehicles (8,501+lbs)   1.811   0.012   1.384   0.569   0.073   0.048   1244.700   0.027		HIGH	Diesel	LDDV		0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
HAWAII			Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
HAWAII			Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.297   0.007   5.930   0.433   0.025   0.011   368.000   0.102	TT 4 33/4 TT		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   Diesel   LDGV   Light-Duty Vehicles (8,501+ lbs)   0.884   0.018   8.680   0.880   0.042   0.026   985,400   0.045	HAWAII		Gasoline	LDGV		0.297	0.007	5.930	0.433	0.025	0.011	368.000	0.102
LOW   Diesel   LDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007			Gasoline	LDGT	Aght-Duty Trucks (0-8,500 lbs)	0.574	0.010	7.770	0.724	0.025	0.011	550.700	0.102
Diesel   ADDT   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.565   0.302   0.047   0.032   598,600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244,700   0.027     N			Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	0.884	0.018	8.680	0.880	0.042	0.026	985.400	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244.700   0.027		LOW	Diesel	LDJV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
N			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
Hohe   Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.321   0.007   10.440   0.423   0.025   0.011   368.000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
High   Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.645   0.010   12.510   0.752   0.025   0.011   550,700   0.102			N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HDHO			G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.321	0.007	10.440	0.423	0.025	0.011	368.000	0.102
High   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.645	0.010	12.510	0.752	0.025	0.011	550.700	0.102
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.600   0.305   0.047   0.032   598,600   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.758	0.018	31.600	0.912	0.042	0.026	985.400	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.811   0.012   1.384   0.569   0.073   0.048   1244.700   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.321   0.007   10.440   0.421   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.645   0.010   12.510   0.746   0.025   0.011   550.700   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.924   0.018   9.940   0.722   0.042   0.026   985.400   0.045     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.565   0.302   0.047   0.032   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244.700   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244.700   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244.700   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244.700   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244.700   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244.700   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244.700   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.024   0.073   0.048   1244.700   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.024   0.073   0.048   1244.700   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.024   0.073   0.048   0.073   0.048   0.073   0.048		HV 5H	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.00			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.00			Diesel			1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.321   0.007   10.440   0.421   0.025   0.011   368.000   0.102	IDATIO		NA			0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
Casoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.924   0.018   9.940   0.722   0.042   0.026   985.400   0.045	IDAHO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.321	0.007	10.440	0.421	0.025	0.011	368.000	0.102
LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.088         0.003         0.692         0.087         0.038         0.023         314.100         0.007           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.317         0.006         0.565         0.302         0.047         0.032         598.600         0.007           Diesel         HDDV         Heavy-Duty Vehicles (8,501+ lbs)         1.778         0.012         0.563         0.284         0.073         0.048         1244.700         0.027			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.645	0.010	12.510	0.746	0.025	0.011	550.700	0.102
Diesel LDDT Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.565   0.302   0.047   0.032   598.600   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.924	0.018	9.940	0.722	0.042	0.026	985.400	0.045
Diesel LDDT Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.565   0.302   0.047   0.032   598.600   0.007		LOW			Light-Duty Vehicles (Passenger Cars)			0.692			*****	314.100	
			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
NA MC Motorcycles 0.000 0.000 0.000 0.000 0.021 0.014 0.000 0.000			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
			NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV (cont.)

					-	Eı	mission Fa	actors (g/i	ni)		
State	Altitude	Fuel	Vehicle Type		C			nd Ozone		rs	
		Type		NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.319	0.007	9.080	0.455	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.627	0.010	11.070	0.788	0.025	0.011	550 /00	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.748	0.018	30.420	1.010	0.042	0.026	955.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	¢.048	1244.700	0.027
ILLINOIS		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ILLINOIS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.319	0.007	9.080	0.452	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.627	0.010	11.070	0.777	0/25	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.912	0.018	9.570	0.820	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	.284	0.073	0.048	1244.700	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.318	0.007	9.05	0.451	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.626	0.010	11.040	0.780	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.748	0.018	30.370	0.998	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.936	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.811	5.012	1.384	0.569	0.073	0.048	1244.700	0.027
INDIANA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.313	0.007	9.050	0.448	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.626	0.010	11.040	0.769	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.911	0.018	9.550	0.810	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parkenger Cars)	0.324	0.007	9.960	0.435	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,5,500 lbs)	0.642	0.010	12.010	0.775	0.025	0.011	550.700	0.102
	HICH	Gasoline	HDGV Heavy-Duty Vehic es (8,501+ lbs)	0.754	0.018	31.200	0.962	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel NA	HDDV Heavy-Day Vehicles (8,501+ lbs)  MC Motor ycles	1.811 0.000	0.012	0.000	0.569	0.073	0.048	0.000	0.027
IOWA											
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)  LDGT Aght-Duty Trucks (0-8,500 lbs)	0.324	0.007	9.960 12.010	0.432	0.025	0.011	368.000	0.102
		Gasoline Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs) HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.642 0.919	0.010 0.018	9.810	0.765 0.767	0.023	0.011	550.700 985.400	0.102 0.045
	LOW	Diesel	LD V Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.042	0.023	314.100	0.043
	LOW	Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.005	0.565	0.302	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.000	0.563	0.302	0.047	0.032	1244.700	0.007
		N	MC Motorcycles	0.000	0.000	0.000	0.000	0.073	0.048	0.000	0.000
		G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.321	0.007	8.660	0.459	0.021	0.014	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.622	0.007	10.640	0.439	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.022	0.018	30.300	1.038	0.042	0.011	985.400	0.102
	HV JH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
	111311	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.000	1.384	0.569	0.047	0.032	1244.700	0.007
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.073	0.048	0.000	0.027
KANSAS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.321	0.007	8.660	0.455	0.021	0.014	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.622	0.007	10.640	0.777	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.907	0.018	9.530	0.847	0.042	0.026	985.400	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.042	0.023	314.100	0.043
	2011	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.000	0.563	0.302	0.077	0.032	1244.700	0.007
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.073	0.014	0.000	0.000
				0.000	0.000	0.000	0.000	0.021	U.U1-T	0.000	0.000

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV (cont.)

		ъ.					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.315	0.007	8.330	0.450	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.615	0.010	10.280	0.775	0.025	0.011	550 /00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.743	0.018	29.770	1.017	0.042	0.026	935.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	£.048	1244.700	0.027
KENTUCKY		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
KENTUCKI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.315	0.007	8.330	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.615	0.010	10.280	0.763	0/125	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.905	0.018	9.360	0.833	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.372	0.047	0.032	598.600	0.007
		Diesel	HDDV		1.778	0.012	0.563	.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	6.94	0.459	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.597	0.010	8 350	0.781	0.025	0.011	550.700	0.102
		Gasoline	~~~~~~	·/	0.732	0.018	29.100	1.093	0.042	0.026	985.400	0.045
	HIGH	Diesel		<del>/</del>	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.056	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.811	5.012	1.384	0.569	0.073	0.048	1244.700	0.027
LOUISIANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
Locioniui		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	6.940	0.455	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.597	0.010	8.850	0.766	0.025	0.011	550.700	0.102
		Gasoline	HDGV		0.892	0.018	9.150	0.912	0.042	0.026	985.400	0.045
	LOW	Diesel	~~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+11s)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Partienger Cars)	0.328	0.007	11.230	0.439	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.659	0.010	13.350	0.784	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.763	0.018	32.330	0.924	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh eles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-D ty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
MAINE		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.328	0.007	11.230	0.438	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.659	0.010	13.350	0.778	0.025	0.011	550.700	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.930	0.018	10.170	0.728	0.042	0.026	985.400	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.315	0.007	8.520	0.444	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.617	0.010	10.470	0.765	0.025	0.011	550.700	0.102
	ну⊿н	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.744	0.018	29.890	0.997	0.042	0.026	985.400	0.045
	нън	Diesel		Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
MARYLAND		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.315	0.007	8.520	0.441	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.617	0.010	10.470	0.754	0.025	0.011	550.700	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.907	0.018	9.400	0.813	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501+ lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel			1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
<u> </u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV (cont.)

		F1					E	mission Fa	actors (g/ı	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.318	0.007	9.750	0.448	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.634	0.010	11.780	0.778	0.025	0.011	550 /00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.753	0.018	30.990	0.969	0.042	0.026	\$5.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.07	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	6.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.318	0.007	9.750	0.446	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.634	0.010	11.780	0.770	0 25	0.011	550.700	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.918	0.018	9.750	0.781	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598,600	0.007
		Diesel	HDDV		1.778	0.012	0.563	.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.323	0.007	10.50	0.430	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.647	0.010	12.580	0.765	0.025	0.011	550.700	0.102
		Gasoline			0.758	0.018	31.670	0.927	0.042	0.026	985.400	0.045
	HIGH	Diesel		·/	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
	111011	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.00	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+ lbs)	1.811	3.012	1.384	0.569	0.077	0.032	1244.700	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.073	0.014	0.000	0.000
MICHIGAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.323	0.007	10.500	0.428	0.021	0.014	368.000	0.102
		Gasoline	LDGV	Light-Duty Venices (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.575 0.647	0.007	12.580	0.428	0.025	0.011	550.700	0.102
		Gasoline	HDGV		0.924	0.018	9.960	0.734	0.023	0.011	985.400	0.102
	LOW			Light-Duty Vehicles (Passenger Cars	0.924	0.003	0.692	0.734	0.042	0.023	314.100	0.043
	LOW	Diesel	~~~~~~~~	······································					0.038		598.600	
		Diesel		Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ 1/8)	0.317	0.006	0.565	0.302	0.047	0.032	1244.700	0.007
		Diesel	***************************************	······································	1.778	0.012	0.563	0.284	0.073			0.027
		NA	MC	Motorcycles	0.000	0.000	0.000			0.014	0.000	0.000
		Gasoline Gasoline	LDGV LDGT	Light-Duty Vehicles (Parsenger Cars) Light-Duty Trucks (0.5,500 lbs)	0.332	0.007	11.480 13.640	0.456 0.817	0.025	0.011	368.000 550.700	0.102 0.102
					0.765				0.023			
	HIGH	Gasoline	HDGV LDDV	Heavy-Duty Vehicles (8,501+ lbs)		0.018	32.580 0.692	0.956 0.087	0.042	0.026	985.400	0.045
	пібп	Diesel		Light-Duty Veb eles (Passenger Cars)	0.088						314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV MC	Heavy-Day Vehicles (8,501+ lbs)	1.811 0.000	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
MINNESOTA		NA C "		Motor ycles		0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.332	0.007	11.480	0.453	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.666	0.010	13.640	0.809	0.025	0.011	550.700	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.932	0.018	10.250	0.752	0.042	0.026	985.400	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	7.280	0.459	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.601	0.010	9.200	0.784	0.025	0.011	550.700	0.102
	ну⊿н	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.734	0.018	29.280	1.080	0.042	0.026	985.400	0.045
	нын	Diesel		Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	
MISSISSIPP		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	7.280	0.455	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.601	0.010	9.200	0.770	0.025	0.011	550.700	0.102
	I OW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.895	0.018	9.210	0.898	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV (cont.)

							Eı	mission Fa	actors (g/ı	mi)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.319	0.007	8.640	0.455	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.621	0.010	10.610	0.784	0.025	0.011	550 /00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.745	0.018	30.160	1.025	0.042	0.026	\$5.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	£.048	1244.700	0.027
MICCOLIDI		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MISSOURI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.319	0.007	8.640	0.451	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.621	0.010	10.610	0.772	0/25	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.907	0.018	9.490	0.836	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.325	0.007	10.89	0.433	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.653	0.010	12.990	0.772	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.761	0.018	32.020	0.922	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0,936	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.811	5.012	1.384	0.569	0.073	0.048	1244.700	0.027
MONTANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MONTANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.323	0.007	10.890	0.431	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.653	0.010	12.990	0.766	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.927	0.018	10.070	0.728	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.322	0.007	9.440	0.430	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.633	0.010	11.450	0.766	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.751	0.018	30.720	0.969	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehcles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
NED DACEZA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEBRASKA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.322	0.007	9.440	0.427	0.025	0.011	368.000	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.633	0.010	11.450	0.755	0.025	0.011	550.700	0.102
		Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	0.915	0.018	9.660	0.777	0.042	0.026	985.400	0.045
	LOW	Diesel	LDOV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	<b>L</b> DDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.316	0.007	9.130	0.444	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.625	0.010	11.120	0.767	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.749	0.018	30.430	0.977	0.042	0.026	985.400	0.045
	HV JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
	7	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
MENADA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEVADA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.316	0.007	9.130	0.441	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.625	0.010	11.120	0.758	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.912	0.018	9.570	0.792	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
<u>/</u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV (cont.)

		E. J					E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.324	0.007	10.690	0.432	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.650	0.010	12.780	0.769	0.025	0.011	550 /00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.760	0.018	31.840	0.925	0.042	0.026	935.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	£.048	1244.700	0.027
NEW HAMPSHIRE		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEW HAMITSHIKE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.324	0.007	10.690	0.430	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.650	0.010	12.780	0.762	0/25	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.926	0.018	10.010	0.731	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV		1.778	0.012	0.563	.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.316	0.007	8.78	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.621	0.010	10.750	0.769	0.025	0.011	550.700	0.102
		Gasoline	~~~~~~	·/	0.746	0.018	30.120	0.993	0.042	0.026	985.400	0.045
	HIGH	Diesel		<del>/</del>	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.056	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.811	5.012	1.384	0.569	0.073	0.048	1244.700	0.027
NEW JERSEY		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEW GERGET		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.313	0.007	8.780	0.443	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.621	0.010	10.750	0.759	0.025	0.011	550.700	0.102
		Gasoline	HDGV		0.909	0.018	9.470	0.808	0.042	0.026	985.400	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+11s)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Partienger Cars)	0.313	0.007	8.620	0.441	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.617	0.010	10.580	0.759	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.745	0.018	29.970	0.984	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Veheles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
NEW MEXICO		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.313	0.007	8.620	0.438	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.617	0.010	10.580	0.750	0.025	0.011	550.700	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.908	0.018	9.430	0.802	0.042	0.026	985.400	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	<u> </u>	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.322	0.007	10.290	0.426	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.644	0.010	12.360	0.759	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.757	0.018	31.480	0.926	0.042	0.026	985.400	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
NEW YORK		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.322	0.007	10.290	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.644	0.010	12.360	0.752	0.025	0.011	550.700	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.922	0.018	9.900	0.735	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV (cont.)

		ъ.					Eı	mission Fa	actors (g/ı	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.312	0.007	7.710	0.453	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.605	0.010	9.630	0.778	0.025	0.011	550 /00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.738	0.018	29.300	1.043	0.042	0.026	\$5.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	£.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.312	0.007	7.710	0.450	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.605	0.010	9.630	0.766	0 25	0.011	550.700	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.899	0.018	9.210	0.863	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598,600	0.007
		Diesel	HDDV		1.778	0.012	0.563	.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.333	0.007	11.60	0.459	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.668	0.010	12.770	0.822	0.025	0.011	550.700	0.102
		Gasoline	HDGV		0.766	0.018	32.690	0.957	0.042	0.026	985.400	0.045
	HIGH	Diesel	~~~~~~		0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0,956	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.811	5.012	1.384	0.569	0.073	0.048	1244.700	0.027
NODELL		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH DAKOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.323	0.007	11.600	0.456	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.668	0.010	13.770	0.814	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.933	0.018	10.280	0.753	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.318	0.007	9.220	0.448	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.627	0.010	11.220	0.776	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehic es (8,501+ lbs)	0.749	0.018	30.510	0.986	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
OHIO		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
OHIO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.318	0.007	9.220	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Aght-Duty Trucks (0-8,500 lbs)	0.627	0.010	11.220	0.766	0.025	0.011	550.700	0.102
		Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	0.913	0.018	9.600	0.799	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	<b>Z</b> DDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.320	0.007	7.970	0.463	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.613	0.010	9.920	0.794	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.739	0.018	29.940	1.074	0.042	0.026	985.400	0.045
	HV 5H	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
	1	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
OKLAHOM		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
OKLAHOWI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.320	0.007	7.970	0.458	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.613	0.010	9.920	0.779	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.901	0.018	9.420	0.885	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
<u> </u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV (cont.)

		E - 1					E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type			NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	9.680	0.434	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.631	0.010	11.700	0.752	0.025	0.011	550 /00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.753	0.018	30.900	0.936	0.042	0.026	\$65.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.02	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	£.048	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
OREGON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.007	9.680	0.433	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.631	0.010	11.700	0.746	0/25	0.011	550.700	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.917	0.018	9.720	0.753	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
	2011	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598,600	0.007
		Diesel	HDDV		1.778	0.012	0.563	.284	0.073	0.032	1244.700	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.291	0.007	6.67	0.429	0.025	0.014	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.579	0.007	8 360	0.729	0.025	0.011	550.700	0.102
		Gasoline			0.732	0.018	28.270	1.011	0.042	0.026	985.400	0.102
	HIGH	Diesel		·/	0.732	0.003	0.692	0.087	0.042	0.023	314.100	0.043
	mon	Diesel		Light-Duty Venicles (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.317	0.00	0.600	0.305	0.038	0.023	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+ lbs)	1.811	3.012	1.384	0.569	0.047	0.032	1244.700	0.007
		NA	MC	<del></del>	0.000	0.000	0.000	0.000	0.073	0.048	0.000	0.027
PACIFIC ISLANDS			LDGV	Motorcycles Light-Duty Vehicles (Passenger Cars)	0.000	0.007	6.670	0.428	0.021	0.014	368.000	0.102
		Gasoline			·····				0.025		550,700	
		Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs)	0.579	0.010	8.560	0.720	0.023	0.011		0.102
	LOW	Gasoline			0.891	0.018	8.890	0.844		0.026	985.400	0.045
	LOW	Diesel	~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+1/s)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA C	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.318	0.007	9.550	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.632	0.010	11.570	0.774	0.025	0.011	550.700	0.102
	IIICII	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.752	0.018	30.810	0.971	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh eles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
PENNSYLVANIA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.318	0.007	9.550	0.444	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.632	0.010	11.570	0.766	0.025	0.011	550.700	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.916	0.018	9.690	0.784	0.042	0.026	985.400	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.311	0.007	5.250	0.441	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.575	0.010	7.080	0.747	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.721	0.018	27.440	1.098	0.042	0.026	985.400	0.045
	HLTH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	
PUERTO RICO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
I SEKTO KIND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.311	0.007	5.250	0.439	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.575	0.010	7.080	0.731	0.025	0.011	550.700	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.878	0.018	8.630	0.930	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		D:1	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	LDDT		0.317	0.000	0.505	0.502	0.0-17	0.032	370.000	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV (cont.)

						Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel	Vehicle Type		C	rite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type		NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.315	0.007	9.310	0.443	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.627	0.010	11.310	0.766	0.025	0.011	550 /00	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.750	0.018	30.590	0.969	0.042	0.026	\$5.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.02	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	£.048	1244.700	0.027
D		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
RHODE ISLAND		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.315	0.007	9.310	0.441	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.627	0.010	11.310	0.758	0/25	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.914	0.018	9.620	0.783	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/2	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	.284	0.073	0.048	1244.700	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.313	0.007	7.33	0.457	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.601	0.010	9 250	0.781	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.735	0.018	29.230	1.071	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0,236	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.811	5.012	1.384	0.569	0.073	0.048	1244.700	0.027
COLUMN CAROLINA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
SOUTH CAROLINA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.313	0.007	7.330	0.453	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	2.601	0.010	9.250	0.768	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.895	0.018	9.190	0.890	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.326	0.007	10.290	0.440	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,5,500 lbs)	0.647	0.010	12.360	0.785	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.757	0.018	31.500	0.962	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vebeles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
SOUTH DAKOTA		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
SOUTH DAKOTA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.326	0.007	10.290	0.437	0.025	0.011	368.000	0.102
		Gasoline	LDGT Aght-Duty Trucks (0-8,500 lbs)	0.647	0.010	12.360	0.775	0.025	0.011	550.700	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.922	0.018	9.910	0.764	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.314	0.007	8.000	0.449	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.610	0.010	9.930	0.772	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.740	0.018	29.550	1.028	0.042	0.026	985.400	0.045
	HV3H	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
	1	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
TENNESSE		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.314	0.007	8.000	0.446	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.610	0.010	9.930	0.760	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.902	0.018	9.290	0.845	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV (cont.)

		E - 1				Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel	Vehicle Type		C	riteria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.316	0.007	7.210	0.463	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.601	0.010	9.130	0.790	0.025	0.011	550 /00	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.734	0.018	29.360	1.097	0.042	0.026	935.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.072	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	¢.048	1244.700	0.027
TEVAC		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
TEXAS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.316	0.007	7.210	0.459	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.601	0.010	9.130	0.775	0/25	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.894	0.018	9.230	0.913	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.3/12	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	.284	0.073	0.048	1244.700	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
_		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.319	0.007	9.54	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.632	0.010	17.550	0.753	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.752	0.018	30.800	0.947	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0,936	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.811	5.012	1.384	0.569	0.073	0.048	1244.700	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
UTAH		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.31	0.007	9.540	0.421	0.025	0.011	368,000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	2.632	0.010	11.550	0.744	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.916	0.018	9.690	0.758	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Car	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.325	0.007	10.890	0.435	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0.500 lbs)	0.654	0.010	13.000	0.775	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.761	0.018	32.020	0.926	0.042	0.026	985.400	0.045
	HIGH	Diesel	LDDV Light-Duty Veh cles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
	111011	Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-D xy Vehicles (8,501+ lbs)	1.811	0.000	1.384	0.569	0.077	0.032	1244.700	0.027
		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
VERMONT		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.325	0.007	10.890	0.433	0.021	0.014	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.654	0.007	13.000	0.455	0.025	0.011	550.700	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.034	0.010	10.070	0.731	0.023	0.011	985.400	0.102
	LOW	Diesel	LDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.731	0.042	0.023	314.100	0.043
	LOW	Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.003	0.565	0.302	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.000	0.563	0.302	0.047	0.032	1244.700	0.007
		N	MC Motorcycles	0.000	0.000	0.000	0.000	0.073	0.048	0.000	0.027
		G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.320	0.007	5.290	0.450	0.021	0.014	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.583	0.007	7.140	0.430	0.025	0.011	550.700	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.383	0.010	28.020	1.132	0.023	0.011	985.400	0.102
	ну⊿н	***************************************		0.722	0.003	0.692	0.087	0.042	0.023	314.100	0.043
	11 311	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)						***************************************		
		Diesel		0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.811	0.012	1.384	0.569	0.073	0.048	1244.700	0.027
VIRGIN ISLANDS		NA Casalina	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.320	0.007	5.290	0.448	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.583	0.010	7.140	0.743	0.025	0.011	550.700	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.880	0.018	8.810	0.961	0.042	0.026	985.400	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.778	0.012	0.563	0.284	0.073	0.048	1244.700	0.027
<u> </u>		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-37. On-Road Vehicle Emission Factors - 2017 GOV (cont.)

VIRGINIA   Million   Type   Verlies (Pyresing Paris)   Ostal			ъ.					Eı	mission F	actors (g/r	mi)		
VIRGINIA    Contine   LOVE   Light Day Volksky (Processor Care)   Contine   LOVE   Light Day Volksky (Processor Care)   Contine   LOVE   Light Day Volksky (RSO)   Early   Contine   Conti	State	Altitude	Fuel Type		Vehicle Type			riteria Po	llutants a		Precurso	rs	
MICHI   Discol.   LICIT   Light Day Tracks (0.8500 bs)   0.031   0.001   0.002   0.005   0.001   0.007   0.002   0.005   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.0			Турс			NOX	SOX	CO	VOC	$PM_{10}$	PM 2.5	CO <sub>2</sub>	
MICHAIN   Discret   LIDOY   Light Day Profess of Passenger Cars   0.088   0.003   0.002   0.003   0.002   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.			500-000-000-000-000-000-00			0.000.000.000.000.000.000		****************	CHARGOSCOCCOCCOCCOCCOCCO			*****************	
\text{VIRGINIA}    HIGH   Discot   LIDDY   Light-Day Yeshicks (Passenger Care)   0.835   0.003   0.002   0.007   0.002   0.003   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000					· · · · · · · · · · · · · · · · ·	***************************************							
VIRGINA    Disease   Import   Light-Dubry Prockets (98-50) how   0.377   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000		шси				~~~~~~		·					
VIRGINIA    Diesel   IDDV   Light-Duy Vehicks (8,901-18b)   1811   0.012   1.384   0.599   0.073   0.046   1244,700   0.007   0.008   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000		HIGH			·								
\text{VIRCINIA}    N. M. C. Medercycles   Casoline   LOPU   Light Duy Velicites (Passenger Cars)   0.010   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.0												<del></del>	
Virginia													
Casoline   DOT   Light-Duy Trucks (0.8500 ho)   0.613   0.001   0.125   0.012   0.017   0.015   0.010   0.015   0.010   0.015   0.010   0.015   0.010   0.015   0.010   0.015   0.010   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.015   0.01	VIRGINIA												
LOW   Deset   LDDV   Light-Duty Vehicks (Pascenger Cars)   0.088   0.003   0.092   0.097   0.023   34.100   0.007   Deset   HDDV   Heavy-Duty Vehicks (S.801-lis)   1.778   0.012   0.563   0.320   0.073   0.084   124.770   0.022   0.088   0.089   0.088   0.089   0.088   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089   0.089													
Desc.   LDPT   Light-Duty Tracks (0.8-50) hs)   0.317   0.000   0.565   0.302   0.967   0.023   0.8660   0.007   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.0			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.905	0.018	9.340	0.823	0.042	0.026	985.400	0.045
Deset   HDDV   Heavy-Dury Verheixs (Se01- hb)   1.778   0.012   0.563   0.284   0.073   0.018   124.770   0.025   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.073	0.023	314.100	0.007
March   Marc			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302		0.032	598.600	0.007
### WASHINGTON    Gasoline   Indifferent   I			500-000-000-000-000-000-00	***************************************		0.000.000.000.000.000.000		000000000000000000000000000000000000000	CHOCO-COCHOCHOCHOCHOCH				-000-000-000-000-000-000
March   Casoline   Doff   Light-Duy Tracks (0.8.50 hs)   0.050   0.001   1.870   0.076   0.025   0.001   0.57070   0.012   0.016   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0													
## HIGH   Design   Line   Line					, , , , , , , , , , , , , , , , , , , ,								
MICH   Desic					· · · · · · · · · · · · · · · · ·								
MASHINGTON		HIGH				~~~~~~~~~		************		***************************************	***************************************		
Description		IIIGII						· · · · · · · · · · · · · · · · · · ·					
WASHINGTON										***************************************	***************************************		
Gaodine   LDGV   Light-Duty Profices (Passenger Cars)   0.316   0.007   9.840   0.434   0.025   0.011   368,000   0.102					- <del></del>								
Gasoline   LOCT   Light-Duty Trucks (0.8-501 hs)   0.914   0.915   0.750   0.025   0.021   0.909   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0	WASHINGTON												
LOW   Desc   LOPV Light-Duty Vehicks (Passenger Cars)   0.088   0.03   0.087   0.087   0.083   0.023   314,100   0.007   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.0				LDGT	Light-Duty Trucks (0-8,500 lbs)		0.010	11.870	0.750	0.025	0.011	550.700	0.102
Diesel LIDDT Light-Duy Tracks (0-8.500 lbs)			Gasoline	HDGV		0.919	0.0 8	9.760		0.042	0.026	985.400	0.045
Dissel   HDDV   Heavy-Duty Vehicles (\$6301+ lbs)   1.778   0.012   0.0563   0.284   0.073   0.048   1244700   0.002		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
NA			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.565	0.302	0.047	0.032	598.600	0.007
Gasoline   LDGV   Light-Duy Vehicks (R.Solo hs)   0.023   0.010   10.990   0.042   0.025   0.011   368.000   0.102			Diesel	HDDV		termenant and the second		0.563	0.284		***************************************	1244.700	0.027
HIGH   Gasoline   LIOGT   Light-Duy Tracks (0.8,500 lbs)   0.023   0.010   10.990   0.764   0.025   0.011   550.700   0.102					· · · · · · · · · · · · · · · · · · ·								
## HIGH   Diesel   LIDDV   Light-Duty Vehickes (R5.01-libs)   0.748   0.018   30.32   0.976   0.022   0.026   985.400   0.007					·					***************************************	***************************************		
## WEST VIRGINIA    HIGH   Dissel   LDDV   Light-Dury Vehicks (Passenger Cap   0.088   0.030   0.692   0.087   0.038   0.023   314.100   0.007						<u> </u>							
### Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.600   0.305   0.047   0.032   598,600   0.007					·/						***************************************		
Dissel   HDDV   Heavy-Dury Vehicles (8.501+lbf)   1.811   0.012   1.384   0.569   0.073   0.048   1244.700   0.027		HIGH											
NA   MC   Motorcycles   O.000   O.000   O.000   O.000   O.000   O.001   O.000   O.00										***************************************	***************************************		
VINCINIA   Gasoline   LDGV   Light-Duty Vehicks (PassInger Cars)   0.315   0.007   9.010   0.440   0.025   0.011   168.000   0.102			************		·			**************					
Casoline   LDGT   Light-Duty Trucks (0-8, 10 hs)   0.623   0.010   10.990   0.755   0.025   0.011   550.700   0.102	WEST VIRGINIA												
Casoline   HDGV   Heavy-Duty Vehicles (8.501+lbs)   0.911   0.018   9.540   0.792   0.042   0.036   985.400   0.045			*******	***************************************								***************************************	
LOW   Diesel   LDDV   Light-Duty Vehicks (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007			******************	***************************************			****************	************	************	*************	**************		***************************************
Diesel   LDDT   Light-Duty Truck (0-8-500 lbs)   0.317   0.006   0.565   0.302   0.047   0.032   598.600   0.007     Diesel   HDDV   Heavy-Duty Jehicles (8,501 lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244.700   0.007     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (8,501 lbs)   0.655   0.010   13.000   0.788   0.025   0.011   550.700   0.102     Gasoline   LDGT   Light-Juty Vehicles (8,501 lbs)   0.655   0.010   13.000   0.788   0.025   0.011   550.700   0.102     Gasoline   LDGT   Light-Juty Vehicles (8,501 lbs)   0.761   0.018   32.050   0.942   0.042   0.026   985.400   0.045     HIGH   Diesel   LDDV   Light-Duty Vehicles (8,501 lbs)   0.761   0.018   32.050   0.942   0.042   0.026   985.400   0.045     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.600   0.305   0.047   0.032   598.600   0.007     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.600   0.305   0.047   0.032   598.600   0.007     NA   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.001   0.000     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.655   0.010   13.020   0.788   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.655   0.010   13.020   0.788   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Vehicles (8,501 lbs)   0.655   0.010   13.020   0.788   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Vehicles (8,501 lbs)   0.655   0.010   13.020   0.788   0.025   0.011   368.000   0.002     Diesel   LDDV   Light-Duty Vehicles (8,501 lbs)   0.655   0.010   13.020   0.788   0.025   0.011   368.000   0.002     Diesel   LDDV   Light-Duty Vehicles (8,501 lbs)   0.655   0.010   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000		LOW				***************************************		***************************************					
Diesel   HDDV   Heavy-Duty Vehickes (8,501+ lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244,700   0.027		2011	~~~~~~~~~	***************************************								***************************************	
NA MC   Motorcycle   Gasoline   LDGV   Light-Duf Vehicles (Passenger Cars)   0.327   0.000   0.000   0.000   0.001   0.014   0.000   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000													
HIGH   Gasoline   LDGV   Light-Duy Vehicles (Passenger Cars)   0.327   0.007   10.910   0.442   0.025   0.011   368.000   0.102   Gasoline   LDGT   Light-Puty Trucks (0.8.500 lbs)   0.655   0.010   13.020   0.788   0.025   0.011   550.700   0.102   0.014   0.0026   985.400   0.045   0.045   0.026   985.400   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.026   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045   0.025   0.045			~~~~~~~~~~		······································								
MISCONSIN   HIGH   Gasoline   LDGT   Light-Juty Trucks (0-8,500 lbs)   0.655   0.010   13.020   0.788   0.025   0.011   550,700   0.102					· · · · · · · /								
HIGH   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007			~~~~~	LDGT			0.010	13.020	0.788		0.011	550.700	0.102
HIGH													
Diesel   HDD   Heavy-Duty Vehicles (8,501+lbs)   1.811   0.012   1.384   0.569   0.073   0.048   1244,700   0.027     NA		HIGH		LDDV	Lent-Duty Vehicles (Passenger Cars)	0.088	0.003	0.692	0.087	0.038	0.023	314.100	0.007
NA   ME   Motorcycles   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.00		1	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.006	0.600	0.305	0.047	0.032	598.600	0.007
Gasoline   JoGV   Light-Duty Vehicles (Passenger Cars)   0.327   0.007   10.910   0.439   0.025   0.011   368.000   0.102		1	Diesel	HDD	Heavy-Duty Vehicles (8,501+ lbs)			1.384	0.569				0.027
Casoline   DGV   Light-Duty Vehicles (Passenger Cars)   0.327   0.007   10.910   0.439   0.025   0.011   368.000   0.102	WISCONSIN												0.000
LOW				JOGV	Light-Duty Vehicles (Passenger Cars)		***************************************				*****************		0.102
LOW   Diget   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.565   0.302   0.047   0.032   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244.700   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.001   0.001   0.001     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.324   0.007   10.800   0.431   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.032   0.098   0.097   0.025   0.011   550.700   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.600   0.305   0.047   0.032   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (Passenger Cars)   0.324   0.007   10.800   0.429   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.324   0.007   10.800   0.429   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.324   0.007   10.800   0.429   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.324   0.007   10.800   0.429   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.324   0.007   10.800   0.429   0.025   0.011   368.000   0.102     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.033   0.048   1244.700   0.027     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.651   0.010   0.060   0.060   0.060   0			- Cubonic										
Piesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.565   0.302   0.047   0.032   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244.700   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.324   0.007   10.800   0.431   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.651   0.010   12.890   0.767   0.025   0.011   550.700   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.600   0.305   0.047   0.032   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+lbs)   1.811   0.012   1.384   0.569   0.073   0.048   1244.700   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.001   0.001     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.324   0.007   10.800   0.429   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007     Diesel   LDDT   Light-Duty Vehicles (Rasoline Brown of the control of the con		1000										***************************************	
Missel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.778   0.012   0.563   0.284   0.073   0.048   1244.700   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.324   0.007   10.800   0.431   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0-8,500 bs)   0.651   0.010   12.890   0.767   0.025   0.011   550.700   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (R,501+ lbs)   0.760   0.018   31.930   0.918   0.042   0.026   985.400   0.045     HIGH   Diesel   LDDV   Light-Duty Trucks (0-8,500 bs)   0.317   0.006   0.600   0.305   0.047   0.032   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (R,501+ lbs)   1.811   0.012   1.384   0.569   0.073   0.048   1244.700   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Trucks (0-8,500 bs)   0.651   0.010   12.890   0.761   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0-8,500 bs)   0.651   0.010   12.890   0.761   0.025   0.011   368.000   0.102     LOW   Diesel   LDDV   Light-Duty Vehicles (R,501+ lbs)   0.927   0.018   10.040   0.725   0.042   0.026   985.400   0.047     Diesel   LDDV   Light-Duty Vehicles (R,501+ lbs)   0.927   0.018   10.040   0.725   0.042   0.026   985.400   0.047     Diesel   LDDV   Light-Duty Vehicles (R,501+ lbs)   0.317   0.006   0.663   0.302   0.047   0.032   598.600   0.007     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.563   0.284   0.073   0.048   1244.700   0.027     Diesel   LDDV   Light-Duty Vehicles (R,501+ lbs)   0.317   0.006   0.563   0.284   0.073   0.048   1244.700   0.027     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.563   0.284   0.073   0.048   1244.700   0.027     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.563   0.284   0.073   0.048   1244.700   0.027     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)		LOW		~~~~~~~~~		~~~~~~~~~					~~~~~~~~~~		
NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.000   0.001   0.000   0.001   0.000   0.001   0.000   0.001   0.000   0.001   0.000   0.001   0.000   0.000   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.00								-				***************************************	
HIGH   Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.324   0.007   10.800   0.431   0.025   0.011   368.000   0.102						~~~~~~~~~							
HIGH   Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.651   0.010   12.890   0.767   0.025   0.011   550.700   0.102													
HIGH   Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.760   0.018   31.930   0.918   0.042   0.026   985.400   0.045													
HIGH   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.088   0.003   0.692   0.087   0.038   0.023   314.100   0.007				***************************************			*****				************		
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.317   0.006   0.600   0.305   0.047   0.032   598.600   0.007		HIGH	***********				*****				*****		
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.811   0.012   1.384   0.569   0.073   0.048   1244.700   0.027     NA		111011	***************************************		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~							
NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.021   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.00		1	***********				*****				************		
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.324   0.007   10.800   0.429   0.025   0.011   368.000   0.102		1	*****************			***************************************	***************************************		***************************************	~~~~~~~~~~~	***************************************	***************************************	
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.651   0.010   12.890   0.761   0.025   0.011   550.700   0.102	WYOMP												0.102
Casoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.927   0.018   10.040   0.725   0.042   0.026   985.400   0.045				***************************************							***********	***************************************	
LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.088         0.003         0.692         0.087         0.038         0.023         314.100         0.007           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.317         0.006         0.565         0.302         0.047         0.032         598.600         0.007           Diesel         HDDV         Heavy-Duty Vehicles (8,501+ lbs)         1.778         0.012         0.563         0.284         0.073         0.048         1244.700         0.027			~~~~~~~~~										
Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.317         0.006         0.565         0.302         0.047         0.032         598.600         0.007           Diesel         HDDV         Heavy-Duty Vehicles (8,501+ lbs)         1.778         0.012         0.563         0.284         0.073         0.048         1244.700         0.027		LOW									******		
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 1.778 0.012 0.563 0.284 0.073 0.048 1244.700 0.027							~~~~~~~~~					~~~~~~~~	
												***************************************	***************************************
0.000 0.000 0.000 0.001 0.001 0.000 0.000	▼		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV

National   Piec   Type			Fuel			•	E	mission Fa	actors (g/ı	ni)		
ALASKA  ARKANASA  Gasoline   LDGV   Light-Duty Vehicles (Passenger Cara)   0.292   0.007   7.159   0.433   0.025   0.011   368.00   0.100   Gasoline   LDGV   Light-Duty Trucks (0.85.01 lbs)   0.565   0.016   8.880   0.738   0.025   0.011   368.00   0.016   Gasoline   LDGV   Light-Duty Vehicles (5.911 lbs)   0.654   0.018   29.11   1.029   0.014   0.024   85.20   0.015   Gasoline   LDGV   Light-Duty Vehicles (5.915 lbs)   0.654   0.018   29.11   1.029   0.014   0.024   85.20   0.015   ALABAMA   Color   LDGV   Light-Duty Vehicles (5.916 lbs)   0.004   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.	State	Altitude		Vehicle Type			Criteria Po	llutants a	nd Ozone	Precurso	rs	
Casoline   Logic   Light   Duty   Turcks (0.8500   hs)   0.556   0.010   8.880   0.785   0.012   5.750   0.012   0.012   0.014   0.020   0.014   0.020   0.014   0.020   0.014   0.020   0.014   0.020   0.016   0.024   0.020   0.016   0.024   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.020   0.0			Турс		NOx	SOx	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
Casoline   IDOV   Heavy-Duty Vehicles (3-S0H - b)   0.054   0.015   0.010   0.024   0.024   0.024   0.027   0.014   0.027   0.024   0.025   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.027   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024   0.024			Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.292	0.007	7.150	0.433	0.025	0.011	368.00	0.102
ALASAMA  ALASAMA  HIGH  Descel LDDV Light-Dury Tucks (0.8500 bs)  Descel HDDV Heavy-Dury Vehickes (8,591+ bs)  ALASAMA  ALC  Morroy-Use  Gaudine LOGV Light-Dury Tucks (0.8500 bs)  Descel HDDV Heavy-Dury Vehickes (8,591+ bs)  LOGV Light-Dury Tucks (0.8500 bs)  Gaudine LOGV Light-Dury Tucks (0.8500 bs)  Descel LODV Light-Dury Tucks (0.8500 bs)  Descel HDDV Heavy-Dury Vehickes (8,501+ bs)  ALASKA  ALASKA  ALASKA  ALASKA  LOGV Logov Lo			Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.565	0.010	8.880	0.738	0.025	0.011	550 300	0.102
Description   Labor			Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.654	0.018	29.110	1.029	0.041	0.024	85.200	0.045
Description		HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
ALABAMA    NA   M.   Morocycles   0.000   0.000   0.000   0.000   0.010   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.00			Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.023	598.600	0.007
ALABAMA   Gasoline   LOV   Light-Duty Vehicks (Passenger Cars)   0.292   0.007   7.150   0.430   0.027   0.011   8880.00   0.102   Gasoline   LOV   Edge-Duty Vehicks (R.501-18b)   0.755   0.016   8.880   0.755   0.018   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005			Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	£.040	1244.600	0.027
Casoline   LDEV   Light-Duty Verheits (Passenger Cars)   0.592   0.001   7.150   0.484   0.027   0.011   385,000   0.102	47 4 D 43/4		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   Desel   LDDV   Light-Duy Vehicks (R501-18b)   0.797   0.018   9,150   0.859   0.041   0.024   0.852.00   0.045   0.022   0.045   0.056   0.022   0.046   0.024   0.046   0.025   0.046   0.025   0.046   0.025   0.046   0.026   0.007   0.046   0.026   0.007   0.046   0.026   0.007   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.008   0.007   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008	ALABAMA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.292	0.007	7.150	0.430	0.025	0.011	368.000	0.102
LOW   Diesel   LDDV   Light-Duty Vehicles (Passonger Care)   0.072   0.030   0.052   0.050   0.041   0.026   98.600   0.007     Diesel   LDDV   Light-Duty Vehicles (C8-300 lbs)   0.250   0.000   0.052   0.007   0.041   0.005   98.600   0.007     NA   Mc   Morreycles   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000			Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.565	0.010	8.880	0.725	0/25	0.011	550.900	0.102
Diesel LDDT Light-Duy Trucks (0.8.500 hs)   0.220   0.000   0.020   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000			Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.797	0.018	9.150	0.859	0.041	0.024	985.200	0.045
Diesel   HDDV   Heavy-Duty Vehicles (\$8,501-lbs)   1,525   0,012   0,503   274   0,005   0,040   1244,607   0,007     A		LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
NA			Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.329   0.007   339   0.447   0.025   0.011   388,000   0.102     Gasoline   LDGV   Light-Duty Trucks (0.8500 lbs)   0.671   0.010   5880   0.797   0.025   0.011   589,000   0.102     Gasoline   LDGV   Light-Duty Vehicks (8.501 lbs)   0.698   0.018   4.840   0.852   0.041   0.022   985,000   0.015     Diesel   LDDV   Light-Duty Vehicks (9.8500 lbs)   0.280   0.075   0.080   0.035   0.023   341,010   0.007     Diesel   LDDV   Light-Duty Vehicks (9.8500 lbs)   0.280   0.096   0.525   0.070   0.041   0.006   598,600   0.007     Diesel   LDDV   Light-Duty Vehicks (8.501 lbs)   0.554   0.012   1.237   0.551   0.065   0.040   1244,600   0.027     ALASKA   NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.			Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	.274	0.065	0.040	1244.600	0.027
ALASKA  ALASKA  HIGH HIGH HIGH HIGH HIGH HIGH HIGH HI			NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HIGH   Diesel   LDDV   Light-Duty Vehicks (R501+ lbs)   0.698   0.018   54.860   0.852   0.041   0.024   985.200   0.045			Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.329	0.007	13.95	0.447	0.025	0.011	368.000	0.102
ALASKA  ALASKA  HIGH Dissel LDDV Light-Dury Vehicks (Passenger Cars) 0.072 0.073 0.075 0.080 0.036 0.022 314.100 0.007   Dissel LDDV Light-Dury Vehicks (S0-800 lbs) 0.280 0.080 0.086 0.270 0.041 0.022 598.600 0.007   NA MC Motorcycles 0.000 0.000 0.000 0.000 0.000 0.001 0.001 0.001 1244.600 0.007   Gasoline LOVC Light-Dury Vehicks (Passenger Cars) 0.370 0.007 1.000 0.000 0.000 0.001 0.001 0.001 0.000 0.000   Cars of the Ca			Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.671	0.010	15.880	0.797	0.025	0.011	550.900	0.102
ALASKA    Diesel   IDDT   Light-Dury Trucks (0.8.500 lbs)   0.280   0.056   0.326   0.270   0.041   0.026   59.8 600   0.007			Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.698	0.018	34.860	0.852	0.041	0.024	985.200	0.045
ALASKA    Dissel HDDV Heavy-Duy Vehicks (R501+ lbs)   1.554   6012   1.237   0.551   0.065   0.040   0.244   0.002   0.002		HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
ALASKA    NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.00			Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0,936	0.526	0.270	0.041	0.026	598.600	0.007
ALASKA   Gasoline   LDGV   Light-Dury Vehicks (Passenger Cars)   0.33   0.007   13.950   0.447   0.025   0.011   58.000   0.102			Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.554	5.012	1.237	0.551	0.065	0.040	1244.600	0.027
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.37   0.007   13.950   0.447   0.025   0.011   35.80   0.102	AT ACTZA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   Diesel   LDDV   Light-Duty Vehicles (8,501+1ls)   0.850   0.018   10.960   0.652   0.041   0.024   985,200   0.045	ALASKA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.32	0.007	13.950	0.447	0.025	0.011	368.000	0.102
LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Car)   0.072   0.003   0.675   0.080   0.036   0.022   314,100   0.007     Diesel   LDDV   Light-Duty Trucks (0.8500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   588,600   0.007     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.294   0.007   7.490   0.437   0.025   0.011   368,000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.072   0.001   0.020   0.044   0.025   0.011   550,000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.072   0.003   0.675   0.008   0.036   0.022   0.014   0.000     HIGH   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.072   0.003   0.675   0.008   0.036   0.022   0.041   0.000     Diesel   LDDV   Light-Duty Vehicles (R.501 lbs)   0.280   0.006   0.256   0.270   0.041   0.024   985,200   0.007     Diesel   LDDV   Heavy-Duty Vehicles (R.501 lbs)   1.554   0.012   1.237   0.551   0.065   0.040   1244,600   0.027     NA   MC   Motogrids   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (R.501 lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368,000   0.102     Gasoline   LDGV   Light-Duty Vehicles (R.501 lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Vehicles (R.501 lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Vehicles (R.501 lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Vehicles (R.501 lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368,000   0.102     Diesel   HDDV   Heavy-Duty Vehicles (R.501 lbs)   0.570   0.010   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000     Diesel   LDDV   Light-Duty Vehicles (R.500 lbs)   0.573   0.0			Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	2.671	0.010	15.880	0.795	0.025	0.011	550.900	0.102
Diesel   LDDT   Light-Duty Trucks (0.8.500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicks (8.501+ s)   1.525   0.012   0.003   0.274   0.065   0.040   1244.600   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.002   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicks (Pasenger Cars)   0.294   0.007   7.490   0.437   0.025   0.011   368.000   0.102     Gasoline   HDGV   Heavy-Duty Vehicks (R.501+ lbs)   0.656   0.018   29.410   1.029   0.041   0.024   985.200   0.045     HIGH   Diesel   LDDV   Light-Duty Vehicks (R.501+ lbs)   0.556   0.018   29.410   1.029   0.041   0.024   985.200   0.045     Diesel   HDDV   Heavy-Diffy Vehicks (8.501+ lbs)   1.554   0.012   1.237   0.551   0.056   0.040   1.244.600   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000     Gasoline   LDGV   Light-Duty Pethicks (R.501+ lbs)   0.570   0.010   9.220   0.733   0.025   0.014   0.020   0.000     Gasoline   LDGV   Light-Duty Pethicks (R.501+ lbs)   0.570   0.000   0.000   0.000   0.000   0.001   0.001   0.001   0.001     Gasoline   LDGV   Light-Duty Pethicks (R.501+ lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Pethicks (R.501+ lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicks (R.500+ lbs)   0.570   0.010   9.220   0.035   0.010   0.000   0.000     Diesel   DDT   Light-Duty Vehicks (R.501+ lbs)   0.280   0.006   0.526   0.270   0.041   0.024   985.200   0.045     Diesel   DDT   Light-Duty Vehicks (R.501+ lbs)   0.280   0.006   0.526   0.270   0.041   0.024   985.200   0.045     Diesel   LDDV   Light-Duty Vehicks (R.501+ lbs)   0.280   0.006   0.526   0.270   0.041   0.025   598.600   0.007     Diesel   LDDV   Light-Duty Vehicks (R.501+ lbs)   0.280   0.006   0.526   0.270   0.041   0.025   598.600   0.007     Diesel   LDDV   Light-Duty Vehicks (R.501+ lbs)   0.573   0.01			Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.850	0.018	10.960	0.652	0.041	0.024	985.200	0.045
Diesel   HDDV   Heavy-Duty Vehicks (8,501+ 8)   1.525   0.012   0.503   0.274   0.065   0.040   1244,600   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicks (Pa/enger Cars)   0.294   0.007   7.490   0.437   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Vehicks (P.500 lbs)   0.570   0.010   9.220   0.746   0.025   0.011   550,900   0.102     Gasoline   HDGV   Heavy-Duty Vehicks (P.501 lbs)   0.656   0.018   29.410   1.029   0.041   0.024   985,200   0.045     Diesel   LDDV   Light-Duty Vehicks (P.501 lbs)   0.656   0.018   29.410   1.029   0.041   0.024   985,200   0.045     Diesel   LDDV   Light-Duty Vehicks (P.501 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598,600   0.007     Diesel   HDDV   Heavy-Duty Vehicks (R.501 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598,600   0.007     NA   MC   Motory-cles   0.0000   0.000   0.0000   0.000   0.000   0.000   0.000   0.000   0.000   0.000     Gasoline   LDGT   Light-Duty Trucks (0.8500 lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Vehicks (R.501 lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Vehicks (R.501 lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Vehicks (R.501 lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Vehicks (R.501 lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368,000   0.102     Diesel   JDDT   Light-Duty Vehicks (R.501 lbs)   0.570   0.010   9.220   0.733   0.025   0.011   368,000   0.102     Diesel   JDDV   Light-Duty Vehicks (R.501 lbs)   0.570   0.010   9.220   0.744   0.065   0.040   0.244,600   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000     Diesel   LDDV   Light-Duty Trucks (0.8500 lbs)   0.573   0.010		LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
ARIZONA    NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.0			Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
ARIZONA    Gasoline   LDGV   Light-Duty Vehicks (Parenger Cars)   0.294   0.007   7.490   0.437   0.025   0.011   368.000   0.102			Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
ARIZONA  ARI			NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HIGH   Diesel   LDDV   Light-Duty Vehicks (8,501+ lbs)   0.656   0.018   29,410   1.029   0.041   0.024   985,200   0.045			Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.294	0.007	7.490	0.437	0.025	0.011	368.000	0.102
ARIZONA  ARIZONA  HIGH  Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.072 0.003 0.675 0.080 0.036 0.022 314.100 0.007  Diesel LDDT Light-Duty Tucks (0-8,500 lbs) 0.280 0.006 0.526 0.270 0.041 0.026 598,600 0.007  Diesel LDDV Heavy-Daty Vehicles (8,501+lbs) 1.554 0.012 1.237 0.551 0.065 0.040 1244.600 0.027  NA MC Motor Cels 0.000 0.000 0.000 0.000 0.000 0.001 0.001 0.001 0.000 0.000 0.001 0.000 0.001 0.000 0.000 0.001 0.000 0.000 0.001 0.000 0.000 0.001 0.001 0.000 0.000 0.001 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000			Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.570	0.010	9.220	0.746	0.025	0.011	550.900	0.102
ARIZONA    Diesel   LDDT   Light-Duty Tucks (0-8,500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598.600   0.007     Diesel   HDDV   Heavy-Dry Vehicles (8,501+lbs)   1.554   0.012   1.237   0.551   0.065   0.040   1244.600   0.027     NA   MC   Motor ycles   0.000   0.000   0.000   0.000   0.000   0.000   0.001   0.001   0.021   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.294   0.007   7.490   0.433   0.025   0.011   550.900   0.102     Gasoline   LDGT   fight-Duty Trucks (0-8,500 lbs)   0.570   0.010   9.220   0.733   0.025   0.011   550.900   0.102     Gasoline   HDGY   Heavy-Duty Vehicles (8,501+lbs)   0.800   0.018   9.240   0.856   0.041   0.024   985.200   0.045     LOW   Diesel   DDT   Light-Duty Trucks (0-8,500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598.600   0.007     Diesel   DDD   Heavy-Duty Vehicles (8,501+lbs)   1.525   0.012   0.503   0.274   0.065   0.040   1244.600   0.027     N			Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.656	0.018	29.410	1.029	0.041	0.024	985.200	0.045
ARIZONA    Diese    HDDV   Heavy-Drfy Vehicks (8,501+ lbs)   1.554   0.012   1.237   0.551   0.065   0.040   1244.600   0.027     NA		HIGH	Diesel	LDDV Light-Duty Vertles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
ARIZONA    NA   MC   Motorycles   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.00			Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
ARIZONA    Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.294   0.007   7.490   0.433   0.025   0.011   368.000   0.102			Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.294   0.007   7.490   0.433   0.025   0.011   368.000   0.102	ADIZONA		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   Diesel   LDGV   Light-Duty Vehicles (8,501+ lbs)   0.800   0.018   9.240   0.856   0.041   0.024   985.200   0.045	ARIZONA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.294	0.007	7.490	0.433	0.025	0.011	368.000	0.102
LOW   Diesel   LDV   Light-Duty Vehicles (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007			Gasoline	LDGT Aght-Duty Trucks (0-8,500 lbs)	0.570	0.010	9.220	0.733	0.025	0.011	550.900	0.102
Diesel   ADDT   Light-Duty Trucks (0-8,500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598,600   0.007			Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.800	0.018	9.240	0.856	0.041	0.024	985.200	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.525   0.012   0.503   0.274   0.065   0.040   1244,600   0.027     N		LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
N			Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
ARKANSAS    Gaoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.295   0.007   7.630   0.438   0.025   0.011   368.000   0.102			Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
ARKANSAS    Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.573   0.010   9.360   0.748   0.025   0.011   550.900   0.102			N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ARKANSAS    Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.657   0.018   29.570   1.029   0.041   0.024   985.200   0.045			G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.295	0.007	7.630	0.438	0.025	0.011	368.000	0.102
ARKANSAS    High   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.072   0.003   0.675   0.080   0.036   0.022   314.100   0.007			Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.573	0.010	9.360	0.748	0.025	0.011	550.900	0.102
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598.600   0.007			Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.657	0.018	29.570	1.029	0.041	0.024	985.200	0.045
ARKANSAS    Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.554   0.012   1.237   0.551   0.065   0.040   1244.600   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.295   0.007   7.630   0.434   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.573   0.010   9.360   0.735   0.025   0.011   550.900   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.801   0.018   9.290   0.854   0.041   0.024   985.200   0.045     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.525   0.012   0.503   0.274   0.065   0.040   1244.600   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.525   0.012   0.503   0.274   0.065   0.040   1244.600   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.525   0.012   0.503   0.274   0.065   0.040   1244.600   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.525   0.012   0.503   0.274   0.065   0.040   1244.600   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.525   0.012   0.503   0.274   0.065   0.040   1244.600   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.525   0.012   0.503   0.274   0.065   0.040   1244.600   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.525   0.012   0.503   0.274   0.065   0.040   1244.600   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.525   0.012   0.503   0.274   0.065   0.040   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.525   0.012   0.503   0.0274   0.065   0.040   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.525   0.012   0.503   0.0274   0.065   0.040   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.525   0.012   0.503   0.0274   0.065   0.040   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.		HV JH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
ARKANSAS    NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000			Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
ARKANSAS    NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000			Diesel		1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
Casoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.295   0.007   7.630   0.434   0.025   0.011   508.000   0.102	ARKANGAG		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
Casoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.801   0.018   9.290   0.854   0.041   0.024   985.200   0.045	ARRAINGA		Gasoline			0.007	7.630			0.011	368.000	0.102
LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.072         0.003         0.675         0.080         0.036         0.022         314.100         0.007           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.280         0.006         0.526         0.270         0.041         0.026         598.600         0.007           Diesel         HDDV         Heavy-Duty Vehicles (8,501+ lbs)         1.525         0.012         0.503         0.274         0.065         0.040         1244.600         0.027			Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.573	0.010	9.360	0.735	0.025	0.011	550.900	0.102
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.280   0.006   0.526   0.270   0.041   0.026   598.600   0.007			Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.801	0.018	9.290	0.854	0.041	0.024	985.200	0.045
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 1.525 0.012 0.503 0.274 0.065 0.040 1244.600 0.027		LOW	Diesel		0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
			Diesel		0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
NA MC Motorcycles 0.000 0.000 0.000 0.000 0.021 0.014 0.000 0.000			Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
	<u> </u>		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV (cont.)

		ъ.					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.287	0.007	7.400	0.424	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.564	0.010	9.100	0.722	0.025	0.011	550 900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.657	0.018	28.910	0.987	0.041	0.024	\$ 35.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	£.040	1244.600	0.027
GAL PROPERTY		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
CALIFORNIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.287	0.007	7.400	0.421	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.564	0.010	9.100	0.713	0/25	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.800	0.018	9.090	0.821	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.298	0.007	10.04	0.401	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.603	0.010	17.810	0.709	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.674	0.018	31.290	0.879	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.036	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	5.012	1.237	0.551	0.065	0.040	1244.600	0.027
COLORADO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
COLORADO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	10.040	0.399	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.603	0.010	11.810	0.703	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.821	0.018	9.840	0.701	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.296	0.007	9.450	0.426	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.595	0.010	11.200	0.734	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.670	0.018	30.750	0.933	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
CONNECTICUT		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
COMMENTED		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.296	0.007	9.450	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.595	0.010	11.200	0.727	0.025	0.011	550.900	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.816	0.018	9.670	0.756	0.041	0.024	985.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	8.190	0.426	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.578	0.010	9.910	0.731	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.662	0.018	29.670	0.973	0.041	0.024	985.200	0.045
	HV5H	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
DELAWARI		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	8.190	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.578	0.010	9.910	0.720	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.806	0.018	9.330	0.800	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV (cont.)

		ъ.					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.290	0.007	6.140	0.429	0.025	0.011	368.00	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.552	0.010	7.870	0.724	0.025	0.011	550 300	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.648	0.018	28.390	1.052	0.041	0.024	\$5.200	0.045
	HIGH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	2.040	1244.600	0.027
ET OPTP 4		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
FLORIDA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.290	0.007	6.140	0.426	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.552	0.010	7.870	0.711	0/25	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.789	0.018	8.930	0.887	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.291	0.007	7.06	0.433	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.563	0.010	8 /80	0.736	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.654	0.018	29.030	1.030	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.036	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	5.012	1.237	0.551	0.065	0.040	1244.600	0.027
GEORGIA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
GEURGIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.291	0.007	7.060	0.429	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.563	0.010	8.780	0.723	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.796	0.018	9.130	0.861	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.277	0.007	5.820	0.413	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.541	0.010	7.510	0.696	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.647	0.018	27.530	1.006	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehcles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
HAWAII		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	5.820	0.411	0.025	0.011	368.000	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.541	0.010	7.510	0.685	0.025	0.011	550.900	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.788	0.018	8.650	0.849	0.041	0.024	985.200	0.045
	LOW	Diesel	naamaan hamaanaanaan	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	<u> </u>	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline		Light-Duty Vehicles (Passenger Cars)	0.299	0.007	10.290	0.402	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.606	0.010	12.060	0.711	0.025	0.011	550.900	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.675	0.018	31.510	0.873	0.041	0.024	985.200	0.045
	HVJH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
IDAHO		NA		Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
IDAIIO		Gasoline		Light-Duty Vehicles (Passenger Cars)	0.299	0.007	10.290	0.401	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.606	0.010	12.060	0.705	0.025	0.011	550.900	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.823	0.018	9.910	0.694	0.041	0.024	985.200	0.045
	LOW	Diesel	~~~~~~~~~	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
<u></u>	_	NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV (cont.)

		ъ.				Eı	mission Fa	actors (g/ı	mi)		
State	Altitude	Fuel	Vehicle Type		C	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		NOX	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Ca	urs) 0.298	0.007	8.940	0.433	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.590	0.010	10.680	0.745	0.025	0.011	550 300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.666	0.018	30.330	0.968	0.041	0.024	\$5.200	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Ca	rs) 0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	2.040	1244.600	0.027
W I INOIG		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ILLINOIS		Gasoline	LDGV Light-Duty Vehicles (Passenger Ca	rs) 0.298	0.007	8.940	0.430	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.590	0.010	10.680	0.734	0/25	0.011	550.900	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.812	0.018	9.530	0.789	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Ca	rs) 0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.20	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	.274	0.065	0.040	1244.600	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Ca	urs) 0.296	0.007	8.91	0.429	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.589	0.010	10.650	0.737	0.025	0.011	550.900	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.666	0.018	30.280	0.957	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Ca	urs) 0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.636	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV   Heavy-Duty Vehicles (8,501+ lbs)	1.554	5.012	1.237	0.551	0.065	0.040	1244.600	0.027
INDIANA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
INDIANA		Gasoline	LDGV Light-Duty Vehicles (Passenger Ca	urs) 0.29 s	0.007	8.910	0.426	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	9.589	0.010	10.650	0.727	0.025	0.011	550.900	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.812	0.018	9.520	0.780	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Ca	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ 1/s)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Ca	urs) 0.302	0.007	9.810	0.413	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (05,500 lbs)	0.603	0.010	11.580	0.732	0.025	0.011	550.900	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.672	0.018	31.100	0.922	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV Light-Duty Veh cles (Passenger Ca	urs) 0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
IOWA		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
10 1111		Gasoline	LDGV Light-Duty Vehicles (Passenger Ca	urs) 0.302	0.007	9.810	0.410	0.025	0.011	368.000	0.102
		Gasoline	LDGT Aght-Duty Trucks (0-8,500 lbs)	0.603	0.010	11.580	0.723	0.025	0.011	550.900	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.819	0.018	9.780	0.738	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Ca	urs) 0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV Light-Duty Vehicles (Passenger Ca		0.007	8.520	0.436	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.586	0.010	10.260	0.747	0.025	0.011	550.900	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.663	0.018	30.210	0.996	0.041	0.024	985.200	0.045
	HVJH	Diesel	LDDV Light-Duty Vehicles (Passenger Ca	urs) 0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
	1	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
KANSAS		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MAHOAD		Gasoline	LDGV Light-Duty Vehicles (Passenger Ca		0.007	8.520	0.432	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.586	0.010	10.260	0.735	0.025	0.011	550.900	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.808	0.018	9.500	0.816	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Ca	rs) 0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.294	0.007	8.190	0.427	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.578	0.010	9.920	0.732	0.025	0.011	550 900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.662	0.018	29.680	0.976	0.041	0.024	\$ 35.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	g.040	1244.600	0.027
TANDA MARKANIA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
KENTUCKY		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.294	0.007	8.190	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.578	0.010	9.920	0.722	0/25	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.806	0.018	9.330	0.803	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	6.82	0.436	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.562	0.010	8 550	0.739	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.652	0.018	29.010	1.050	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.936	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	5.012	1.237	0.551	0.065	0.040	1244.600	0.027
LOUISIANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOUISIANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	6.820	0.432	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.562	0.010	8.550	0.725	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.795	0.018	9.120	0.880	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+1/s)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.305	0.007	11.060	0.418	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.620	0.010	12.870	0.741	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.680	0.018	32.230	0.884	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
MAINE		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.305	0.007	11.060	0.416	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.620	0.010	12.870	0.735	0.025	0.011	550.900	0.102
	1.011/	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.829	0.018	10.130	0.700	0.041	0.024	985.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	<del></del>	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV LDGT	Light-Duty Vehicles (Passenger Cars)		0.007	8.380	0.422	0.025 0.025	~~~~~~	368.000 550.900	0.102 0.102
		Gasoline	HDGV	Light-Duty Trucks (0-8,500 lbs)	0.580	0.010	10.100	0.723	0.023	0.011		0.102
	ну⊿н	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)		0.018	29.800	0.956	***************************************	0.024	985.200 314.100	**************
	111311	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022		0.007
		Diesel Diesel		Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.006 0.012	0.526 1.237	0.270 0.551	0.041 0.065	0.026	598.600 1244.600	0.007 0.027
		NA	MC	Motorcycles	0.000	0.012	0.000	0.000	0.003	0.040	0.000	0.027
MARYLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	8.380	0.419	0.021	0.014	368.000	0.102
		Gasoline	LDGV	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.580	0.007	10.100	0.714	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.808	0.010	9.370	0.714	0.023	0.024	985.200	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.041	0.024	314.100	0.043
	LOW	Diesel	LDDV	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.072	0.003	0.526	0.270	0.030	0.022	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.000	0.503	0.274	0.041	0.020	1244.600	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.003	0.040	0.000	0.000
		11/1	IVIC	1.10.010 90.000	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV (cont.)

		ъ.					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.296	0.007	9.600	0.426	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.597	0.010	11.360	0.735	0.025	0.011	550 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.671	0.018	30.900	0.929	0.041	0.024	\$5.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	¢.040	1244.600	0.027
MA COA CHILICETTO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.296	0.007	9.600	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.597	0.010	11.360	0.728	0/25	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.817	0.018	9.710	0.752	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.301	0.007	10.343	0.408	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.608	0.010	12.130	0.723	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.676	0.018	31.570	0.887	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	5.012	1.237	0.551	0.065	0.040	1244.600	0.027
MICHIGAN		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MICHIGAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.301	0.007	10.340	0.406	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.608	0.010	12.130	0.716	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.823	0.018	9.930	0.706	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.309	0.007	11.310	0.433	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,5,500 lbs)	0.626	0.010	13.140	0.771	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.681	0.018	32.480	0.914	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehcles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
MINNESOTA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MINNESOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.309	0.007	11.310	0.431	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.626	0.010	13.140	0.764	0.025	0.011	550.900	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.830	0.018	10.210	0.723	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	7.160	0.436	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.566	0.010	8.890	0.741	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.654	0.018	29.190	1.037	0.041	0.024	985.200	0.045
	HV JH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
	1	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
MISSISSIPP		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
W11991991LL		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	7.160	0.432	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.566	0.010	8.890	0.728	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.797	0.018	9.180	0.866	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV (cont.)

		ъ.					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.298	0.007	8.500	0.432	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.585	0.010	10.240	0.741	0.025	0.011	550 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.663	0.018	30.070	0.983	0.041	0.024	\$5.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	9.040	1244.600	0.027
MAGGOTINA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MISSOURI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.298	0.007	8.500	0.429	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.585	0.010	10.240	0.729	0/25	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.808	0.018	9.450	0.805	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.303	0.007	10.723	0.412	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.614	0.010	12.520	0.729	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.678	0.018	31.920	0.882	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.056	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	5.012	1.237	0.551	0.065	0.040	1244.600	0.027
MONTANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MONTANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.303	0.007	10.730	0.410	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	2.614	0.010	12.520	0.724	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.826	0.018	10.030	0.700	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.300	0.007	9.290	0.408	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.596	0.010	11.040	0.723	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.669	0.018	30.630	0.929	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
NEBRASKA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
TIEDICI SIKI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.300	0.007	9.290	0.405	0.025	0.011	368.000	0.102
		Gasoline	LDGT	light-Duty Trucks (0-8,500 lbs)	0.596	0.010	11.040	0.713	0.025	0.011	550.900	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.815	0.018	9.630	0.748	0.041	0.024	985.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.294	0.007	8.980	0.422	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.588	0.010	10.720	0.725	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.667	0.018	30.330	0.936	0.041	0.024	985.200	0.045
	HLTH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
NEVADA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HETADA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.294	0.007	8.980	0.420	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.588	0.010	10.720	0.717	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.813	0.018	9.540	0.762	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
<u> </u>	_	NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV (cont.)

		F1					E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.301	0.007	10.530	0.410	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.611	0.010	12.320	0.726	0.025	0.011	550 900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.677	0.018	31.740	0.885	0.041	0.024	935.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	£.040	1244.600	0.027
NEW HAMPSHIRE		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEW HAMITSHIKE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.301	0.007	10.530	0.408	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.611	0.010	12.320	0.720	0/25	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.825	0.018	9.980	0.703	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.294	0.007	8.64	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.584	0.010	10.370	0.727	0.025	0.011	550.900	0.102
		Gasoline	~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.665	0.018	30.030	0.952	0.041	0.024	985.200	0.045
	HIGH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.056	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.554	5.012	1.237	0.551	0.065	0.040	1244.600	0.027
NEW JERSEY		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEW GERGET		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.29 4	0.007	8.640	0.421	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.584	0.010	10.370	0.718	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.810	0.018	9.440	0.778	0.041	0.024	985.200	0.045
	LOW	Diesel	~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+11s)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.292	0.007	8.490	0.419	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0 3,500 lbs)	0.580	0.010	10.210	0.718	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.664	0.018	29.880	0.944	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
NEW MEXICO		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.292	0.007	8.490	0.417	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.580	0.010	10.210	0.710	0.025	0.011	550.900	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.809	0.018	9.390	0.773	0.041	0.024	985.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.300	0.007	10.140	0.405	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.605	0.010	11.910	0.717	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.674	0.018	31.380	0.887	0.041	0.024	985.200	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
NEW YORK		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.300	0.007	10.140	0.403	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.605	0.010	11.910	0.710	0.025	0.011	550.900	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.822	0.018	9.870	0.707	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV (cont.)

							E	mission Fa	actors (g/i	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.290	0.007	7.580	0.430	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.569	0.010	9.290	0.735	0.025	0.011	550 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.658	0.018	29.210	1.001	0.041	0.024	935.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.0%	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	£.040	1244.600	0.027
NORTH CAROLINA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.290	0.007	7.580	0.427	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.569	0.010	9.290	0.724	0/25	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.801	0.018	9.180	0.832	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	1.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.310	0.007	11.425	0.436	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.628	0.010	12.270	0.776	0.025	0.011	550.900	0.102
	****	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.682	0.018	32.600	0.915	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.036	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	5.012	1.237	0.551	0.065	0.040	1244.600	0.027
NORTH DAKOTA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.313	0.007	11.430	0.433	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.628	0.010	13.270	0.769	0.025	0.011	550.900	0.102
	1.011/	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.831	0.018	10.250	0.724	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ 1/s)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.296	0.007	9.080	0.426	0.025	0.011	368.000	0.102
		Gasoline	LDGT HDGV	Light-Duty Trucks (0,500 lbs)	0.590	0.010	10.820	0.733	0.025	0.011	550.900	0.102
	HIGH	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.667	~~~~~	30.420				985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Veheles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT HDDV	Light-Duty Tucks (0-8,500 lbs)	0.280	0.006 0.012	0.526 1.237	0.270 0.551	0.041	0.026 0.040	598.600 1244.600	0.007 0.027
		Diesel NA	MC	Heavy-Day Vehicles (8,501+ lbs)	0.000	0.012	0.000	0.000	0.003	0.040	0.000	0.027
OHIO			LDGV	Motor ycles	0.000	0.000	9.080	0.000	0.021	0.014		0.102
		Gasoline Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.296	0.007	10.820	0.424	0.025	0.011	368.000 550.900	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.813	0.010	9.560	0.723	0.023	0.011	985.200	0.102
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.018	0.675	0.080	0.036	0.024	314.100	0.043
	LOW	Diesel		Light-Duty Venicles (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.280	0.005	0.526	0.030	0.030	0.022	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.000	0.503	0.274	0.041	0.040	1244.600	0.007
		N	MC	Motorcycles	0.000	0.000	0.000	0.000	0.003	0.040	0.000	0.027
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.299	0.007	7.830	0.440	0.021	0.014	368.000	0.102
		Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.299	0.007	9.580	0.750	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.659	0.018	29.850	1.031	0.023	0.024	985.200	0.102
	HI JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.033	0.003	0.675	0.080	0.036	0.024	314.100	0.007
	111311	Diesel	LDDT	Light-Duty Venicles (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.280	0.005	0.526	0.030	0.030	0.022	598.600	0.007
OKLAHOM		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.000	1.237	0.551	0.041	0.040	1244.600	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.003	0.040	0.000	0.027
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.000	0.007	7.830	0.435	0.021	0.014	368,000	0.102
		Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.299	0.007	9.580	0.433	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.802	0.018	9.380	0.750	0.023	0.024	985.200	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.802	0.003	0.675	0.080	0.041	0.024	314.100	0.043
	LOW	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.003	0.526	0.080	0.030	0.022	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.000	0.503	0.274	0.041	0.040	1244.600	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.003	0.040	0.000	0.000
		11/1	1,10		0.000	0.000	0.000	0.000	0.021	0.017	0.000	0.000

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV (cont.)

		ъ.					E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	9.530	0.413	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.593	0.010	11.280	0.711	0.025	0.011	550 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.671	0.018	30.810	0.897	0.041	0.024	\$5.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.020	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	2.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
OREGON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.293	0.007	9.530	0.412	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.593	0.010	11.280	0.706	0/25	0.011	550.900	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.817	0.018	9.690	0.725	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
	2011	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.030	0.026	598.600	0.007
		Diesel	HDDV		1.525	0.012	0.503	.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.271	0.007	6.56	0.408	0.025	0.014	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.545	0.007	8 270	0.690	0.025	0.011	550.900	0.102
		Gasoline			0.652	0.018	28.190	0.090	0.023	0.024	985.200	0.102
	HIGH	Diesel		·/	0.032	0.003	0.675	0.080	0.036	0.024	314.100	0.043
	mon	Diesel		Light-Duty Venicles (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.280	0.00	0.526	0.270	0.030	0.022	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+ lbs)	1.554	3.012	1.237	0.551	0.041	0.020	1244.600	0.007
		NA	MC		0.000	0.000	0.000	0.000	0.003	0.040	0.000	0.000
PACIFIC ISLANDS			LDGV	Motorcycles Light-Duty Vehicles (Passenger Cars)	0.000	0.007	6.560	0.408	0.021	0.014	368.000	0.102
		Gasoline			·····				0.025			
		Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs)	0.545	0.010	8.270	0.682	0.023	0.011	550.900	0.102
	LOW	Gasoline			0.794	0.018	8.860	0.815		0.024	985.200	0.045
	LOW	Diesel	~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+1/s)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA C "	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.296	0.007	9.410	0.425	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.594	0.010	11.160	0.732	0.025	0.011	550.900	0.102
	IIICII	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.670	0.018	30.720	0.931	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh eles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
PENNSYLVANIA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.296	0.007	9.410	0.423	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.594	0.010	11.160	0.724	0.025	0.011	550.900	0.102
	I OW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.816	0.018	9.660	0.755	0.041	0.024	985.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.290	0.007	5.140	0.419	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.542	0.010	6.840	0.706	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.642	0.018	27.360	1.056	0.041	0.024	985.200	0.045
	HLTH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
PUERTO RICO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
I OEKIO KIO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.290	0.007	5.140	0.418	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.542	0.010	6.840	0.692	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.782	0.018	8.600	0.898	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
										0.014		

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.294	0.007	9.170	0.421	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.590	0.010	10.910	0.724	0.025	0.011	550 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.668	0.018	30.500	0.928	0.041	0.024	\$ 35.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	£.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
RHODE ISLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.294	0.007	9.170	0.419	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.590	0.010	10.910	0.717	0/25	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.814	0.018	9.590	0.754	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.292	0.007	7.20	0.434	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.565	0.010	8 330	0.739	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.655	0.018	29.150	1.028	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0,936	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	o.012	1.237	0.551	0.065	0.040	1244.600	0.027
SOUTH CAROLINA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
SOUTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.292	0.007	7.200	0.431	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.565	0.010	8.930	0.726	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.798	0.018	9.160	0.858	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.304	0.007	10.140	0.418	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.608	0.010	11.920	0.741	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.674	0.018	31.400	0.921	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Veheles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
SOUTH DAKOTA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
300 III DAKOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.304	0.007	10.140	0.415	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.608	0.010	11.920	0.732	0.025	0.011	550.900	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.821	0.018	9.870	0.735	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.292	0.007	7.860	0.427	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.574	0.010	9.580	0.730	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.659	0.018	29.470	0.986	0.041	0.024	985.200	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
TENNESSE		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.292	0.007	7.860	0.424	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.574	0.010	9.580	0.719	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.803	0.018	9.260	0.815	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV (cont.)

		E. J					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.295	0.007	7.080	0.440	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.566	0.010	8.820	0.746	0.025	0.011	550 900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.654	0.018	29.270	1.053	0.041	0.024	\$5.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.025	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	£.040	1244.600	0.027
TOTELY A C		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
TEXAS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.295	0.007	7.080	0.436	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.566	0.010	8.820	0.732	0/25	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.797	0.018	9.200	0.881	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.297	0.007	9.39	0.402	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.595	0.010	11.140	0.712	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.669	0.018	30.710	0.907	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.280	0.236	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.554	5.012	1.237	0.551	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
UTAH		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.29	0.007	9.390	0.400	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.595	0.010	11.140	0.704	0.025	0.011	550.900	0.102
		Gasoline	HDGV		0.816	0.018	9.650	0.730	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	~~~~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+1/s)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.303	0.007	10.730	0.413	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0.3,500 lbs)	0.614	0.010	12.530	0.732	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehices (8,501+ lbs)	0.678	0.018	31.930	0.886	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
VERMONT		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.303	0.007	10.730	0.412	0.025	0.011	368.000	0.102
		Gasoline	LDGT	aght-Duty Trucks (0-8,500 lbs)	0.614	0.010	12.530	0.726	0.025	0.011	550.900	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.826	0.018	10.040	0.703	0.041	0.024	985.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	<b>/</b>	Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.299	0.007	5.180	0.427	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.549	0.010	6.900	0.717	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.644	0.018	27.930	1.089	0.041	0.024	985.200	0.045
	HI 3H	Diesel		Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.003	0.014	0.000	0.000
VIRGIN ISLANDS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.299	0.007	5.180	0.425	0.021	0.014	368.000	0.102
		Gasoline	LDGV	Light-Duty Venices (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.549	0.007	6.900	0.702	0.025	0.011	550.900	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.784	0.010	8.780	0.702	0.023	0.024	985.200	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.784	0.018	0.675	0.080	0.041	0.024	314.100	0.043
	LOW	Diesel	LDDV	Light-Duty Trucks (0-8,500 lbs)	0.072	0.003	0.526	0.080	0.036	0.022	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.525	0.000	0.503	0.274	0.041	0.040	1244.600	0.007
		NA	MC	Motorcycles	0.000	0.012	0.000	0.000	0.003	0.040	0.000	0.000
<u> </u>	1	INA	IVIC	1110to/Cycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-38. On-Road Vehicle Emission Factors - 2018 GOV (cont.)

		F1					Er	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type	,	Vehicle Type		C	riteria Po	llutants a		Precurso	rs	
		Турс			NOx	SOX	CO	VOC	$PM_{10}$	PM 2.5	CO <sub>2</sub>	$H_3$
		Gasoline	X	uty Vehicles (Passenger Cars)	0.292	0.007	8.160	0.423	0.025	0.011	368.000	0.102
		Gasoline		uty Trucks (0-8,500 lbs)	0.577	0.010	9.880	0.725	0.025	0.011	550.900	0.102
	шси	Gasoline		Duty Vehicles (8,501+ lbs)	0.662	0.018	29.600	0.964	0.041	0.024	985.250	0.045
	HIGH	Diesel Diesel		uty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	31 .100	0.007
		Diesel		uty Trucks (0-8,500 lbs)  Duty Vehicles (8,501+ lbs)	0.280	0.000	0.526 1.237	0.270	0.041	0.026	98.600 1244.600	0.007
		NA	MC Motorcy		0.000	0.000	0.000	0.000	0.003	0.040	0.000	0.027
VIRGINIA		Gasoline		uty Vehicles (Passenger Cars)	0.292	0.007	8.160	0.421	0.025	0.011	368.000	0.102
		Gasoline		uty Trucks (0-8,500 lbs)	0.577	0.010	9.880	0.715	0.025	0.011	550.900	0.102
		Gasoline		Duty Vehicles (8,501+ lbs)	0.806	0.018	9.310	0.793	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV Light-D	uty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.03	0.022	314.100	0.007
		Diesel	LDDT Light-D	uty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0 41	0.026	598.600	0.007
		Diesel		Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	1.065	0.040	1244.600	0.027
		NA	MC Motorcy		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline		uty Vehicles (Passenger Cars)	0.294	0.007	9.690	0.415	0.025	0.011	368.000	0.102
		Gasoline		uty Trucks (0-8,500 lbs)	0.596	0.010	11.450	0.7.5	0.025	0.011	550.900	0.102
	HIGH	Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Duty Vehicles (8,501+ lbs)	0.672	0.018	30.960 0.675	.896 0.080	0.041	0.024	985.200	0.045
	поп	Diesel Diesel		uty Vehicles (Passenger Cars) uty Trucks (0-8,500 lbs)	0.072	0.003	0.675	0.080	0.036	0.022	314.100 598.600	0.007
		Diesel		Duty Vehicles (8,501+ lbs)	1.554	0.000	1.2 1	0.551	0.041	0.026	1244.600	0.007
		NA	MC Motorcy		0.000	0.000	2.000	0.000	0.003	0.014	0.000	0.000
WASHINGTON		Gasoline		uty Vehicles (Passenger Cars)	0.294	0.007	9.690	0.413	0.021	0.014	368.000	0.102
		Gasoline		uty Trucks (0-8,500 lbs)	0.596	0.010	11.450	0.710	0.025	0.011	550.900	0.102
		Gasoline		Duty Vehicles (8,501+ lbs)	0.818	0.013	9.730	0.724	0.041	0.024	985.200	0.045
	LOW	Diesel	LDDV Light-D	uty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel	LDDT Light-D	uty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	HDDV Heavy-	Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC Motorcy	ycles	0.00	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-D	uty Vehicles (Passenger Cars)	0 293	0.007	8.870	0.421	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-D	uty Trucks (0-8,500 lbs)	0.586	0.010	10.610	0.722	0.025	0.011	550.900	0.102
		Gasoline	······································	Duty Vehicles (8,501+ lbs)	0.666	0.018	30.230	0.936	0.041	0.024	985.200	0.045
	HIGH	Diesel		uty Vehicles (Passenger Car	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		uty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Duty Vehicles (8,501+ lb)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
WEST VIRGINIA		NA	MC Motorcy LDGV Light-D		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline Gasoline		uty Vehicles (Passinger Cars) uty Trucks (0-8,500 lbs)	0.293	0.007	8.870 10.610	0.418	0.025	0.011	368.000 550.900	0.102
		Gasoline		Duty Vehicles (8,501+ lbs)	0.812	0.018	9.500	0.763	0.023	0.024	985.200	0.102
	LOW	Diesel		uty Vehicle (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.024	314.100	0.007
		Diesel		uty Truck (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC Motorcy		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-D	Wehicles (Passenger Cars)	0.305	0.007	10.750	0.420	0.025	0.011	368.000	0.102
		Gasoline		aty Trucks (0-8,500 lbs)	0.616	0.010	12.550	0.745	0.025	0.011	550.900	0.102
		Gasoline	<del></del>	Duty Vehicles (8,501+ lbs)	0.678	0.018	31.950	0.902	0.041	0.024	985.200	0.045
	HIGH	Diesel		uty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		uty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
WISCONSIN		NA	Motorcy Light-D		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	DGV Light-D	uty Vehicles (Passenger Cars) uty Trucks (0-8,500 lbs)	0.305 0.616	0.007 0.010	12.550	0.417	0.025	0.011	368.000 550.900	0.102
		Gasoline		Duty Vehicles (8,501+ lbs)	0.826	0.010	10.040	0.738	0.023	0.024	985.200	0.102
	LOW	Die el		uty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.024	314.100	0.007
		Desel		uty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
		NA	MC Motorcy		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline		uty Vehicles (Passenger Cars)	0.302	0.007	10.640	0.409	0.025	0.011	368.000	0.102
		Gasoline		uty Trucks (0-8,500 lbs)	0.612	0.010	12.430	0.725	0.025	0.011	550.900	0.102
		Gasoline	HDGV Heavy-	Duty Vehicles (8,501+ lbs)	0.677	0.018	31.830	0.879	0.041	0.024	985.200	0.045
	HIGH	Diesel	LDDV Light-D	uty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		uty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel		Duty Vehicles (8,501+ lbs)	1.554	0.012	1.237	0.551	0.065	0.040	1244.600	0.027
WYOMP		NA	MC Motorcy		0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline		uty Vehicles (Passenger Cars)	0.302	0.007	10.640	0.408	0.025	0.011	368.000	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	uty Trucks (0-8,500 lbs)	0.612	0.010	12.430	0.719	0.025	0.011	550.900	0.102
	LOW	Gasoline		Duty Vehicles (8,501+ lbs)	0.825	0.018	10.010	0.697	0.041	0.024	985.200	0.045
	LOW	Diesel		uty Vehicles (Passenger Cars)	0.072	0.003	0.675	0.080	0.036	0.022	314.100	0.007
		Diesel		uty Trucks (0-8,500 lbs)	0.280	0.006	0.526	0.270	0.041	0.026	598.600	0.007
		Diesel	MC Motorcy	Duty Vehicles (8,501+ lbs)	1.525	0.012	0.503	0.274	0.065	0.040	1244.600	0.027
*		NA	IVIC IVIOLOTC	VCBC3	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV

		Fuel					mission Fa				
State	Altitude	Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Турс		NOx	SO <sub>X</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.275	0.007	7.050	0.415	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.541	0.010	8.680	0.706	0.025	0.011	551 100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.018	28.980	0.958	0.040	0.023	\$4.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	2.037	1244.300	0.027
ALABAMA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ALADAMA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.275	0.007	7.050	0.412	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.541	0.010	8.680	0.694	0/25	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.696	0.018	9.110	0.801	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	.269	0.061	0.037	1244.300	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.309	0.007	13.79	0.429	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.642	0.010	15.450	0.767	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.609	0.018	34.700	0.794	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.036	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.373	5.012	1.123	0.541	0.061	0.037	1244.300	0.027
ALASKA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.30	0.007	13.790	0.429	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.642	0.010	15.450	0.765	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.742	0.018	10.900	0.609	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parkenger Cars)	0.277	0.007	7.380	0.418	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0 3,500 lbs)	0.546	0.010	9.010	0.713	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehices (8,501+ lbs)	0.573	0.018	29.270	0.957	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
ARIZONA		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.277	0.007	7.380	0.415	0.025	0.011	368.000	0.102
		Gasoline	LDGT Jight-Duty Trucks (0-8,500 lbs)	0.546	0.010	9.010	0.701	0.025	0.011	551.100	0.102
	1.011	Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.699	0.018	9.200	0.797	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.279	0.007	7.520	0.419	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.549	0.010	9.150	0.716	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.574	0.018	29.430	0.957	0.040	0.023	984.600	0.045
	HLPH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
	1	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
ARKANSAS		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.279	0.007	7.520	0.416	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.549	0.010	9.150	0.703	0.025	0.011	551.100	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.699	0.018	9.250	0.795	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV (cont.)

State		F1		·			Eı	nission Fa	actors (g/ı	ni)		
State	Altitude	Fuel		Vehicle Type		C	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.270	0.007	7.300	0.406	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.541	0.010	8.890	0.691	0.025	0.011	551 100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.574	0.018	28.780	0.919	0.040	0.023	\$4.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	£.037	1244.300	0.027
CALIEODNIA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
CALIFORNIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.270	0.007	7.300	0.404	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.541	0.010	8.890	0.682	0/25	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.699	0.018	9.050	0.765	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.280	0.007	9.92	0.384	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.577	0.010	17.520	0.680	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.589	0.018	31.150	0.819	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.236	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	5.012	1.123	0.541	0.061	0.037	1244.300	0.027
COLORADO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
COLORADO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.283	0.007	9.920	0.382	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.577	0.010	11.520	0.674	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.717	0.018	9.790	0.654	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.279	0.007	9.330	0.408	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.570	0.010	10.920	0.704	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.585	0.018	30.610	0.869	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
CONNECTICUT		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
COMMENTED		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.279	0.007	9.330	0.406	0.025	0.011	368.000	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.570	0.010	10.920	0.697	0.025	0.011	551.100	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.713	0.018	9.620	0.705	0.040	0.023	984.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.276	0.007	8.090	0.408	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.554	0.010	9.680	0.700	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.578	0.018	29.530	0.906	0.040	0.023	984.600	0.045
	HV5H	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
	ĺ	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
DELAWARI		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
DELAWAR		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.276	0.007	8.090	0.406	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.554	0.010	9.680	0.690	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.704	0.018	9.280	0.746	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
			MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV (cont.)

Casoline   Direct   Light Dury Perkistes (Passenger Carp)   Col.			F1					Eı	mission Fa	actors (g/ı	ni)		
Cacoline   LDCV   Lgbr-Duty Vehicles (Passenger Cars)   O. 27   0.007   6.050   0.410   0.025   0.011   36829   0.102	State	Altitude			Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
Gardine   Lord   Light-Day Tracks (0.85.00 lbs)   0.550   0.010   7.700   0.022   0.025   0.011   55500   0.012			Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
Gaodine   LOFT   Light-Duy Tracks (0.8500 lbs)   0.530   0.010   7.700   0.022   0.025   0.011   5.750ff0   0.012			Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.007	6.050	0.410	0.025	0.011	368.00	0.102
FLORIDA   Discal   LIDPV   Light-Dary Vehicks (Passenger Cars)   0.063   0.003   0.066   0.075   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.0			Gasoline	LDGT		0.530	0.010	7.700	0.692	0.025	0.011	551 100	0.102
Diesel   LIDDY Light-Dury Tracks (0.8,500 lbs)   0.257   0.006   0.258   0.089   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.087   0.0			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.566	0.018	28.260	0.979	0.040	0.023	\$4.600	0.045
Piesel   IDDV   Heavy-Dury Vehicks (RS01+ bs)   1.373   0.012   1.123   0.541   0.061   0.017   7344.300   0.007		HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
FLORIDA    NA   MC   Moorecycles   0.000   0.000   0.000   0.001   0.014   0.000   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000   0.000   0.000   0.000   0.001   0.001   0.001   0.000   0.000   0.000   0.000   0.001   0.001   0.001   0.000   0.000   0.000   0.000   0.000   0.001   0.000   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.0			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
PLORIDA   Gasolme   LDGV   Light-Duy Vehicks (Passenger Can)   0.724   0.007   0.098   0.408   0.095   0.011   368.000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	£.037	1244.300	0.027
Casoline   LDCT   Light-Duly Vehicles (8301-lbs)   0.530   0.010   0.088   0.095   0.011   368.00   0.011	EI ODIDA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
Casoline   HDGV   Heavy-Duty Vehicles (8,950+Bs)   0,090   0,018   8,880   0,028   0,040   0,023   984,070   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045   0,045	FLORIDA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.007	6.050	0.408	0.025	0.011	368.000	0.102
LOW   Dissel   LDDV   Light-Dury Yehicks (Passenger Carry)   0.063   0.003   0.065   0.075   0.025   0.020   314.100   0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.530	0.010	7.700	0.680	0/25	0.011	551.100	0.102
Desel   LIDDY   Light-Duy Trucks (0.8500 Bs)   0.257   0.006   0.085   0.058   0.039   0.024   598.600   0.007     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000     Gasoline   LIDCY   Light-Duy Vehicks (Passenger Cars)   0.050   0.000   0.000   0.000   0.021   0.014   0.000   0.000     Gasoline   LIDCY   Light-Duy Trucks (0.8500 Bs)   0.570   0.010   5.950   0.014   0.025   0.011   551.100   1.012     Gasoline   LIDCY   Light-Duy Vehicks (Soli-Bs)   0.570   0.010   5.950   0.014   0.025   0.011   551.100   1.012     HIGH   Dissel   LIDDY   Light-Duy Vehicks (Soli-Bs)   0.571   0.018   2.8500   0.958   0.010   0.023   94.600   0.015     Dissel   LIDDY   Light-Duy Light-Buy Chicks (Rassenger Cars)   0.653   0.007   0.656   0.075   0.015   0.002   314.100   0.007     Dissel   Gasoline   LOGY   Light-Duy Vehicks (Rassenger Cars)   0.000   0.000   0.000   0.000   0.001   0.001   0.000   0.000     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.0			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.690	0.018	8.880	0.828	0.040	0.023	984.600	0.045
Diesel   HIDDY   Heavy-Duty Vehicles (8,501+ Bs)   1,347   0,012   0,327   2,529   0,006   0,037   1244-300   0,007   0,007   0,007   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
NA			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
Casoline   LDCV   Light-Duty Vehicks (Passenger Cars)   0.275   0.007   6.99   0.414   0.025   0.011   368,000   0.105			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	.269	0.061	0.037	1244.300	0.027
Gasoline   LDCT   Light-Duty Trucks (0.85/00 lbs)   0.540   0.010   3600   0.704   0.025   0.011   551.100   0.012			NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HIGH   Diesel   LDDV   Light-Duty Vehicks (R301+ lbs)   0.053   0.066   0.075   0.035   0.020   0.021   0.040   0.0027			Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.275	0.007	6.95	0.414	0.025	0.011	368.000	0.102
HIGH Desel LDDV Light-Duty Verhicks (Passenger Cars) Dissel HDDV Heavy-Duty Verhicks (SS-00 Bs) Dissel HDDV Heavy-Duty Verhicks (SS-01 Bs) Dissel HDDV Heavy-Duty Verhicks (SS-01 Bs) NA MC Motorcycks Gasoline LDGT Light-Duty Trucks (0-8-500 Bs) Gasoline LDGT Light-Duty Verhicks (SS-01 Bs) Gasoline LDGT Light-Duty Verhicks (Passenger Cars) Gasoline LDGT Light-Duty Verhicks (Passenger Cars) Dissel HDDV Heavy-Duty-Verhicks (Passenger Cars) Dissel LDDV Light-Duty Verhicks (Passenger Cars) Dissel HDDV Heavy-Duty-Verhicks (Passenger Cars) Dissel HDDV Heavy-Duty-Verhicks (Passenger Cars) NA MC Motorcycks Dissel HDDV Heavy-Duty-Verhicks (Passenger Cars) Dissel HDDV Heavy-Duty-Verhicks (Passenger Cars) Dissel HDDV Heavy-Duty-Verhicks (Passenger Cars) NA MC Motorcycks Dissel HDDV Heavy-Duty-Verhicks (Passenger Cars) Di			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.540	0.010	8 390	0.704	0.025	0.011	551.100	0.102
Diesel   LIDDT   Light-Duty Trucks (0.8,500 hs)   0.257   0.058   0.588   0.253   0.039   0.024   598,600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+hs)   1.373   0.012   1.123   0.541   0.061   0.037   1244,300   0.027     Gasoline   LDGV   Light-Duty Vehicles (Passenger Carp ) 0.27   0.007   6,950   0.411   0.025   0.011   368,000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Carp ) 0.28   0.000   6,950   0.411   0.025   0.011   368,000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Carp ) 0.28   0.010   8,590   0.902   0.022   0.011   368,000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Carp ) 0.063   0.066   0.075   0.033   0.020   341,100   0.005     Diesel   LDDV   Light-Duty Vehicles (Passenger Carp ) 0.063   0.066   0.075   0.035   0.023   344,600   0.045     Diesel   LDDV   Light-Duty Vehicles (Passenger Carp ) 0.063   0.066   0.075   0.035   0.020   378,600   0.007     NA   MC   Motorcycles   0.063   0.060   0.060   0.060   0.000   0.000   0.000   0.000   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Carp ) 0.061   0.007   5,730   0.395   0.025   0.011   368,000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.0			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.571	0.018	28.900	0.958	0.040	0.023	984.600	0.045
Diesel HDDV   Heavy-Duty Vehicles (Passenger Cars)   0.000   0.000   0.000   0.001   0.021   0.014   0.006   0.037   0.024, 300   0.027   0.006   0.008   0.007   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.		HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
Casoline   LDGV   Light-Duty Vehicks (Pasenger Cars)   Casoline   Casoline   LDGV   Light-Duty Vehicks (Pasenger Cars)			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.936	0.508	0.253	0.039	0.024	598.600	0.007
Gasoline   LDGV   Light-Duty Vehicks (Rasenger Cars)   0.37   0.007   6.950   0.411   0.025   0.011   368,000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	5.012	1.123	0.541	0.061	0.037	1244.300	0.027
Casoline   LDGV   Light-Duty Turcks (0.8500 hs)	CEODCIA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   Dissel   LDBV   Light-Duty Vehicles (8.501+ lbs)   0.696   0.018   9.080   0.802   0.040   0.023   984.600   0.045	GEURGIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.273	0.007	6.950	0.411	0.025	0.011	368.000	0.102
LOW   Diesel   LDDV   Light-Duty Vehicks (Passenger Car)   0.063   0.003   0.666   0.075   0.035   0.020   314,100   0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	Ø.540	0.010	8.590	0.692	0.025	0.011	551.100	0.102
Dissel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598,600   0.007     Dissel   HDDV   Heavy-Duty Vehicks (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244,300   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicks (Pasenger Cars)   0.261   0.007   5.730   0.395   0.025   0.011   368,000   0.102     Gasoline   HDGV   Heavy-Duty Vehicks (Pasenger Cars)   0.058   0.018   27,400   0.938   0.040   0.023   984,600   0.045     Dissel   LDDT   Light-Duty Vehicks (Pasenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314,100   0.007     Dissel   LDDT   Light-Duty Vehicks (Pasenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314,100   0.007     Dissel   HDDV   Heavy-Duty Vehicks (Pasenger Cars)   0.006   0.007   0.5730   0.394   0.025   0.011   368,000   0.102     NA   MC   Motor-ycles   0.000   0.000   0.000   0.000   0.001   0.037   1244,300   0.027     NA   MC   Motor-ycles   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000     LDGV   Light-Duty Vehicks (Pasenger Cars)   0.063   0.003   0.666   0.075   0.035   0.025   0.011   358,000   0.102     Gasoline   LDGV   Light-Duty Vehicks (Pasenger Cars)   0.063   0.003   0.666   0.075   0.035   0.025   0.011   358,000   0.102     Dissel   MDDV   Heavy-Duty Vehicks (Pasenger Cars)   0.063   0.003   0.666   0.075   0.035   0.003   394,600   0.045     Dissel   MDDV   Heavy-Duty Vehicks (Pasenger Cars)   0.063   0.003   0.666   0.075   0.035   0.003   394,600   0.045     Dissel   MDDV   Heavy-Duty Vehicks (Pasenger Cars)   0.063   0.003   0.666   0.075   0.035   0.003   314,100   0.007     Dissel   MDDV   Heavy-Duty Vehicks (Pasenger Cars)   0.088   0.010   11,760   0.882   0.025   0.011   358,000   0.007     Dissel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598,600   0.007     Dissel   LDDT   Light-Duty Vehicks (Pasenger			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.696	0.018	9.080	0.802	0.040	0.023	984.600	0.045
Dissel   HDDV   Heavy-Duty Vehicles (8,501+16)   1.347   0.012   0.457   0.269   0.061   0.037   1244,300   0.027		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
NA   MC   Motorcycles   0.000   0.000   0.000   0.001   0.012   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.00			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
HAWAII			Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
HAWAII  HIGH Gasoline   LDGT   Light-Duty Trucks (0.500 lbs)   0.518   0.010   7.350   0.665   0.025   0.011   551.100   0.102   Gasoline   HDGV   Heavy-Duty Vehicles (8,501+lbs)   0.565   0.018   27.400   0.938   0.040   0.023   934.600   0.045   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314.100   0.007   Diesel   LDDV   Light-Duty Vehicles (8,501+lbs)   1.373   0.012   1.123   0.541   0.061   0.037   1244.300   0.027   NA   MC   Motorycles   0.000   0.000   0.000   0.000   0.000   0.001   0.001   0.001   0.001   Gasoline   LDGV   Light-Duty Vehicles (8,501+lbs)   0.518   0.010   7.350   0.655   0.025   0.011   368.000   0.102   Gasoline   LDGV   Light-Duty Vehicles (8,501+lbs)   0.518   0.010   7.350   0.655   0.025   0.011   368.000   0.102   Gasoline   LDGV   Light-Duty Vehicles (8,501+lbs)   0.688   0.018   8.610   0.794   0.040   0.023   934.600   0.045   Diesel   LDDV   Light-Duty Vehicles (8,501+lbs)   0.688   0.018   8.610   0.794   0.040   0.023   934.600   0.045   Diesel   LDDV   Light-Duty Vehicles (8,501+lbs)   0.688   0.018   8.610   0.794   0.040   0.023   934.600   0.045   Diesel   LDDV   Light-Duty Vehicles (8,501+lbs)   0.688   0.018   8.610   0.794   0.040   0.023   934.600   0.045   Diesel   LDDV   Light-Duty Vehicles (8,501+lbs)   0.577   0.066   0.075   0.035   0.020   314.100   0.007   Diesel   HDDV   Heavy-Duty Vehicles (8,501+lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244.300   0.027   Diesel   LDDT   Light-Duty Vehicles (8,501+lbs)   0.590   0.018   31.360   0.813   0.040   0.023   934.600   0.045   Diesel   LDDT   Light-Duty Vehicles (8,501+lbs)   0.590   0.018   31.360   0.813   0.040   0.023   934.600   0.045   Diesel   LDDT   Light-Duty Vehicles (8,501+lbs)   0.590   0.018   31.360   0.813   0.040   0.023   934.600   0.045   Diesel   LDDT   Light-Duty Vehicles (8,501+lbs)   0.590   0.018   31.360   0.666   0.075   0.035   0.020   314.100   0.007   Diesel   LDDT   Light-Duty Vehicles (8,501+lbs)   0.590   0.01			NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HIGH Diesel LDDV Light-Duty Velocies (Rassenger Cars) Diesel HDDV Heavy-Duty Velocies (Rassenger Cars) Diesel HDDV Heavy-Duty Velocies (Rassenger Cars) Diesel HDDV Heavy-Duty Velocies (Rassenger Cars) NA MC Motory-cles Diesel LDGV Light-Duty Trucks (0-8,500 lbs) Diesel LDGV Light-Duty Velocies (Rassenger Cars) Diesel LDGV Light-D			Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.261	0.007	5.730	0.395	0.025	0.011	368.000	0.102
HIGH   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314.100   0.007     Diesel   LDDT   Light-Duty Tucks (0-8.500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598.600   0.007     NA   MC   Motogrices   0.000   0.000   0.000   0.000   0.001   0.001   0.001   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.261   0.007   5.730   0.394   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.261   0.007   5.730   0.394   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.261   0.007   5.730   0.394   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314.100   0.007     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314.100   0.007     Diesel   HDDV   Heavy-Duty Vehicles (R.501+lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244.300   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.001   0.001     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.281   0.007   10.170   0.385   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.281   0.007   10.170   0.385   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (R.501+lbs)   0.590   0.018   31.360   0.813   0.040   0.023   984.600   0.045     HJH   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314.100   0.007     Diesel   HDDV   Heavy-Duty Vehicles (R.501+lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598.600   0.007     Diesel   LDDV   Light-Duty Trucks (0-8.500 lbs)   0.257   0.006   0.000   0.000   0.001   0.001   0.000     Diesel   LDDV   Light-Duty Trucks (0-8.500 lbs)   0.257   0.006   0.058   0.253   0.030   0.024   598.600   0.007     Diesel   LDDV   Light-Duty Truck			Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.518	0.010	7.350	0.665	0.025	0.011	551.100	0.102
HAWAII			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.565	0.018	27.400	0.938	0.040	0.023	984.600	0.045
HAWAII    Diesel   HDDV   Heavy-Drfy Vehicles (8,501+ lbs)   1.373   0.012   1.123   0.541   0.061   0.037   1244,300   0.027     NA		HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
HAWAII			Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
HAWAII			Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.261   0.007   5.730   0.394   0.025   0.011   368,000   0.102	TT A XX/A TT		NA			0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   Diesel   LDV   Light-Duty Vehicles (8,501+ lbs)   0.688   0.018   8.610   0.794   0.040   0.023   984.600   0.045	HAWAII		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.261	0.007	5.730	0.394	0.025	0.011	368.000	0.102
LOW   Diesel   LDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314.100   0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.518	0.010	7.350	0.655	0.025	0.011	551.100	0.102
Diesel   ADDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244.300   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.281   0.007   10.170   0.385   0.025   0.011   368.000   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+lbs)   0.590   0.018   31.360   0.813   0.040   0.023   984.600   0.045     Diesel   LDDT   Light-Duty Vehicles (8,501+lbs)   0.590   0.018   31.360   0.813   0.040   0.023   984.600   0.007     Diesel   LDDT   Light-Duty Vehicles (8,501+lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+lbs)   1.373   0.012   1.123   0.541   0.061   0.037   1244.300   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.281   0.007   10.170   0.383   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.281   0.007   10.170   0.383   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.281   0.007   10.170   0.383   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.281   0.007   10.170   0.383   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.281   0.007   10.170   0.383   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.281   0.007   0.018   9.860   0.648   0.040   0.023   984.600   0.045     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314.100   0.007     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.023   0.024   598.600   0			Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	0.688	0.018	8.610	0.794	0.040	0.023	984.600	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244.300   0.027     N		LOW	Diesel	LDJV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.001   0.007   0.000   0.000   0.000   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0			Diesel	<b>Z</b> DDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
Hori   Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.281   0.007   10.170   0.385   0.025   0.011   368.000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
HDHO   Casoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.580   0.010   11.760   0.682   0.025   0.011   551.100   0.102			N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.590   0.018   31.360   0.813   0.040   0.023   984.600   0.045			Gooline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.281	0.007	10.170	0.385	0.025	0.011	368.000	0.102
High   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314.100   0.007		_	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.580	0.010	11.760	0.682	0.025	0.011	551.100	0.102
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598,600   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.590	0.018	31.360	0.813	0.040	0.023	984.600	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.373   0.012   1.123   0.541   0.061   0.037   1244.300   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.281   0.007   10.170   0.383   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.580   0.010   11.760   0.677   0.025   0.011   551.100   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.719   0.018   9.860   0.648   0.040   0.023   984.600   0.045     Diesel   LDDV   Light-Duty Vehicles (8,501+ lbs)   0.757   0.006   0.508   0.253   0.039   0.024   598.600   0.007     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244.300   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244.300   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244.300   0.027     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.0		HV 5H	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
DAHO			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
DAHO		1	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
Gasoline LDGV Light-Dutty Vehicles (Passenger Cars)   0.281   0.007   10.170   0.383   0.025   0.011   368.000   0.102	IDAHO		NA			0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
Casoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.719   0.018   9.860   0.648   0.040   0.023   984.600   0.045	IDAHU		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.281	0.007	10.170	0.383	0.025	0.011	368.000	0.102
LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.063         0.003         0.666         0.075         0.035         0.020         314.100         0.007           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.257         0.006         0.508         0.253         0.039         0.024         598.600         0.007           Diesel         HDDV         Heavy-Duty Vehicles (8,501+lbs)         1.347         0.012         0.457         0.269         0.061         0.037         1244.300         0.027			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.580	0.010	11.760	0.677	0.025	0.011	551.100	0.102
Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.257         0.006         0.508         0.253         0.039         0.024         598.600         0.007           Diesel         HDDV         Heavy-Duty Vehicles (8,501+ lbs)         1.347         0.012         0.457         0.269         0.061         0.037         1244.300         0.027			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.719	0.018	9.860	0.648	0.040	0.023	984.600	0.045
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 1.347 0.012 0.457 0.269 0.061 0.037 1244.300 0.027		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
NA MC Motorcycles 0.000 0.000 0.000 0.000 0.021 0.014 0.000 0.000	<b>/</b>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		1 ype			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.280	0.007	8.830	0.415	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.565	0.010	10.420	0.713	0.025	0.011	551 100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.582	0.018	30.190	0.901	0.040	0.023	\$4.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	2.037	1244.300	0.027
W I INIOIG		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ILLINOIS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.280	0.007	8.830	0.412	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.565	0.010	10.420	0.704	0/25	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.709	0.018	9.490	0.735	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.279	0.007	8.80	0.411	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.564	0.010	10.390	0.706	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.582	0.018	30.140	0.891	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0,836	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	5.012	1.123	0.541	0.061	0.037	1244.300	0.027
INDIANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
INDIANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.27	0.007	8.800	0.408	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.564	0.010	10.390	0.697	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.709	0.018	9.470	0.727	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.285	0.007	9.690	0.395	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.578	0.010	11.290	0.702	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.587	0.018	30.960	0.857	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
IOWA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.285	0.007	9.690	0.392	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.578	0.010	11.290	0.693	0.025	0.011	551.100	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.715	0.018	9.730	0.687	0.040	0.023	984.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	<del></del>	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.282	0.007	8.400	0.417	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.561	0.010	10.020	0.716	0.025	0.011	551.100	0.102
	,,,,	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.579	0.018	30.070	0.926	0.040	0.023	984.600	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
	]	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
KANSAS		NA	MC LDCV	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.282	0.007	8.400	0.414	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.561	0.010	10.020	0.704	0.025	0.011	551.100	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.706	0.018	9.450	0.760	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT HDDV	Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501+ lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	MC	Motorcycles  Motorcycles	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV (cont.)

		ъ.					E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type			NOx	SOx	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	8.090	0.409	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.554	0.010	9.680	0.701	0.025	0.011	551 100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.578	0.018	29.550	0.908	0.040	0.023	94.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	° .037	1244.300	0.027
TATA MONTO CATA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
KENTUCKY		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	8.090	0.406	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.554	0.010	9.680	0.691	0/25	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.704	0.018	9.290	0.748	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	6.72	0.417	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.539	0.010	8 360	0.706	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.570	0.018	28.880	0.977	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	5.012	1.123	0.541	0.061	0.037	1244.300	0.027
LOUISIANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOUISIANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.27	0.007	6.720	0.414	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.539	0.010	8.360	0.693	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.694	0.018	9.070	0.820	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.287	0.007	10.930	0.400	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,5,500 lbs)	0.593	0.010	12.540	0.711	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.594	0.018	32.080	0.824	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
MAINE		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.287	0.007	10.930	0.398	0.025	0.011	368.000	0.102
		Gasoline	LDGT	light-Duty Trucks (0-8,500 lbs)	0.593	0.010	12.540	0.706	0.025	0.011	551.100	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.724	0.018	10.080	0.652	0.040	0.023	984.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.276	0.007	8.270	0.404	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.556	0.010	9.860	0.693	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.579	0.018	29.660	0.890	0.040	0.023	984.600	0.045
	HUJH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
MARYLAND		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
WITH		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.276	0.007	8.270	0.402	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.556	0.010	9.860	0.684	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.706	0.018	9.320	0.730	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	000000000000000000000000000000000000000	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
<u> </u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV (cont.)

							Eı	nission Fa	actors (g/1	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po				rs	
		Туре		<b>71</b>	NO <sub>x</sub>	$SO_{x}$	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH,
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.279	0.007	9,490	0.408	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.571	0.010	11.080	0.705	0.025	0.011	551 100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.586	0.018	30.750	0.865	0.040	0.023	64.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	2.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.279	0.007	9.490	0.407	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.571	0.010	11.080	0.698	0/25	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.714	0.018	9.670	0.701	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2 3	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.283	0.007	10.223	0.391	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.582	0.010	17.820	0.693	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.590	0.018	31.430	0.826	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0,956	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	5.012	1.123	0.541	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MICHIGAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.283	0.007	10.220	0.389	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.582	0.010	11.820	0.687	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.719	0.018	9.880	0.658	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.291	0.007	11.180	0.415	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.599	0.010	12.800	0.740	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehices (8,501+ lbs)	0.595	0.018	32.340	0.851	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehcles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MINNESOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.291	0.007	11.180	0.412	0.025	0.011	368.000	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.599	0.010	12.800	0.733	0.025	0.011	551.100	0.102
		Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	0.725	0.018	10.160	0.673	0.040	0.023	984.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	7.050	0.417	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.542	0.010	8.690	0.709	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.571	0.018	29.060	0.965	0.040	0.023	984.600	0.045
	HV JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
MISSISSIPP -		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	7.050	0.414	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.542	0.010	8.690	0.696	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.696	0.018	9.130	0.807	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
	2011	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.003	0.005	0.508	0.073	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.000	0.457	0.269	0.059	0.024	1244.300	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.001	0.037	0.000	0.000
		11/1	1110		0.000	0.000	0.000	0.000	0.021	0.017	0.000	0.000

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV (cont.)

		E. J					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.281	0.007	8.390	0.414	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.560	0.010	9.990	0.710	0.025	0.011	551 100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.579	0.018	29.930	0.914	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	£.037	1244.300	0.027
MICCOLIDI		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MISSOURI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.281	0.007	8.390	0.411	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.560	0.010	9.990	0.699	0/25	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.706	0.018	9.410	0.750	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.285	0.007	10.603	0.394	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.588	0.010	12.200	0.700	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.592	0.018	31.770	0.822	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.956	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	5.012	1.123	0.541	0.061	0.037	1244.300	0.027
MONTANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MONTANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.285	0.007	10.600	0.393	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.588	0.010	12.200	0.695	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.721	0.018	9.990	0.652	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Care	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.283	0.007	9.170	0.390	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.570	0.010	10.770	0.693	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.584	0.018	30.490	0.864	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
NEBRASKA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
1,221,221,1		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.283	0.007	9.170	0.387	0.025	0.011	368.000	0.102
		Gasoline	LDGT	aght-Duty Trucks (0-8,500 lbs)	0.570	0.010	10.770	0.684	0.025	0.011	551.100	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.712	0.018	9.580	0.696	0.040	0.023	984.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	<del></del>	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	8.870	0.404	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.563	0.010	10.460	0.695	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.018	30.200	0.872	0.040	0.023	984.600	0.045
	HV5H	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
NEVADA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
1,2,711011		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	8.870	0.402	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.563	0.010	10.460	0.688	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.710	0.018	9.490	0.711	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
<u> </u>	_	NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV (cont.)

NEW JERSEY   Page   P			E. J					Eı	mission Fa	actors (g/r	ni)		
NEW JERSEY   Cascales   LOCY   Light-Duty Vehicles (Passenger Cars)   0.85   0.00   0.10   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00   0.00	State	Altitude			Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
Casoline   LOFT   Light-Duty Trucks (0.8501   b)   0.858   0.010   0.007   0.008   0.010   0.023   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.010   0.035   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0			Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
Casole   MICH   Device   DiPV   Light Dev   Verbick (1850)   Em   DiPV   Light Dev   Verbick (1850)   Em   DiPV   Light Dev   Device   DiPV   Light Dev   Device   DiPV   Light Dev   Device			Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.284	0.007	10.410	0.393	0.025	0.011	368.00	0.102
NEW JERSEY   HIGH   Discol.   LDDV   Light-Dury Trucks (0.8500 bs)   0.0357   0.005   0.005   0.005   0.005   0.005   0.005   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.585	0.010	12.010	0.697	0.025	0.011	551 100	0.102
NEW HAMPSHIRE     Description   Descriptio			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.591	0.018	31.600	0.824	0.040	0.023	984.600	0.045
NEW HAMPSHIRE		HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
NEW HAMPSHIRE			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
NEW HAMPSHIRE   Gasoline   LOGV   Light-Duty Vehicles (Passenger Cars)   0.284   0.007   10.410   0.391   0.095   0.011   388,000   0.102   0.003   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	£.037	1244.300	0.027
Casoline   LOEV   Light-Duty Verbicks (Passenger Cars)   0.284   0.007   0.101   0.291   0.091   0.015   0.001   0.010   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.002   0.001   0.001   0.001   0.002   0.001   0.001   0.001   0.002   0.001   0.001   0.001   0.002   0.001   0.001   0.001   0.002   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.0	MEWHAMBUIDE		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   Desc   LDDV   Light-Duy Vehicks (R.501-lbs)   0.720   0.018   9.930   0.656   0.075   0.003   0.003   0.004   0.005	NEW HAMPSHIKE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.284	0.007	10.410	0.391		0.011	368.000	0.102
LOW   Discot   LDDV   Light-Duty Vehicles (Passenger Care)   0.03   0.003   0.005   0.056   0.075   0.035   0.000   0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.585	0.010	12.010	0.691	0/25	0.011	551.100	0.102
Dissel   LDDT   Light-Duy Tracks (08-8500 lbs)   0.257   0.000   0.002   0.037   0.039   0.024   0.039   0.002   0.007   0.003   0.002   0.007   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.0			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.720	0.018	9.930	0.656	0.040	0.023	984.600	0.045
Disset   HDDV   Heavy-Duty Vehicles ((\$501-ibs)   1.347   0.012   0.457   7.699   0.051   0.077   1244,300   0.027   0.007   0.007   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
NA			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
Gasoline   LDGV   Light-Duty Vehicks (Passenger Cars)   0.277   0.007   8.53   0.406   0.025   0.011   531   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	.269	0.061	0.037	1244.300	0.027
HIGH   Gasoline   LDGY   Light-Duy Trucks (0.8.500 lbs)   0.560   0.010   0.720   0.697   0.025   0.011   581,100   0.102			NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
Casoline   Discol   LDDV   Light-Duty Vehicks (AS:01-lbs)   0.581   0.018   59.890   0.887   0.040   0.023   984,600   0.007			Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	8.53	0.406	0.025	0.011	368.000	0.102
NEW JERSEY   Dissel   LDDV   Light-Dury Vehicks (Passenger Cars)   0.063   0.034   0.666   0.075   0.035   0.020   314,100   0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.560	0.010	10.120	0.697	0.025	0.011	551.100	0.102
Diesel   LDDT   Light-Duty Trucks (0.8.500 lbs)   0.257   0.066   0.508   0.253   0.039   0.024   598,600   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.581	0.018	29.890	0.887	0.040	0.023	984.600	0.045
Dissel HDDV Heavy-Dury Vehicks (8,501+ lbs)		HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
NEW JERSEY			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0,956	0.508	0.253	0.039	0.024	598.600	0.007
NEW MEXICO   Gasoline   LDGV   Light-Dury Vehicks (Passenger Cars)   0.27   0.007   8.530   0.404   0.025   0.011   368.000   0.102   Gasoline   LDGV   Light-Dury Vehicks (8.501+lbs)   0.707   0.018   0.990   0.726   0.040   0.023   984.600   0.015   0.015   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0.016   0			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	5.012	1.123	0.541	0.061	0.037	1244.300	0.027
NEW MEXICO   Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.75   0.007   8.530   0.404   0.025   0.011   351.00   0.102	NEW IEDSEV		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   HDGV   Heavy-Duty Vehicles (8,501+1lbs)   0.707   0.018   9,390   0.726   0.040   0.023   0.046,000   0.007     Diesel   LDDV   Light-Duty Vehicles (Ressenger Carr   0.063   0.003   0.066   0.075   0.035   0.020   314,100   0.007     Diesel   LDDT   Light-Duty Trucks (0,85001lbs)   0.257   0.006   0.058   0.253   0.039   0.024   598,600   0.007     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.007   1244,300   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.001   0.001   0.000     Gasoline   LDGV   Light-Duty Vehicles (Reflenger Cars)   0.255   0.010   9.970   0.688   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Trucks (0,8001lbs)   0.556   0.010   9.970   0.688   0.025   0.011   358,000   0.012     Gasoline   LDGT   Light-Duty Vehicles (8,501+1lbs)   0.580   0.018   2.9750   0.879   0.040   0.023   984,600   0.045     Diesel   LDDV   Light-Duty Vehicles (8,501+1lbs)   0.580   0.018   2.9750   0.879   0.040   0.023   984,600   0.007     Diesel   LDDV   Light-Duty Vehicles (8,501+1lbs)   0.580   0.018   2.9750   0.879   0.040   0.023   984,600   0.007     Diesel   LDDV   Light-Duty Vehicles (Ressenger Cars)   0.063   0.003   0.666   0.075   0.035   0.003   314,100   0.007     Diesel   LDDV   Light-Duty Vehicles (8,501+1lbs)   0.706   0.058   0.253   0.039   0.024   598,600   0.007     Diesel   LDGV   Light-Duty Vehicles (8,501+1lbs)   0.706   0.018   9.350   0.021   0.014   0.000   0.000     Diesel   LDGV   Light-Duty Vehicles (8,501+1lbs)   0.706   0.018   9.350   0.721   0.040   0.037   1244,300   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.001   0.001     Diesel   LDGV   Light-Duty Vehicles (8,501+1lbs)   0.756   0.018   9.350   0.021   0.014   0.000   0.000     Diesel   LDGV   Light-Duty Vehicles (8,501+1lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598,600   0.007     Diesel   LDGV   Light-Duty Vehicles (8,501+1lbs)   0.257   0.006   0.508   0.025   0.011   551,100   0.102	NEW JERSEI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.27	0.007	8.530	0.404	0.025	0.011	368.000	0.102
LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Car)   0.063   0.003   0.0666   0.075   0.035   0.020   314,100   0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.560	0.010	10.120	0.688	0.025	0.011	551.100	0.102
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598,600   0.007     Diesel   HDDV   Heavy-Duty Vehicks (8,501+8)   1.347   0.012   0.457   0.269   0.061   0.037   1244,300   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicks (Pg-senger Cars)   0.275   0.007   8.380   0.401   0.025   0.011   368,000   0.102     Gasoline   HDGV   Heavy-Duty Vehicks (R501+8)   0.556   0.010   9.970   0.688   0.025   0.011   551,100   0.102     Gasoline   HDGV   Heavy-Duty Vehicks (R501+8)   0.580   0.018   29,750   0.679   0.040   0.023   984,600   0.007     Diesel   HDDV   Heavy-Diff Vehicks (R501+8)   1.373   0.012   1.123   0.541   0.061   0.037   1244,300   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.001   0.001   0.001     Gasoline   LDGV   Light-Duty Vehicks (R501+8)   0.556   0.010   9.970   0.688   0.025   0.011   368,000   0.007     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.001   0.001   0.001   0.001   0.001     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.707	0.018	9.390	0.726	0.040	0.023	984.600	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501+18)   1.347   0.012   0.457   0.269   0.061   0.037   1244.300   0.027     NA   MC   Motorcycles   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Paylenger Cars)   0.275   0.007   8.380   0.401   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Trucks (0.500 lbs)   0.556   0.010   9.970   0.688   0.025   0.011   551,100   0.102     Gasoline   HDGW   Heavy-Duty Vehicles (8.501 lbs)   0.580   0.018   2.9750   0.879   0.040   0.023   984,600   0.045     HIGH   Diesel   LDDT   Light-Duty Trucks (0.8500 lbs)   0.257   0.006   0.058   0.025   0.033   0.003   0.046   0.007     Diesel   HDDW   Heavy-Diffy Vehicles (8.501 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598,600   0.007     Diesel   HDDW   Heavy-Diffy Vehicles (8.501 lbs)   1.373   0.012   1.123   0.541   0.061   0.037   1244,300   0.027     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.027   0.000   0.000   0.000   0.001   0.001   0.000   0.000     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.275   0.007   8.380   0.399   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.035   0.007   0.035   0.035   0.000   0.000   0.000     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.035   0.000   0.000   0.000   0.000   0.000   0.000   0.000     Diesel   HDDW   Heavy-Duty Vehicles (8.501 lbs)   0.257   0.006   0.588   0.253   0.039   0.025   0.011   368,000   0.000     Diesel   HDDW   Heavy-Duty Vehicles (Resenger Cars)   0.035   0.035   0.025   0.011   368,000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
NA MC Motorcycles   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
NEW MEXICO   Gasoline   LDGV   Light-Duty Vehicles (Parlenger Cars)   0.275   0.007   8.380   0.401   0.025   0.011   368.000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
NEW MEXICO   Gasoline   LDGT   Light-Duty Trucks (0.500 lbs)   0.556   0.010   9.970   0.688   0.025   0.011   551.100   0.102			NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HIGH   Diesel   LDDV   Light-Duty Vehicks (8,501+lbs)   0.580   0.018   29.750   0.879   0.040   0.023   984,600   0.045			Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.275	0.007	8.380	0.401	0.025	0.011	368.000	0.102
NEW MEXICO   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314.100   0.007			Gasoline	LDGT		0.556	0.010	9.970	0.688	0.025	0.011	551.100	0.102
NEW MEXICO   Diesel   LDDT   Light-Duty Tucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598.600   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.580	0.018	29.750	0.879	0.040	0.023	984.600	0.045
Diesel   HDDV   Heavy-Drfy Vehicles (8,501+ lbs)   1.373   0.012   1.123   0.541   0.061   0.037   1244.300   0.027     NA		HIGH	Diesel	LDDV	Light-Duty Veb les (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
NA   MC   MotoryCels   0.000   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000			Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.275   0.007   8.380   0.399   0.025   0.011   368.000   0.102			Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.275   0.007   8.380   0.399   0.025   0.011   368.000   0.102	NEW MEVICO		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   Diesel   LDBV   Light-Duty Vehicles (8,501+ lbs)   0.706   0.018   9.350   0.721   0.040   0.023   984,600   0.045	NEW MEAICO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.275	0.007	8.380	0.399	0.025	0.011	368.000	0.102
LOW   Diesel   LDØV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314.100   0.007			Gasoline	LDGT		0.556	0.010	9.970	0.680	0.025	0.011	551.100	0.102
Diesel   ADDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598.600   0.007			Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	0.706	0.018	9.350	0.721	0.040	0.023	984.600	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244.300   0.027     N		LOW	Diesel	LDOV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
N			Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
NEW YORF    Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.282   0.007   10.020   0.388   0.025   0.011   368.000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
HUGH			N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HIGH   Diesel   LDDV   Light-Duty Vehicles (8,501+ lbs)   0.589   0.018   31.240   0.826   0.040   0.023   984.600   0.045			G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.282	0.007	10.020	0.388	0.025	0.011	368.000	0.102
High   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314.100   0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.579	0.010	11.620	0.688	0.025	0.011	551.100	0.102
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598,600   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.589	0.018	31.240	0.826	0.040	0.023	984.600	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.373   0.012   1.123   0.541   0.061   0.037   1244,300   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.282   0.007   10.020   0.386   0.025   0.011   368,000   0.102     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.579   0.010   11.620   0.682   0.025   0.011   551,000   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.718   0.018   9.820   0.659   0.040   0.023   984,600   0.045     LOW   Diesel   LDDT   Light-Duty Vehicles (Passenger Cars)   0.063   0.003   0.666   0.075   0.035   0.020   314,100   0.007     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598,600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244,300   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244,300   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244,300   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244,300   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244,300   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244,300   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244,300   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244,300   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   1244,300   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.347   0.012   0.457   0.269   0.061   0.037   0.048     Diesel   HDDV   Heavy-		HI JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
NEW YORK    NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.282   0.007   10.020   0.386   0.025   0.011   368.000   0.102		ĺ	Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
Casoline LDGV Light-Duty Vehicles (Passenger Cars)   0.282   0.007   10.020   0.386   0.025   0.011   368.000   0.102	NEW VODE		NA			0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW         Gasoline         HDGV         Heavy-Duty Vehicles (8,501+ lbs)         0.718         0.018         9.820         0.659         0.040         0.023         984.600         0.045           LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.063         0.003         0.666         0.075         0.035         0.020         314.100         0.007           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.257         0.006         0.508         0.253         0.039         0.024         598.600         0.007           Diesel         HDDV         Heavy-Duty Vehicles (8,501+ lbs)         1.347         0.012         0.457         0.269         0.061         0.037         1244.300         0.027	NEW YORK		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.282	0.007	10.020	0.386	0.025	0.011	368.000	0.102
LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.063         0.003         0.666         0.075         0.035         0.020         314.100         0.007           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.257         0.006         0.508         0.253         0.039         0.024         598.600         0.007           Diesel         HDDV         Heavy-Duty Vehicles (8,501+ lbs)         1.347         0.012         0.457         0.269         0.061         0.037         1244.300         0.027			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.579	0.010	11.620	0.682	0.025	0.011	551.100	0.102
LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.063         0.003         0.666         0.075         0.035         0.020         314.100         0.007           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.257         0.006         0.508         0.253         0.039         0.024         598.600         0.007           Diesel         HDDV         Heavy-Duty Vehicles (8,501+ lbs)         1.347         0.012         0.457         0.269         0.061         0.037         1244.300         0.027			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.718	0.018	9.820	0.659	0.040	0.023	984.600	0.045
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.257   0.006   0.508   0.253   0.039   0.024   598.600   0.007		LOW	Diesel				0.003	0.666			0.020	314.100	
Diesel HDDV Heavy-Duty Vehicles (8,501+ lbs) 1.347 0.012 0.457 0.269 0.061 0.037 1244.300 0.027			~~~~~~~	LDDT		~~~~~~~~~~						~~~~~~~	
				HDDV								******************	
	<u>/</u>		NA			***************************************		*************				****************	*************

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV (cont.)

		E d					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type		Vehicle Type		C	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		1 ype			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.007	7.480	0.412	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.545	0.010	9.080	0.703	0.025	0.011	551 100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.574	0.018	29.070	0.932	0.040	0.023	\$4.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	£.037	1244.300	0.027
NORTH CAROLINA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.007	7.480	0.409	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.545	0.010	9.080	0.693	0/25	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.700	0.018	9.140	0.775	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.292	0.007	11.30 5	0.417	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.601	0.010	12.930	0.744	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.596	0.018	32.450	0.852	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	***************************************	Light-Duty Trucks (0-8,500 lbs)	0.257	0.036	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.373	5.012	1.123	0.541	0.061	0.037	1244.300	0.027
NORTH DAKOTA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH DAROTH		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.29	0.007	11.300	0.415	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.601	0.010	12.930	0.738	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.726	0.018	10.200	0.674	0.040	0.023	984.600	0.045
	LOW	Diesel	~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+1/8)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.279	0.007	8.960	0.408	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.565	0.010	10.550	0.703	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.583	0.018	30.280	0.880	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehcles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Daty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
OHIO		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.279	0.007	8.960	0.406	0.025	0.011	368.000	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.565	0.010	10.550	0.695	0.025	0.011	551.100	0.102
	1.000	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.710	0.018	9.520	0.717	0.040	0.023	984.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	<del></del>	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV LDGT	Light-Duty Vehicles (Passenger Cars)	0.282	0.007	7.720	0.421	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.553	0.010	9.360	0.718	0.025	0.011	551.100	0.102
	нг⊿н	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.575	0.018	29.710	0.958	0.040	0.023	984.600	0.045
	нын	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
OKLAHOM		NA Casalina	MC LDCV	Motorcycles Light Duty Vahiolog (Bassanger Cors)	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.282	0.007	7.720	0.417	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.553	0.010	9.360	0.704	0.025	0.011	551.100	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.701	0.018	9.340	0.794	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel Type		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.276	0.007	9.420	0.396	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.568	0.010	11.000	0.682	0.025	0.011	551 100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.586	0.018	30.670	0.836	0.040	0.023	\$4.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	2.037	1244.300	0.027
OPEGON		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
OREGON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.276	0.007	9.420	0.395	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.568	0.010	11.000	0.678	0/25	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.714	0.018	9.640	0.677	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.256	0.007	6.47	0.392	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.522	0.010	8 380	0.660	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.569	0.018	28.060	0.907	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.236	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	************************	Heavy-Duty Vehicles (8,501+ lbs)	1.373	5.012	1.123	0.541	0.061	0.037	1244.300	0.027
n. armra rar		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
PACIFIC ISLANDS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.253	0.007	6.470	0.391	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.522	0.010	8.080	0.653	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.694	0.018	8.820	0.762	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598,600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+1/s)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.279	0.007	9.290	0.407	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.569	0.010	10.880	0.702	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehices (8,501+ lbs)	0.585	0.018	30.580	0.867	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehcles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
PENNSYLVANIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.279	0.007	9.290	0.405	0.025	0.011	368.000	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.569	0.010	10.880	0.695	0.025	0.011	551.100	0.102
		Gasoline	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.713	0.018	9.610	0.704	0.040	0.023	984.600	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	<del></del>	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.007	5.050	0.401	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.520	0.010	6.710	0.674	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.561	0.018	27.230	0.985	0.040	0.023	984.600	0.045
	HĽ⊿H	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598,600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
PUERTO RICO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.007	5.050	0.400	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.520	0.010	6.710	0.661	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.683	0.018	8.560	0.839	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		1,71			0.000	0.000	0.000	0.000	0.021	0.017	0.000	0.000

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	9.060	0.403	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.565	0.010	10.650	0.694	0.025	0.011	551 100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.584	0.018	30.360	0.865	0.040	0.023	\$4.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	£.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
RHODE ISLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	9.060	0.402	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.565	0.010	10.650	0.688	0/25	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.711	0.018	9.540	0.704	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.276	0.007	7.10	0.415	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.542	0.010	8/30	0.706	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.572	0.018	29.010	0.957	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0,936	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	o.012	1.123	0.541	0.061	0.037	1244.300	0.027
COLUMN CAROLINA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
SOUTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.273	0.007	7.100	0.412	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.542	0.010	8.730	0.694	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.697	0.018	9.120	0.799	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.286	0.007	10.010	0.399	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.582	0.010	11.620	0.710	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.589	0.018	31.260	0.857	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Veheles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
SOUTH DAKOTA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
300 III DAKOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.286	0.007	10.010	0.397	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.582	0.010	11.620	0.702	0.025	0.011	551.100	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.717	0.018	9.820	0.685	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.276	0.007	7.760	0.409	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.550	0.010	9.360	0.699	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.576	0.018	29.330	0.918	0.040	0.023	984.600	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
	ĺ	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
TENNESSE		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
1 221 11 1200032		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.276	0.007	7.760	0.406	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.550	0.010	9.360	0.689	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.702	0.018	9.220	0.759	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV (cont.)

		E. J					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		C	riteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Lig	ht-Duty Vehicles (Passenger Cars)	0.278	0.007	6.980	0.421	0.025	0.011	368.00	0.102
		Gasoline		ght-Duty Trucks (0-8,500 lbs)	0.543	0.010	8.620	0.713	0.025	0.011	551 100	0.102
		Gasoline		eavy-Duty Vehicles (8,501+ lbs)	0.571	0.018	29.140	0.979	0.040	0.023	\$4.600	0.045
	HIGH	Diesel	LDDV Lig	ght-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		ght-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		eavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	2.037	1244.300	0.027
mmy a		NA		otorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
TEXAS		Gasoline	LDGV Lig	ht-Duty Vehicles (Passenger Cars)	0.278	0.007	6.980	0.417	0.025	0.011	368.000	0.102
		Gasoline	LDGT Lig	cht-Duty Trucks (0-8,500 lbs)	0.543	0.010	8.620	0.700	0/25	0.011	551.100	0.102
		Gasoline	HDGV He	eavy-Duty Vehicles (8,501+ lbs)	0.696	0.018	9.160	0.820	0.040	0.023	984.600	0.045
	LOW	Diesel		ht-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ght-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.2/3	0.039	0.024	598.600	0.007
		Diesel		eavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	.269	0.061	0.037	1244.300	0.027
		NA		otorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline		ht-Duty Vehicles (Passenger Cars)	0.280	0.007	9.27	0.385	0.025	0.011	368.000	0.102
		Gasoline		ght-Duty Trucks (0-8,500 lbs)	0.570	0.010	10.870	0.682	0.025	0.011	551.100	0.102
		Gasoline		eavy-Duty Vehicles (8,501+ lbs)	0.585	0.018	30.570	0.845	0.040	0.023	984.600	0.045
	HIGH	Diesel		ht-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
	111011	Diesel		ht-Duty Trucks (0-8,500 lbs)	0.257	0.00	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		eavy-Duty Vehicles (8,501+ lbs)	1.373	5.012	1.123	0.541	0.061	0.027	1244.300	0.027
		NA		otorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
UTAH		Gasoline		ht-Duty Vehicles (Passenger Cars)	0.000	0.007	9.270	0.382	0.021	0.014	368.000	0.102
		Gasoline		ht-Duty Trucks (0-8,500 lbs)	8.570	0.007	10.870	0.382	0.025	0.011	551.100	0.102
		Gasoline		eavy-Duty Vehicles (8,501+ lbs)	0.712	0.010	9.610	0.680	0.023	0.011	984.600	0.102
	LOW			ght-Duty Vehicles (Passenger Cars	0.712	0.003		0.080	0.040	0.023	314.100	0.043
	LOW	Diesel		······································			0.666	~~~~~~~~~				
		Diesel		ght-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600 1244.300	0.007
		Diesel		eavy-Duty Vehicles (8,501+ %)	1.347	0.012	0.457	0.269	0.061	0.037		0.027
		NA Gasoline		otorcycles ght-Duty Vehicles (Parsenger Cars)	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
					0.285	0.007	10.600 12.210	0.396 0.703	0.025 0.025	0.011	368.000	0.102
		Gasoline		ght-Duty Trucks (0.5,500 lbs)	0.588					0.011	551.100	0.102
	шсп	Gasoline		eavy-Duty Vehicles (8,501+ lbs)	0.592	0.018	31.780	0.825	0.040	0.023	984.600	0.045
	HIGH	Diesel		ght-Duty Veh cles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		ght-Duty Tucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		eavy-Day Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
VERMONT		NA		otor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline		n-Duty Vehicles (Passenger Cars)	0.285	0.007	10.600	0.394	0.025	0.011	368.000	0.102
		Gasoline	·····	pht-Duty Trucks (0-8,500 lbs)	0.588	0.010	12.210	0.697	0.025	0.011	551.100	0.102
	I OW	Gasoline		eavy-Duty Vehicles (8,501+ lbs)	0.721	0.018	9.990	0.655	0.040	0.023	984.600	0.045
	LOW	Diesel		ght-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	<del></del>	ght-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel		eavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		N/		otorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline		tht-Duty Vehicles (Passenger Cars)	0.283	0.007	5.080	0.409	0.025	0.011	368.000	0.102
		Gasoline		ght-Duty Trucks (0-8,500 lbs)	0.527	0.010	6.770	0.685	0.025	0.011	551.100	0.102
	, , , , , ,	Gasoline		eavy-Duty Vehicles (8,501+ lbs)	0.562	0.018	27.810	1.015	0.040	0.023	984.600	0.045
	HUJH	Diesel		cht-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		pht-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
	1	Diesel		eavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
VIRGIN ISLANDS		NA		otorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
,111011,10211100		Gasoline		ht-Duty Vehicles (Passenger Cars)	0.283	0.007	5.080	0.407	0.025	0.011	368.000	0.102
		Gasoline		ght-Duty Trucks (0-8,500 lbs)	0.527	0.010	6.770	0.671	0.025	0.011	551.100	0.102
		Gasoline	***************************************	eavy-Duty Vehicles (8,501+ lbs)	0.685	0.018	8.740	0.867	0.040	0.023	984.600	0.045
	LOW	Diesel	~~~~~~	ght-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel		ght-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV He	eavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA		otorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-39. On-Road Vehicle Emission Factors - 2019 GOV (cont.)

State	Altitude	Fuel										
		Type		Vehicle Type	NO <sub>v</sub>	SO <sub>x</sub>	riteria Po CO	VOC	PM <sub>10</sub>	Pre curso	CO,	)H <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.275	0.007	8.060	0.405	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.553	0.007	9.650	0.403	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.578	0.018	29.460	0.898	0.040	0.023	984, 00	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	31100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	98.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
VIRGINIA		NA	MC LDGV	Motorcycles Light-Duty Vehicles (Passenger Cars)	0.000	0.000	0.000 8.060	0.000	0.021	0.01	0.000 368.000	0.000
		Gasoline Gasoline	LDGV	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.273	0.007	9.650	0.403	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.704	0.018	9.260	0.739	0.040	0.023	984.600	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.03	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0/39	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	5.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	9.580	0.397	0.025	0.011	368.000	0.102
		Gasoline Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	0.571	0.010	11.170 30.810	0.636 £.836	0.025	0.011	551.100 984.600	0.102
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.173	0.541	0.061	0.037	1244.300	0.027
WASHINGTON		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
WASHINGTON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	9.580	0.396	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.571	0.010	11.170	0.681	0.025	0.011	551.100	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.715	0.013	9.680	0.675	0.040	0.023	984.600	0.045
	LOW	Diesel Diesel	LDDV LDDT	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.063	0.006	0.666	0.075 0.253	0.035	0.020	314.100 598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.255	0.059	0.024	1244.300	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0/16	0.007	8.760	0.403	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	5.561	0.010	10.350	0.692	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.582	0.018	30.090	0.872	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel Diesel	LDDT HDDV	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508 1.123	0.253 0.541	0.039	0.024	598.600 1244.300	0.007 0.027
		NA	MC	Heavy-Duty Vehicles (8,501+ lb) Motorcycles	0.000	0.000	0.000	0.000	0.001	0.037	0.000	0.027
WEST VIRGINIA		Gasoline	LDGV	Light-Duty Vehicles (Passe Iger Cars)	0.276	0.007	8.760	0.401	0.025	0.014	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.561	0.010	10.350	0.685	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles 8,501+ lbs)	0.709	0.018	9.460	0.712	0.040	0.023	984.600	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	Light-Duty Truck (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	MC MC	Heavy-Duty V nicles (8,501+ lbs) Motorcycles	1.347	0.012	0.457	0.269	0.061	0.037 0.014	1244.300 0.000	0.027
		NA Gasoline	LDGV	Light-Dut Vehicles (Passenger Cars)	0.000	0.000	0.000 10.620	0.000	0.021	0.014	368.000	0.000
		Gasoline	LDGT	Light-Daty Trucks (0-8,500 lbs)	0.590	0.007	12.230	0.714	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heav -Duty Vehicles (8,501+ lbs)	0.592	0.018	31.810	0.840	0.040	0.023	984.600	0.045
	HIGH	Diesel	LDDV	Lint-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		Diesel	LDDT	ight-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDY	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.037	1244.300	0.027
WISCONSIN		NA Gasoline	MC LJ GV	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline		Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.287 0.590	0.007 0.010	10.620 12.230	0.400	0.025 0.025	0.011	368.000 551.100	0.102 0.102
		Gasoline		Heavy-Duty Vehicles (8,501+lbs)	0.721	0.018	10.000	0.667	0.040	0.023	984.600	0.045
	LOW	Dies	LDDV	Light-Duty Vehicles (Passenger Cars)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
		D'esel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.006	0.508	0.253	0.039	0.024	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.347	0.012	0.457	0.269	0.061	0.037	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.284	0.007	10.510	0.392	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.586	0.010	12.110	0.695	0.025	0.011	551.100	0.102
	HIGH	Gasoline Diesel	HDGV LDDV	Heavy-Duty Vehicles (8,501+ lbs) Light-Duty Vehicles (Passenger Cars)	0.592	0.018	31.690 0.666	0.818	0.040	0.023	984.600 314.100	0.045
	111011	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.003	0.005	0.508	0.073	0.033	0.020	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.373	0.012	1.123	0.541	0.061	0.027	1244.300	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
WYOMING		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.284	0.007	10.510	0.390	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.586	0.010	12.110	0.690	0.025	0.011	551.100	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.721	0.018	9.960	0.650	0.040	0.023	984.600	0.045
	1 (337)			Light Duty Vahiolog (Pagganger Care)	0.063	0.003	0.666	0.075	0.035	0.020	314.100	0.007
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)		~~~~~~~~~~	~~~~~~~~~	~~~~~~~~~				0.007
	LOW	Diesel Diesel	LDDV LDDT HDDV	Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501+ lbs)	0.257	0.006 0.012	0.508 0.457	0.253 0.269	0.039	0.024	598.600 1244.300	0.007

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV

		Fuel				E	mission Fa	actors (g/ı	ni)		
State	Altitude	Fuel Type	Vehicle Type			Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Турс		NOx	SO <sub>X</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.263	0.007	6.970	0.396	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.527	0.010	8.510	0.657	0.025	0.011	551 500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.510	0.018	28.920	0.888	0.039	0.023	54.200	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	g.034	1244.200	0.027
ALABAMA		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.263	0.007	6.970	0.393	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.527	0.010	8.510	0.647	0 25	0.011	551.000	0.102
	1.011	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.621	0.018	9.090	0.741	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2.6	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.000	0.059	0.034	1244.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.295	0.007	13.69	0.413	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.624	0.010	15,140	0.733	0.025	0.011	551.000	0.102
	HIGH	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.544	0.018 0.003	34.620	0.745	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.056	0.003	0.658	0.071		0.019	314.100 598.600	0.007 0.007
		Diesel Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)  HDDV Heavy-Duty Vehicles (8,501+ lbs)	0.236	3.012	0.486 1.024	0.236 0.532	0.038	0.023	1244.200	0.007
		NA		0.000	0.000	0.000	0.000	0.039	0.034	0.000	0.027
ALASKA		Gasoline	MC Motorcycles  LDGV Light-Duty Vehicles (Passenger Cars)	0.000	0.007	13.680	0.412	0.021	0.014	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.23 2.624	0.007	15.140	0.412	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.662	0.018	10.880	0.732	0.023	0.023	984.200	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (0,501+108)	0.056	0.003	0.658	0.071	0.033	0.023	314.100	0.043
	LOW	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.005	0.486	0.236	0.033	0.013	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1%)	1.189	0.003	0.486	0.264	0.059	0.023	1244.200	0.007
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.039	0.034	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.265	0.007	7.310	0.399	0.025	0.014	368,000	0.102
		Gasoline	LDGT Light-Duty Trucks (0.,500 lbs)	0.532	0.010	8.840	0.665	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.512	0.018	29.210	0.887	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ARIZONA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.265	0.007	7.310	0.396	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.532	0.010	8.840	0.654	0.025	0.011	551.000	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.623	0.018	9.180	0.738	0.039	0.023	984.200	0.045
	LOW	Diesel	LDJV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gooline	LDGV Light-Duty Vehicles (Passenger Cars)	0.266	0.007	7.440	0.400	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.534	0.010	8.970	0.668	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.512	0.018	29.370	0.887	0.039	0.023	984.200	0.045
	HV 3H	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
	1	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
ARKANSAS		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
ARRANSA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.266	0.007	7.440	0.397	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.534	0.010	8.970	0.657	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.624	0.018	9.230	0.737	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
<u> </u>		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV (cont.)

							Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.258	0.007	7.220	0.387	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.527	0.010	8.720	0.645	0.025	0.011	551 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.512	0.018	28.720	0.853	0.039	0.023	\$4.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.073	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	2.034	1244.200	0.027
CAL IEODNIA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
CALIFORNIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.258	0.007	7.220	0.385	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.527	0.010	8.720	0.637	0/25	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.624	0.018	9.030	0.709	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2/6	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.267	0.007	9.84	0.368	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.562	0.010	11.290	0.644	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.525	0.018	31.080	0.766	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	5.012	1.024	0.532	0.059	0.034	1244.200	0.027
COLORADO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
COLORADO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.26	0.007	9.840	0.366	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.562	0.010	11.290	0.639	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.640	0.018	9.770	0.611	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.266	0.007	9.250	0.391	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.554	0.010	10.710	0.663	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.522	0.018	30.550	0.810	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
CONNECTICUT		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
CONNECTICE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.266	0.007	9.250	0.389	0.025	0.011	368.000	0.102
		Gasoline	LDGT	ight-Duty Trucks (0-8,500 lbs)	0.554	0.010	10.710	0.657	0.025	0.011	551.000	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.636	0.018	9.600	0.656	0.039	0.023	984.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.010	0.390	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.539	0.010	9.490	0.656	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.516	0.018	29.470	0.842	0.039	0.023	984.200	0.045
	HVJH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
DELAWAR		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
DELIVER		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.010	0.388	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.539	0.010	9.490	0.647	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.628	0.018	9.260	0.692	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV (cont.)

		E . I					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.261	0.007	5.980	0.391	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.516	0.010	7.550	0.642	0.025	0.011	551 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.505	0.018	28.200	0.907	0.039	0.023	\$4.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	2.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
FLORIDA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.261	0.007	5.980	0.389	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.516	0.010	7.550	0.631	0/25	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.615	0.018	8.860	0.766	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2/6	0.038	0.023	598,600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.262	0.007	6.88	0.395	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.526	0.010	8 420	0.655	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.510	0.018	28.840	0.889	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.036	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	J.012	1.024	0.532	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
GEORGIA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.262	0.007	6.880	0.392	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	8.526	0.010	8.420	0.645	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.621	0.018	9.060	0.743	0.039	0.023	984.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Care	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+1)s)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.249	0.007	5.670	0.377	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.505	0.010	7.210	0.617	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.504	0.018	27.340	0.870	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
	111011	Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HAWAII		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.249	0.007	5.670	0.376	0.021	0.014	368.000	0.102
		Gasoline	LDGT	Light-Duty Venicles (Lassenger Cars)	0.505	0.007	7.210	0.608	0.025	0.011	551.000	0.102
		Gasoline	~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.614	0.018	8.590	0.735	0.023	0.011	984.200	0.102
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.023	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.005	0.486	0.236	0.038	0.013	598.600	0.007
		Diesel	<del></del>	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.023	1244.200	0.007
		N	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.268	0.007	10.080	0.369	0.021	0.014	368.000	0.102
	] .	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.565	0.010	11.530	0.647	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.526	0.018	31.300	0.761	0.039	0.023	984.200	0.045
	HI JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.036	0.005	0.486	0.236	0.038	0.013	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.023	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
IDAHO		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.268	0.007	10.080	0.368	0.025	0.014	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.565	0.010	11.530	0.642	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.641	0.018	9.840	0.606	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.000	0.033	0.023	314.100	0.007
	2311	Diesel	LDDT	Light-Duty Venicles (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.036	0.005	0.486	0.236	0.033	0.019	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.023	1244.200	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.039	0.034	0.000	0.000
	1	11/1	1,10		0.000	0.000	0.000	0.000	0.021	0.017	0.000	0.000

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV (cont.)

		ъ.				Eı	mission F	actors (g/i	mi)	-	
State	Altitude	Fuel Type	Vehicle Type		C	rite ria Po	llutants a	nd Ozone	Precurso	rs	
		Туре		NOx	$SO_X$	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.267	0.007	8.740	0.397	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.550	0.010	10.220	0.671	0.025	0.011	551 500	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.520	0.018	30.130	0.838	0.039	0.023	\$4.200	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	6.034	1244.200	0.027
ILLINOIS		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
122111015		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.267	0.007	8.740	0.394	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.550	0.010	10.220	0.662	0/25	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.633	0.018	9.470	0.683	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2.6	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.000	0.059	0.034	1244.200	0.027
		NA	MC Motorcycles  LDGV Light-Duty Vehicles (Passenger Cars)	0.000	0.000	0.000 8.72	0.000	0.021	0.014	0.000	0.000
		Gasoline		0.266		10.190		0.025	0.011	368.000	0.102
		Gasoline Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)  HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.549	0.010	30.070	0.664	0.023	0.011	551.000 984.200	0.102
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.039	0.023	314.100	0.043
	mon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.00	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.211	3.012	1.024	0.532	0.059	0.023	1244.200	0.007
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
INDIANA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.263	0.007	8.720	0.390	0.025	0.014	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.549	0.010	10.190	0.656	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.633	0.018	9.450	0.676	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Car	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+16s)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.272	0.007	9.600	0.378	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0,500 lbs)	0.562	0.010	11.070	0.665	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehices (8,501+ lbs)	0.524	0.018	30.900	0.802	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Day Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
IOWA		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
IOWA		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.272	0.007	9.600	0.376	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.562	0.010	11.070	0.657	0.025	0.011	551.000	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.638	0.018	9.710	0.642	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.269	0.007	8.320	0.399	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.546	0.010	9.820	0.671	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.517	0.018	30.000	0.861	0.039	0.023	984.200	0.045
	HUJH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
	]	Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	
KANSAS		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.269	0.007	8.320	0.396	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.546	0.010	9.820	0.661	0.025	0.011	551.000	0.102
	LOW	Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.630	0.018	9.430	0.705	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100 598.600	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023		0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)  MC Motorcycles	1.189	0.012	0.416	0.264	0.059		1244.200 0.000	0.027
		NA	IVIC IVIOLOTCYCLES	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV (cont.)

		E d					Eı	nission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precurso	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.010	0.391	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.539	0.010	9.490	0.657	0.025	0.011	551 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.516	0.018	29.490	0.844	0.039	0.023	\$4.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	g.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
KENTUCKY		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.010	0.389	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.539	0.010	9.490	0.648	0/25	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.628	0.018	9.270	0.694	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2.6	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	6.64	0.397	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.525	0.010	8 200	0.656	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.508	0.018	28.810	0.905	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.036	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	J.012	1.024	0.532	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOUISIANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	6.640	0.395	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	8.525	0.010	8.200	0.645	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.619	0.018	9.060	0.759	0.039	0.023	984.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	~~~~~	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+1/s)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.274	0.007	10.840	0.384	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,500 lbs)	0.577	0.010	12.290	0.675	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.530	0.018	32.010	0.771	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Veh cles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MAINE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.007	10.840	0.382	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.577	0.010	12.290	0.671	0.025	0.011	551.000	0.102
		Gasoline	~~~~~~~	Heavy-Duty Vehicles (8,501+ lbs)	0.646	0.018	10.060	0.610	0.039	0.023	984.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
	20	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	<del></del>	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.033	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.190	0.387	0.025	0.014	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.541	0.010	9.670	0.650	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.517	0.018	29.600	0.829	0.039	0.023	984.200	0.045
	HV JH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.023	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.036	0.005	0.486	0.236	0.038	0.013	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.000	1.024	0.230	0.059	0.023	1244.200	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.039	0.034	0.000	0.000
MARYLAND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.190	0.384	0.021	0.014	368.000	0.102
		Gasoline	LDGV	Light-Duty Venices (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.204	0.007	9.670	0.642	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.629	0.010	9.300	0.679	0.023	0.011	984.200	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.018	0.658	0.071	0.039	0.023	314.100	0.043
	LOW	Diesel	LDDV	Light-Duty Trucks (0-8,500 lbs)	0.036	0.003	0.638	0.071	0.033	0.019	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.006		0.264	0.059	0.023	1244.200	0.007
		************	MC	Motorcycles  Motorcycles	***************************************	***************	0.416	****************	0.059	0.034	***************	*****************
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV (cont.)

State			F1					Eı	mission Fa	actors (g/r	ni)		
Casoline   LOGV   Light-Duty Vehicles (Passenger Cars)   0.506   0.007   0.001   0.005   0.001   38.00   0.01   0.005   0.001   0.005   0.001   0.005   0.001   0.005   0.001   0.005   0.001   0.005   0.001   0.005   0.001   0.005   0.001   0.005   0.001   0.005   0.001   0.005   0.001   0.005   0.001   0.005   0.001   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.00	State	Altitude			Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
Gasoline   LOPT   Light-Dary Tracks (0-8500 bs)   0.556   0.010   0.080   0.685   0.025   0.031   0.033   0.030   0.045			1 ype			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
HIGH			Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.266	0.007	9.400	0.391	0.025	0.011	368.00	0.102
MASSACHUSETS   Diese   LDDV   Light-Day Varkicks (S-901-bits)   0.026   0.007   0.038   0.095   0.946   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.008   0.007   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.00			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.556	0.010	10.860	0.665	0.025	0.011	551 300	0.102
Desc    DDT   Light-Duty Tracks (0.8-500 hb)   0.236   0.006   0.846   0.252   0.008   0.007   98.6 ft0   0.007   0.006   0.007   0.006   0.007   0.007   0.001   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.000   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.523	0.018	30.690	0.807	0.039	0.023	934.200	0.045
Description		HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
MASSACHUSETTS			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
Casoline   LDGV   Light-Duy Yehicks (Passenger Cars)   0.266   0.007   9.400   0.389   0.075   0.011   365,000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	£.034	1244.200	0.027
Casonine LIDOY Light-Dury Verbeics (Passenger Cars)	MACCACIIICETTC		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   Dissel   LOW   Heavy-Duy Vehicks (S.9501-lbs)   0.637   0.018   0.652   0.039   0.023   0.94,200   0.005     Dissel   LODT   Light-Duy Trucks (0.8500 lbs)   0.266   0.006   0.486   0.95   0.038   0.023   0.96,600   0.007     Dissel   DOY   Heavy-Duy Vehicks (8.9501-lbs)   1.189   0.007   0.003   0.003   0.003   0.004   0.004   0.004   0.007   0.003   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000	MASSACHUSETTS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.266	0.007	9.400	0.389	0.025	0.011	368.000	0.102
LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Carrs)   0.056   0.003   0.068   0.073   0.033   0.019   314.100   0.007     Diesel   LDDV   Light-Duty Trucks (0.8500 hs)   0.236   0.006   0.486   0.075   0.038   0.0023   598.600   0.007     Diesel   LDDV   Light-Duty Vehicles (8.501 hs)   1.189   0.012   0.416   0.264   0.059   0.034   124.200   0.027     NA			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.556	0.010	10.860	0.659	0/25	0.011	551.000	0.102
Dissel   LIDDY   Light-Duy Trucks (0.8500 lbs)   0.236   0.006   0.088   0.023   0.088, 60.00   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.637	0.018	9.640	0.652	0.039	0.023	984.200	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8501-1 hs)   1.189   0.012   0.416   0.059   0.034   1.244.200   0.027		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
NA			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.276	0.038	0.023	598.600	0.007
Casoline   LDGV   Light-Dury Vehicles (0-8100 hs)   0.267   0.007   10.15   0.375   0.025   0.011   585.000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	.264	0.059	0.034	1244.200	0.027
Gasoline   LDGT   Light-Duy Tracks (0.8-500 hs)   0.557   0.010   1.590   0.658   0.025   0.011   551,000   0.045			NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HIGH   Discel   LDDV   Light-Duty Vehicks (R5:01-lbs)   0.256   0.008   0.383   0.073   0.039   0.023   984.200   0.045			Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.270	0.007	10.123	0.375	0.025	0.011	368.000	0.102
HIGH   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.056   0.007   0.058   0.071   0.033   0.019   314.100   0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.567	0.010	17.590	0.658	0.025	0.011	551.000	0.102
MICHIGAN  MICHIG			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.527	0.018	31.360	0.773	0.039	0.023	984.200	0.045
Dissel HDDV   Heavy-Dury Vehicles (8,501+ lbs)		HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
MICHIGAN   N.   Motorcycles   0.000   0.000   0.000   0.000   0.001   0.001   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0,956	0.486	0.236	0.038	0.023	598.600	0.007
MICHIGAN   Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.27   0.007   10.130   0.373   0.025   0.011   368.000   0.102   Casoline   LDGV   Light-Duty Trucks (0.8500 lbs)   0.657   0.010   11.590   0.652   0.025   0.011   351.000   0.045			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	5.012	1.024	0.532	0.059	0.034	1244.200	0.027
Casoline   LDGV   Light-Duty Vehicks (Rassenger Cars)   0.27   0.007   10.130   0.373   0.025   0.011   368.000   0.102	MICHICAN		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   Heavy-Duty Vehicks (R.501+lbs)   D.641   D.018   9.860   D.615   D.039   D.023   984.200   D.035	MICHIGAN		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.273	0.007	10.130	0.373	0.025	0.011	368.000	0.102
LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cary   0.056   0.003   0.658   0.071   0.033   0.019   314.100   0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.567	0.010	11.590	0.652	0.025	0.011	551.000	0.102
Diesel   LDDT   Light-Duty Trucks (0-8500 lbs)   0.236   0.006   0.486   0.236   0.038   0.023   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8.501+18)   1.189   0.012   0.416   0.264   0.059   0.034   1244.200   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.000   0.001   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Paysenger Cars)   0.277   0.007   11.090   0.398   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Paysenger Cars)   0.583   0.010   12.550   0.703   0.025   0.011   551.000   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (Rasenger Cars)   0.056   0.003   0.688   0.071   0.033   0.019   314.100   0.007     Diesel   LDDV   Light-Duty Vehicles (Rasenger Cars)   0.056   0.003   0.686   0.236   0.038   0.023   598.600   0.007     Diesel   LDDV   Heavy-Duty Vehicles (Rasenger Cars)   0.056   0.003   0.486   0.236   0.038   0.023   598.600   0.007     Diesel   LDDV   Heavy-Duty Vehicles (Rasenger Cars)   0.050   0.000   0.000   0.000   0.001   0.001   0.001     Diesel   LDGV   Light-Duty Trucks (0-8500 lbs)   0.237   0.007   11.090   0.396   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Trucks (0-8500 lbs)   0.583   0.010   12.550   0.6697   0.025   0.011   368.000   0.102     Gasoline   LDGV   Light-Duty Vehicles (Rasenger Cars)   0.056   0.003   0.658   0.071   0.033   0.019   314.100   0.007     Diesel   LDGV   Light-Duty Trucks (0-8500 lbs)   0.236   0.066   0.486   0.236   0.038   0.023   598.600   0.007     Diesel   LDGV   Light-Duty Vehicles (Rasenger Cars)   0.056   0.003   0.658   0.071   0.033   0.019   314.100   0.007     Diesel   LDGV   Light-Duty Vehicles (Rasenger Cars)   0.056   0.003   0.658   0.071   0.033   0.019   314.100   0.007     Diesel   LDGV   Light-Duty Vehicles (Rasenger Cars)   0.056   0.003   0.688   0.071   0.033   0.019   314.100   0.007     Diesel   LDGV   Light-Duty Vehicles (Rasenger Cars)   0.056   0.003   0.688   0.071   0.033   0.019   314.100   0.007     Die			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.641	0.018	9.860	0.615	0.039	0.023	984.200	0.045
Diesel   HDDV   Heavy-Duty Vehicks (8,501+18)   1.189   0.012   0.416   0.264   0.059   0.034   1244.200   0.027		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
NA MC   Motorcycles   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
Gasoline   LDGV   Light-Duty Vehicles (Pg lenger Cars)   0.277   0.007   11.090   0.398   0.025   0.011   368.000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
HIGH   Hard			NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
HIGH Diesel LDDV Light-Duty Vehicles (R501+lbs)  MINNESOTA  MINNES			Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.277	0.007	11.090	0.398	0.025	0.011	368.000	0.102
HIGH			Gasoline	LDGT		0.583	0.010	12.550	0.703	0.025	0.011	551.000	0.102
MINNESOTA    Diesel   LDDT   Light-Duty Trucks (0-8.500 lbs)   0.236   0.006   0.486   0.236   0.038   0.023   598.600   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.531	0.018	32.270	0.796	0.039	0.023	984.200	0.045
MINNESOTA    Diesel   HDDV   Heavy-Dry Vehicles (8,501+ lbs)   1.211   0.012   1.024   0.532   0.059   0.034   1244.200   0.027     NA   MC   Motory cles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.277   0.007   11.090   0.396   0.025   0.011   368.000   0.102     Gasoline   LDGV   Eight-Duty Trucks (0-8,500 lbs)   0.583   0.010   12.550   0.697   0.025   0.011   551.000   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.647   0.018   10.140   0.629   0.039   0.023   984.200   0.045     Diesel   DDT   Light-Duty Trucks (0-8,500 lbs)   0.236   0.006   0.486   0.236   0.038   0.023   598.600   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.189   0.012   0.416   0.264   0.059   0.034   1244.200   0.027     Diesel   LDGV   Light-Duty Vehicles (Passenger Cars)   0.264   0.007   0.938   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.528   0.010   8.520   0.660   0.025   0.011   551.000   0.102     Gasoline   LDDV   Heavy-Duty Vehicles (Passenger Cars)   0.056   0.003   0.658   0.071   0.033   0.019   314.100   0.007     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.528   0.010   8.520   0.660   0.025   0.011   551.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.528   0.010   8.520   0.660   0.025   0.011   551.000   0.007     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.056   0.003   0.658   0.071   0.033   0.019   314.100   0.007     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.001   0.001     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.056   0.003   0.658   0.071   0.033   0.019   314.100   0.007     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.001   0.001   0.001     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.056   0.003   0.658   0.071   0.033   0.019   314.100   0.001     Gasoline   DGT   Light-Duty Vehicles (Passenger Cars)		HIGH	Diesel	LDDV	Light-Duty Veb cles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
NA MC   Motorycles   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000			Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.277   0.007   11.090   0.396   0.025   0.011   368.000   0.102			Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
LOW   Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.277   0.007   11.090   0.396   0.025   0.011   368.000   0.102	MINNESOTA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW   Diesel   LDV   Light-Duty Vehicles (8,501+lbs)   0.647   0.018   10.140   0.629   0.039   0.023   984.200   0.045	MINNESOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.277	0.007	11.090	0.396	0.025	0.011	368.000	0.102
LOW   Diesel   LDV   Light-Duty Vehicles (Passenger Cars)   0.056   0.003   0.658   0.071   0.033   0.019   314.100   0.007			Gasoline	LDGT		0.583	0.010	12.550	0.697	0.025	0.011	551.000	0.102
Diesel   ADDT   Light-Duty Trucks (0-8,500 lbs)   0.236   0.006   0.486   0.236   0.038   0.023   598.600   0.007			Gasoline	HDGY	Heavy-Duty Vehicles (8,501+ lbs)	0.647	0.018	10.140	0.629	0.039	0.023	984.200	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501+ lbs)   1.189   0.012   0.416   0.264   0.059   0.034   1244.200   0.027		LOW	Diesel	LDJV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
HISH   Gisoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.264   0.007   6.980   0.398   0.025   0.011   368.000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
High   Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.528   0.010   8.520   0.660   0.025   0.011   551.000   0.102			N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
High   Gasoline   HDGV   Heavy-Duty Vehicles (8,501+ lbs)   0.510   0.018   29.000   0.895   0.039   0.023   984.200   0.045			G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	6.980	0.398	0.025	0.011	368.000	0.102
HIGH   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.056   0.003   0.658   0.071   0.033   0.019   314.100   0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.528	0.010	8.520	0.660	0.025	0.011	551.000	0.102
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.236   0.006   0.486   0.236   0.038   0.023   598.600   0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.510	0.018	29.000	0.895	0.039	0.023	984.200	0.045
MISSISSIPP    Diesel   HDDV   Heavy-Duty Vehicles (8,501+lbs)   1.211   0.012   1.024   0.532   0.059   0.034   1244.200   0.027     NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.001   0.021   0.014   0.000   0.000     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.264   0.007   6.980   0.395   0.025   0.011   368.000   0.102     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.528   0.010   8.520   0.649   0.025   0.011   551.000   0.102     Gasoline   HDGV   Heavy-Duty Vehicles (8,501+lbs)   0.621   0.018   9.110   0.747   0.039   0.023   984.200   0.045     LOW   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.056   0.003   0.658   0.071   0.033   0.019   314.100   0.007     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.236   0.006   0.486   0.236   0.038   0.023   598.600   0.007		HUJH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
MISSISSIPP    NA   MC   Motorcycles   0.000   0.000   0.000   0.000   0.000   0.000   0.021   0.014   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000   0.000			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.264   0.007   6.980   0.395   0.025   0.011   368.000   0.102			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
Casoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.254   0.007   0.980   0.393   0.025   0.011   368.000   0.102	Micciccippi		NA	MC	, ,	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
LOW Gasoline HDGV Heavy-Duty Vehicles (8,501+ lbs) 0.621 0.018 9.110 0.747 0.039 0.023 984.200 0.045  Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.056 0.003 0.658 0.071 0.033 0.019 314.100 0.007  Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.236 0.006 0.486 0.236 0.038 0.023 598.600 0.007	W11991991FF		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	6.980	0.395	0.025	0.011	368.000	0.102
LOW         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.056         0.003         0.658         0.071         0.033         0.019         314.100         0.007           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.236         0.006         0.486         0.236         0.038         0.023         598.600         0.007			Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.528	0.010	8.520	0.649	0.025	0.011	551.000	0.102
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.236 0.006 0.486 0.236 0.038 0.023 598.600 0.007			Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.621	0.018	9.110	0.747	0.039	0.023	984.200	0.045
		LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
D: 1 HDDV H			Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
Diesei HDDV Heavy-Duty Vehicles (8,501+ lbs)   1.189   0.012   0.416   0.264   0.059   0.034   1244.200   0.027			Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
NA MC Motorcycles 0.000 0.000 0.000 0.000 0.021 0.014 0.000 0.000	<u>/</u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV (cont.)

		F1					Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.268	0.007	8.310	0.396	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.545	0.010	9.800	0.666	0.025	0.011	551 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.517	0.018	29.870	0.850	0.039	0.023	\$4.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	2.034	1244.200	0.027
MICCOLIDI		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MISSOURI		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.268	0.007	8.310	0.393	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.545	0.010	9.800	0.656	0/25	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.630	0.018	9.390	0.697	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.276	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.271	0.007	10.513	0.378	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.572	0.010	17.960	0.665	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.528	0.018	31.700	0.769	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.956	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	o.012	1.024	0.532	0.059	0.034	1244.200	0.027
MONTANA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
MONTANA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.271	0.007	10.510	0.377	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.572	0.010	11.960	0.660	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.644	0.018	9.960	0.610	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Care	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+118)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.269	0.007	9.090	0.373	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.555	0.010	10.560	0.655	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.521	0.018	30.420	0.807	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
NEBRASKA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
1122112		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.269	0.007	9.090	0.371	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Aght-Duty Trucks (0-8,500 lbs)	0.555	0.010	10.560	0.646	0.025	0.011	551.000	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.635	0.018	9.560	0.650	0.039	0.023	984.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.790	0.387	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.548	0.010	10.260	0.654	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.520	0.018	30.130	0.813	0.039	0.023	984.200	0.045
	HVJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
NEVADA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
THE TADA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.790	0.385	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.548	0.010	10.260	0.647	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.633	0.018	9.470	0.661	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
<u> </u>		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV (cont.)

		F1					E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type			$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.270	0.007	10.320	0.376	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.569	0.010	11.770	0.661	0.025	0.011	551 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.528	0.018	31.530	0.771	0.039	0.023	934.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	£.034	1244.200	0.027
NEW HAMPSHIRE		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEW HAMIFSHIKE		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.270	0.007	10.320	0.375	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.569	0.010	11.770	0.656	0/25	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.642	0.018	9.910	0.613	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.276	0.038	0.023	598.600	0.007
		Diesel	HDDV		1.189	0.012	0.416	.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.45	0.388	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.545	0.010	9 330	0.655	0.025	0.011	551.000	0.102
		Gasoline	~~~~~~	·/	0.518	0.018	29.830	0.825	0.039	0.023	984.200	0.045
	HIGH	Diesel		<del>/</del>	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	***************************************	Light-Duty Trucks (0-8,500 lbs)	0.236	0.056	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.211	5.012	1.024	0.532	0.059	0.034	1244.200	0.027
NEW JERSEY		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NEW GERGET		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	8.450	0.386	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.545	0.010	9.930	0.647	0.025	0.011	551.000	0.102
		Gasoline	HDGV		0.631	0.018	9.370	0.674	0.039	0.023	984.200	0.045
	LOW	Diesel	~~~~~~~~	Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+11s)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Partienger Cars)	0.262	0.007	8.300	0.384	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (05,500 lbs)	0.541	0.010	9.770	0.646	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.517	0.018	29.680	0.819	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
NEW MEXICO		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.262	0.007	8.300	0.382	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.541	0.010	9.770	0.639	0.025	0.011	551.000	0.102
	1.011	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.630	0.018	9.330	0.670	0.039	0.023	984.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.269	0.007	9.930	0.372	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.564	0.010	11.390	0.652	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.526	0.018	31.170	0.773	0.039	0.023	984.200	0.045
	HUJH	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
NEW YORK		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.269	0.007	9.930	0.370	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.564	0.010	11.390	0.646	0.025	0.011	551.000	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.640	0.018	9.800	0.616	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV (cont.)

							Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Precurso	rs	
		Type		· ·	NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.261	0.007	7.400	0.393	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.531	0.010	8.900	0.656	0.025	0.011	551 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.513	0.018	29.010	0.865	0.039	0.023	\$4.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	6.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
NORTH CAROLINA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.261	0.007	7.400	0.391	0.025	0.011	368.000	0.102
		Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.531	0.010	8.900	0.647	0/25	0.011	551.000	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.624	0.018	9.120	0.718	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2/6	0.038	0.023	598,600	0.007
		Diesel	HDDV	<del></del>	1.189	0.012	0.416	.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.278	0.007	11.200	0.400	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.585	0.010	12.670	0.707	0.025	0.011	551.000	0.102
		Gasoline			0.532	0.018	32.380	0.797	0.039	0.023	984.200	0.045
	HIGH	Diesel		·/	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
	111011	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.00	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	***************************************	Heavy-Duty Vehicles (8,501+ lbs)	1.211	3.012	1.024	0.532	0.059	0.023	1244.200	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.033	0.014	0.000	0.000
NORTH DAKOTA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.000	0.007	11.200	0.398	0.021	0.014	368.000	0.102
		Gasoline	LDGV	Light-Duty Venices (Fassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.278 0.585	0.007	12.670	0.701	0.025	0.011	551.000	0.102
		Gasoline	HDGV		0.648	0.018	10.180	0.630	0.023	0.023	984.200	0.102
	LOW			Light-Duty Vehicles (Passenger Cars	0.048	0.003	0.658	0.030	0.033	0.023	314.100	0.043
	LOW	Diesel	~~~~~~~~	······································			***************************************			***************************************	598.600	
		Diesel		Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ 1/8)	0.236	0.006	0.486	0.236	0.038	0.023	1244.200	0.007
		Diesel	***************************************	······································	1.189	0.012	0.416	0.264		***************************************		0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline Gasoline	LDGV LDGT	Light-Duty Vehicles (Parsenger Cars) Light-Duty Trucks (0.5,500 lbs)	0.266	0.007	8.880 10.350	0.391 0.661	0.025 0.025	0.011	368.000 551.000	0.102 0.102
				J	***************************************							
	HIGH	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.520	0.018	30.220	0.820 0.071	0.039	0.023	984.200	0.045
	поп	Diesel	LDDV	Light-Duty Veb cles (Passenger Cars)	0.056		0.658				314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV MC	Heavy-Day Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
OHIO		NA C. I		Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.266	0.007	8.880	0.389	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Ight-Duty Trucks (0-8,500 lbs)	0.550	0.010	10.350	0.654	0.025	0.011	551.000	0.102
	LOW	Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.634	0.018	9.500	0.667	0.039	0.023	984.200	0.045
	LOW	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	<b>/</b>	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.269	0.007	7.640	0.402	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.538	0.010	9.180	0.670	0.025	0.011	551.000	0.102
	ну⊿н	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.513	0.018	29.650	0.889	0.039	0.023	984.200	0.045
	нън	Diesel		Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
	1	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
OKLAHOM		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.269	0.007	7.640	0.398	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.538	0.010	9.180	0.659	0.025	0.011	551.000	0.102
	r ow.	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.625	0.018	9.320	0.735	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV (cont.)

		F1					E	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel		Vehicle Type		(	Crite ria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type			NOx	SOx	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.263	0.007	9.340	0.379	0.025	0.011	368.00	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.553	0.010	10.790	0.643	0.025	0.011	551 300	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.523	0.018	30.600	0.780	0.039	0.023	\$4.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	2.034	1244.200	0.027
oppos.		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
OREGON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.263	0.007	9.340	0.378	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.553	0.010	10.790	0.639	0/25	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.637	0.018	9.620	0.630	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.2/6	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.244	0.007	6.41	0.374	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.508	0.010	7/30	0.615	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.508	0.018	28.000	0.842	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0,936	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	o.012	1.024	0.532	0.059	0.034	1244.200	0.027
DA CHEIC ICI ANDC		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
PACIFIC ISLANDS		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.24	0.007	6.410	0.373	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	9.508	0.010	7.930	0.608	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.619	0.018	8.800	0.707	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+1/s)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Parsenger Cars)	0.266	0.007	9.210	0.390	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0,5,500 lbs)	0.554	0.010	10.670	0.661	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.522	0.018	30.510	0.808	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Veb les (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Day Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
PENNSYLVANIA		NA	MC	Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
TEMMSTEVAMA		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.266	0.007	9.210	0.388	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.554	0.010	10.670	0.655	0.025	0.011	551.000	0.102
		Gasoline		Heavy-Duty Vehicles (8,501+ lbs)	0.636	0.018	9.590	0.655	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	DDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		N/	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		G soline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.262	0.007	4.980	0.382	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.507	0.010	6.580	0.623	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.501	0.018	27.170	0.911	0.039	0.023	984.200	0.045
	HV 5H	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
	ĺ	Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	
PUERTO RIGO		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
TOLKIO KIND		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.262	0.007	4.980	0.381	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.507	0.010	6.580	0.612	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.610	0.018	8.540	0.776	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel		Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV (cont.)

		E - I	·				Emission I	actors (g/	mi)	-	
State	Altitude	Fuel Type	Vehicle Type			Criteria	Pollutants a	and Ozone	Precurso	rs	
		Туре		NOx	so	x CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Pas			7 8.97		0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,50					0.025	0.011	551 300	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,5		~~~			0.039	0.023	84.200	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Pas					0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,50		~~~			0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,5					0.059	6.034	1244.200	0.027
RHODE ISLAND		NA	MC Motorcycles	0.000	_	_		0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Pass					0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,50 HDGV Heavy-Duty Vehicles (8,5		00-000-00-00-00-00-00	***************	********************	0.039	0.011	551.000	0.102
	LOW	Gasoline Diesel	HDGV Heavy-Duty Vehicles (8,5 LDDV Light-Duty Vehicles (Pas					0.039	0.023	984.200 314.100	0.045
	LOW	Diesel	LDDT Light-Duty Trucks (0-8,50			~~~~~~~~~~~		0.033	0.019	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,5)					0.059	0.023	1244.200	0.007
		NA	MC Motorcycles	0.000				0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Pas		_	_		0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,50			<del></del>		0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,5					0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Pas					0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,50					0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,5					0.059	0.034	1244.200	0.027
COLUMN CAROLINA		NA	MC Motorcycles	0.000	******			0.021	0.014	0.000	0.000
SOUTH CAROLINA		Gasoline	LDGV Light-Duty Vehicles (Pas	senger Cars) 0.2	0.00	7.02	0.393	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,50	00 lbs) 9.528	0.01	0 8.56	0.647	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,5	501+ lbs) 0.621	0.01	8 9.10	0.740	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Pas	senger Cars 0.056	0.00	0.65	8 0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,50	00 lbs) 0.236	0.00	0.48	6 0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,5	501+ Ps) 1.189	0.01	2 0.41	6 0.264	0.059	0.034	1244.200	0.027
		NA	MC Motorcycles	0.000	0.00	0.00	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Page 1997)	enger Cars) 0.273	0.00	9.92	0.383	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0, 50)	00 lbs) 0.567	0.01	0 11.39	0.673	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,5			~~~~	~~~~	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV Light-Duty Veh cles (Pas					0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,50					0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,5					0.059	0.034	1244.200	0.027
SOUTH DAKOTA		NA	MC Motor ycles	0.000	_			0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Pas		****			0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,50		~~~	~~~~		0.025	0.011	551.000	0.102
	1.011/	Gasoline	HDGY Heavy-Duty Vehicles (8,5					0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Pass		~~~			0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,50					0.038	0.023	598.600	0.007
		Diesel N/	HDDV Heavy-Duty Vehicles (8,5 MC Motorcycles	501+ lbs) 1.189 0.000	****			0.059	0.034	0.000	0.027
		G soline	LDGV Light-Duty Vehicles (Pas		_	_	_	0.021	0.014	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,50		~~~			0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,5					0.023	0.023	984.200	0.102
	HV⊿H	Diesel	LDDV Light-Duty Vehicles (Pas		wassa			0.033	0.019	314.100	0.007
	THE ST	Diesel	LDDT Light-Duty Trucks (0-8,50		****			0.038	0.013	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,5		····	~~~~		0.059	0.034	1244.200	
		NA	MC Motorcycles	0.000				0.021	0.014	0.000	0.000
TENNESSEL		Gasoline	LDGV Light-Duty Vehicles (Pas				_	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,50					0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,5		****			0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Pas					0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,50		~~~		~~~~	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,5		****			0.059	0.034	1244.200	0.027
<u>/</u>		NA	MC Motorcycles	0.000		******************		0.021	0.014	0.000	0.000
			•				•	•	•		

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV (cont.)

						Eı	mission Fa	actors (g/r	ni)		
State	Altitude	Fuel	Vehicle Type		C	riteria Po	llutants a	nd Ozone	Pre curso:	rs	
		Type		$NO_X$	$SO_X$	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.266	0.007	6.900	0.401	0.025	0.011	368.00	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.528	0.010	8.460	0.664	0.025	0.011	551 000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.510	0.018	29.080	0.908	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	° .034	1244.200	0.027
TEVAC		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
TEXAS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.266	0.007	6.900	0.398	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.528	0.010	8.460	0.652	0/25	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.621	0.018	9.140	0.759	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.276	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	.264	0.059	0.034	1244.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.267	0.007	9.19	0.368	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.554	0.010	10.650	0.645	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.522	0.018	30.500	0.790	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0,236	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV   Heavy-Duty Vehicles (8,501+ lbs)	1.211	5.012	1.024	0.532	0.059	0.034	1244.200	0.027
*****		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
UTAH		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.26	0.007	9.190	0.366	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	8.554	0.010	10.650	0.638	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.636	0.018	9.590	0.635	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598,600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+1/s)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV Light-Duty Vehicles (Parsenger Cars)	0.272	0.007	10.520	0.379	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0.7,500 lbs)	0.572	0.010	11.970	0.667	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.528	0.018	31.710	0.773	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Tucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-D ty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
		NA	MC Motor ycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
VERMONT		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.272	0.007	10.520	0.378	0.025	0.011	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.572	0.007	11.970	0.662	0.025	0.011	551.000	0.102
		Gasoline	HDGY Heavy-Duty Vehicles (8,501+ lbs)	0.644	0.018	9.970	0.613	0.023	0.023	984.200	0.102
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.023	314.100	0.007
		Diesel	DDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.005	0.486	0.236	0.038	0.013	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.000	0.416	0.264	0.059	0.023	1244.200	0.007
		N/	MC Motorcycles	0.000	0.000	0.000	0.000	0.033	0.014	0.000	0.000
		G soline	LDGV Light-Duty Vehicles (Passenger Cars)	0.000	0.007	5.010	0.390	0.021	0.014	368.000	0.102
	] .	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.514	0.007	6.640	0.631	0.025	0.011	551.000	0.102
		Gasoline	HDGV Heavy-Duty Vehicles (8,501+ lbs)	0.502	0.018	27.750	0.938	0.039	0.023	984.200	0.045
	HV⊿H	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.023	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.036	0.005	0.486	0.236	0.038	0.013	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.230	0.059	0.023	1244.200	0.007
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.039	0.034	0.000	0.027
VIRGIN ISLANDS		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.000	0.007	5.010	0.388	0.021	0.014	368.000	0.102
		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.271	0.007	6.640	0.619	0.025	0.011	551.000	0.102
			HDGV Heavy-Duty Vehicles (8,501+ lbs)	***************************************	***************************************	8.720	0.801	0.023	0.011	984.200	
	LOW	Gasoline		0.611	0.018				***************************************		0.045
	LOW	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000

Table 5-40. On-Road Vehicle Emission Factors - 2020 GOV (cont.)

		Fuel							actors (g/r			
State	Altitude	Type		Vehicle Type	NO		Criteria Po CO	llutants a				17
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	NO <sub>X</sub> 0.262	SO <sub>X</sub> 0.007	7.980	0.387	PM <sub>10</sub> 0.025	PM <sub>2.5</sub> 0.011	CO <sub>2</sub> 368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.202	0.007	9.460	0.651	0.025	0.011	551.00	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.516	0.018	29.400	0.835	0.039	0.023	984_200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	3 4.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
VIRGINIA		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.074	0.000	0.000
		Gasoline Gasoline	LDGV LDGT	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.262	0.007	7.980 9.460	0.385	0.025	0.011	368.000 551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+lbs)	0.538	0.018	9.400	0.686	0.023	0.011	984.200	0.102
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.03	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0 38	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	9.490	0.38	0.025	0.011	368.000	0.102
		Gasoline Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	0.555 0.524	0.010	10.940 30.750	0.47 3.780	0.025	0.011	551.000 984.200	0.102
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.324	0.003	0.658	0.071	0.039	0.023	314.100	0.043
	111011	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.6.4	0.532	0.059	0.034	1244.200	0.027
WASHINGTON		NA	MC	Motorcycles	0.000	0.000	.000	0.000	0.021	0.014	0.000	0.000
WASHINGTON		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.264	0.007	9.490	0.380	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.555	0.010	10.940	0.643	0.025	0.011	551.000	0.102
	LOW	Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.638	0.008	9.660	0.629	0.039	0.023	984.200	0.045
	LOW	Diesel Diesel	LDDV LDDT	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.056	0.006	0.658 0.486	0.071 0.236	0.033	0.019	314.100 598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+lbs)	1.189	0.012	0.436	0.264	0.059	0.023	1244.200	0.007
		NA	MC	Motorcycles	0.00	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0 _63	0.007	8.680	0.386	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.546	0.010	10.150	0.651	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.519	0.018	30.030	0.812	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Car	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel Diesel	LDDT HDDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	0.236	0.006 0.012	0.486 1.024	0.236 0.532	0.038	0.023	598.600 1244.200	0.007
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.039	0.034	0.000	0.027
WEST VIRGINIA		Gasoline	LDGV	Light-Duty Vehicles (Passager Cars)	0.263	0.007	8.680	0.384	0.021	0.014	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.546	0.010	10.150	0.644	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heavy-Duty Vehicles (8,501+ lbs)	0.633	0.018	9.440	0.662	0.039	0.023	984.200	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicle (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Truck (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel NA	MC MC	Heavy-Duty Vehicles (8,501+ lbs) Motorcycles	0.000	0.012	0.416	0.264	0.059 0.021	0.034 0.014	1244.200 0.000	0.027
		Gasoline	LDGV	Light-Du Vehicles (Passenger Cars)	0.000	0.007	10.530	0.385	0.021	0.014	368.000	0.000
		Gasoline	LDGT	Light-Laty Trucks (0-8,500 lbs)	0.574	0.010	11.980	0.678	0.025	0.011	551.000	0.102
		Gasoline	HDGV	Heav-Duty Vehicles (8,501+ lbs)	0.528	0.018	31.740	0.786	0.039	0.023	984.200	0.045
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDY	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
WISCONSIN		NA Gasoline	J JGV	Motorcycles Light-Duty Vehicles (Passenger Cars)	0.000	0.000	0.000	0.000	0.021	0.014	0.000 368.000	0.000
		Gasoline	and the same and t	Light-Duty Trucks (0-8,500 lbs)	0.273	0.007	11.980	0.565	0.025	0.011	551.000	0.102
		Gasolin		Heavy-Duty Vehicles (8,501+ lbs)	0.644	0.018	9.970	0.624	0.039	0.023	984.200	0.045
	LOW	Die el	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.003	0.658	0.071	0.033	0.019	314.100	0.007
		Desel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027
		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.271	0.007	10.430	0.376	0.025	0.011	368.000	0.102
		Gasoline Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501+ lbs)	0.570	0.010	11.870 31.620	0.660	0.025	0.011	551.000 984.200	0.102
	HIGH	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.056	0.018	0.658	0.700	0.039	0.023	314.100	0.043
		Diesel		Light-Duty Trucks (0-8,500 lbs)	0.236	0.006	0.486	0.236	0.038	0.023	598.600	0.007
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.211	0.012	1.024	0.532	0.059	0.034	1244.200	0.027
wyомр G		NA	MC	Motorcycles	0.000	0.000	0.000	0.000	0.021	0.014	0.000	0.000
,,,,,,,,,,		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.271	0.007	10.430	0.374	0.025	0.011	368.000	0.102
		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.570	0.010	11.870	0.655	0.025	0.011	551.000	0.102
	LOW	Gasoline Diesel	HDGV LDDV	Heavy-Duty Vehicles (8,501+ lbs)	0.643	0.018	9.940	0.608	0.039	0.023	984.200 314.100	0.045
	LOW	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.056	0.003	0.658 0.486	0.071	0.033	0.019	598.600	0.007
<b>#</b>				~								
		Diesel	HDDV	Heavy-Duty Vehicles (8,501+ lbs)	1.189	0.012	0.416	0.264	0.059	0.034	1244.200	0.027

Table 5-41. OCONUS On-Road Composite Vehicle Emission Factors - POV

					Eı	nission Fa	actors (g/n	ni)		
Year	Altitude	Vehicle Type		(	Crite ria Po	llutants aı	nd Ozone	Precursor	s	
			$NO_X$	$SO_X$	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
2013	HIGH	All Vehicles	0.599	0.008	11.670	0.830	0.026	0.012	428.710	0.097
2013	LOW	All Vehicles	0.618	0.008	10.971	0.789	0.026	0.012	420.621	0.097
2014	HIGH	All Vehicles	0.556	0.008	11.322	0.783	0.026	0.012	428.820	0.097
2014	LOW	All Vehicles	0.574	0.008	10.627	0.742	0.026	0.012	420.729	0.097
2015	HIGH	All Vehicles	0.518	0.008	11.043	0.742	0.026	0.012	428.820	0.097
2013	LOW	All Vehicles	0.536	0.008	10.349	0.702	0.026	0.012	420.729	0.097
2016	HIGH	All Vehicles	0.483	0.008	10.770	0.706	0.026	0.012	428.950	0.097
2010	LOW	All Vehicles	0.501	0.008	10.077	0.666	0.026	0.012	420.857	0.097
2017	HIGH	All Vehicles	0.454	0.008	10.559	0.675	0.026	0.012	428.960	0.097
2017	LOW	All Vehicles	0.472	0.008	9.868	0.636	0.026	0.012	420.866	0.097
2018	HIGH	All Vehicles	0.427	0.008	10.337	0.647	0.026	0.012	429.030	0.097
2016	LOW	All Vehicles	0.445	0.008	9.646	0.608	0.026	0.012	420.935	0.097
2019	HIGH	All Vehicles	0.408	0.008	10.178	0.625	0.026	0.012	429.090	0.097
2019	LOW	All Vehicles	0.425	0.008	9.489	0.586	0.026	0.012	420.994	0.097
2020	HIGH	All Vehicles	0.394	0.008	10.057	0.599	0.025	0.012	429.080	0.097
2020	2020 LOW	All Vehicles	0.412	0.008	9.369	0.561	0.025	0.012	420.984	0.097

**Table 5-42. OCONUS On-Road Composite Vehicle Emission Factors - GOV** 

					Eı	mission Fa	actors (g/n	ni)	•	
Year	Altitude	Vehicle Type		(	Criteria Po	llutants a	nd Ozone	Precursor	S	
			$NO_X$	$SO_X$	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
2013	HIGH	All Vehicles	1.557	0.011	11.150	0.899	0.054	0.036	792.420	0.074
2013	LOW	All Vehicles	1.567	0.011	8.731	0.768	0.054	0.036	792.420	0.074
2014	HIGH	All Vehicles	1.368	0.011	10.718	0.844	0.049	0.031	792.370	0.074
2014	LOW	All Vehicles	1.376	0.011	8.405	0.721	0.049	0.031	762.469	0.074
2015	HIGH	All Vehicles	1.217	0.011	10.374	0.799	0.045	0.027	792.190	0.074
2013	LOW	All Vehicles	1.224	0.011	8.117	0.683	0.045	0.027	777.243	0.074
2016	HIGH	All Vehicles	1.089	0.011	10.044	0.758	0.043	0.025	792.230	0.074
2010	LOW	All Vehicles	1.095	0.011	7.833	0.646	0.043	0.025	777.282	0.074
2017	HIGH	All Vehicles	0.979	0.011	9.787	0.722	0.041	0.024	792.140	0.074
2017	LOW	All Vehicles	0.984	0.011	7.618	0.614	0.041	0.024	777.194	0.074
2018	HIGH	All Vehicles	0.872	0.011	9.512	0.687	0.038	0.021	792.140	0.074
2016	LOW	All Vehicles	0.877	0.011	7.372	0.583	0.038	0.021	777.194	0.074
2019	HIGH	All Vehicles	0.796	0.011	9.310	0.660	0.037	0.020	792.170	0.074
2019	LOW	All Vehicles	0.800	0.011	7.202	0.559	0.037	0.020	777.223	0.074
2020	HIGH	All Vehicles	0.733	0.011	9.156	0.627	0.036	0.019	792.080	0.074
2020	2020	All Vehicles	0.737	0.011	7.070	0.528	0.036	0.019	777.135	0.074

**Table 5-43. On Road Vehicle Speciated VOC Weight Fractions** 

voc	HAP	175	3 <sup>2</sup> 175	3 <sup>2</sup> 179	<i>ş</i> }	rî ku	<sup>दुवे</sup> प्रार्थ	DÅ AL		voc	HAP	175	34 1797	<b>17</b> 0°	ş <sup>2</sup> 1757	r <sup>è</sup> Ho	zi Hor	şê şiç
Acetylene		4.05%	8.02%	3.61%	8.52%	2.90%				3,5-Dimethylheptane							2.18%	
Acetaldehyde	X	0.29%		1.64%						4,4-Dimethylheptane			0.08%					
Acrolein	X	0.24%		0.40%						2,3-Dimethylhexane		0.29%		0.36%			0.38%	
Alpha-pinene		0.06%		0.08%						2,4-Dimethylhexane		0.58%	0.46%	0.68%	0.23%	0.46%	0.25%	
Benzaldehyde		0.29%		1.19%						2,5-Dimethylhexane		0.39%	-	0.45%	-		0.21%	
Benzene	X	5.89%	2.23%	5.61%	2.91%	1.91%		3.99%		3,3-Dimethylhexane							0.11%	
Beta-pinene		0.03%		0.02%					ſ	Dimethyloctane		0.08%	0.31%	0.05%	0.39%	0.08%		
1,3-Butadiene	X	0.57%	1.08%	0.62%	1.44%				ſ	2,2-Dimethyloctane							0.43%	
Butane		0.37%	0.46%	0.41%	0.32%	24.42%		0.65%	ſ	2,3-Dimethyloctane						0.57%		
1-Butene		2.22%	1.68%	2.47%	2.01%	1.21%		2.32%	Ī	2,4-Dimethyloctane			0.15%		0.19%		2.56%	
cis-2-Butene		0.14%	0.61%	0.14%	0.77%	0.73%		0.48%	Ī	2,4-Dimethylpentane		0.85%	0.08%	0.90%		0.70%	0.22%	2.29%
trans-2-Butene		0.35%	2.25%	0.30%	0.24%	0.97%		0.29%	Ī	2,2-Dimethylpentane			0.08%					
Butylbenzene						0.23%			ľ	2,3-Dimethylpentane		1.25%	0.15%	1.32%	0.44%		1.36%	0.95%
o-tert-Butyltoluene					0.19%		1.09%		İ	3,3-Dimethylpentane							0.59%	
tert-Butyl-m-Xylene							0.74%		l	2,2-Dimethylpropane			0.33%		0.68%			
Butyraldehyde		0.04%		0.42%					İ	Dipente		0.42%		0.33%				
C6 olefin			2.80%		2.23%				ı	Dodecane		0.48%	0.50%	0.22%	0.61%		3.01%	
Crotonaldehyde		0.02%		0.06%					ı	Ethene			28.13%		30.07%			
Cyclohexane		0.50%		0.32%			1.72%	0.19%	l	Ethyl tert-butyl ether	1				0.39%		2.98%	
Cyclohexene		0.07%		0.04%		1.72%	0.32%			Ethylbenzene	X	2.56%	0.38%	2.28%	0.48%	0.73%	1.29%	1.99%
Cyclopentadiene			0.53%		0.24%					Ethylcyclohexane		2.5070		2.2070			7.69%	
Cyclopentane		0.22%	0.57%	0.20%	0.44%	0.52%	1.09%	1.09%		Ethylene		7.39%		6,59%		4.74%		
Cyclopentene		0.12%	0.53%	0.12%	0.39%	0.32%	0.51%	0.31%		3-Ethylhexane		7.5770	0.15%		0.29%		0.70%	
Cyclopentylcyclopentane		0.12/0	0.5570	0.12/0		0.50%	0.5170	0.5170		cis-1-Ethyl-2-Methylcyclopentane			0.15%		0.2770			
Decane		0.25%	1.30%	0.17%	1.65%	0.12%	1.39%			3-Ethylpentane		0.31%	0.1570	0.27%				
Diethylbenzene			0.31%		0.39%		1.46%			3-Ethyltoluene		2.02%		1.71%		0.17%		
1,2-Diethylbenzene		0.09%	0.15%	0.05%	0.57/0	0.33%	1.40/0			Formaldehyde	X	1.06%		3.37%		0.17/0		
1,3-Diethylbenzene		0.29%	0.1370	0.30%		0.25%				Glyoxal	Λ	0.03%		0.01%				
1.4-Diethylbenzene		0.12%		0.07%		0.2370			ŀ	Heptane		1.11%	0.08%	1.06%	0.19%	0.79%	0.77%	2.19%
Dimethyl Ethylbenzene		0.1270	0.23%	0.0770	0.29%		2.30%		ŀ	1-Heptene		0.16%	0.0676	0.08%	0.1970	0.7970	0.7770	2.1970
2.2-Dimethylbutane		0.55%	0.25%	0.49%	0.29%	0.24%	1.13%	1.70%	ŀ	cis-2-Heptene		0.16%	0.15%	0.06%				
2,3-Dimethylbutane		0.88%	0.69%	0.49%	0.53%	1.07%	0.61%	1.78%	ŀ	trans-2-Heptene			0.15%					
3.3-Dimethyl-1-butene			0.69%						ŀ	Trans-3-Heptene		0.03%	0.15%	0.04%				
1,1-Dimethylcyclohexane	_	0.06%		0.06%					ŀ	Hexaldehyde	_	0.03%		0.04%				
									ŀ	•	37							
cis-1,2-Dimethylcyclohexane			0.150/		0.200/		0.32%		-	Hexane 1-Hexene	X	1.51%	0.040/	1.83%	0.19%	1.67%	2.40%	1.42%
trans-1,2-Dimethylcyclohexane			0.15%		0.39%		1.50%		-	cis-2-Hexene		0.16%	0.94%	0.16%	0.83%	0.30%	1.77%	0.000
cis-1,3-Dimethylcyclohexane						0.000/	2.07%		ŀ		_	0.08%	0.23%	0.08%		0.12%		0.06%
Cis-1,4-Dimethylcyclohexane						0.09%	0.23%		ļ	trans-2-Hexene	_	0.14%	0.46%	0.14%				0.10%
cis-1,3-Dimethylcyclopentane		0.00			0.68%		0.72%		ļ	cis-3-Hexene	_	0.02%		0.02%		0.00		
Dimethylheptane		0.08%	0.88%	0.08%	1.11%	0.09%				Hexyne						0.02%		
2,5-Dimethylheptane			0.15%		0.19%				ļ	Indan	_	0.24%		0.17%		0.35%		
2,6-Dimethylheptane			0.23%		0.58%				ļ	Isohexane				2.66%		3.06%		
2,3-Dimethylheptane							0.65%		ļ	Isopropylcyclohexane	1	0.04%		0.02%				
2,5-Dimethylheptane		0.19%		0.18%		0.14%				Methylbenzaldehyde		0.02%		0.17%				
2,6-Dimethylheptane									ļ	2-Methyl-1,3-Butadiene			0.54%		0.58%	0.11%		
3,3-Dimethylheptane		0.05%		0.04%						2-Methylbutane		0.27%	0.31%	0.24%	0.39%	12.02%		14.59%

Table 5-43. On Road Vehicle Speciated VOC Weight Fractions (Cont.)

voc	НАР	179	5 <sup>3</sup> 175	3 <sup>2</sup> 135	<i>s</i> } \ 105	J <sup>2</sup> III	gg <sup>1</sup> ID	Dri Arc	/	voc	HAF	177	3 <sup>3</sup> 175	3 <sup>2</sup> 135	ş <b>i</b> 1757	r <sup>2</sup> HD	gg <sup>1</sup> III	på /
2-Methyl-1-Butene		1.71%	4.20%	1.53%	2.27%					Nonanal		0.53%		0.29%				
2-Methyl-2-Butene		0.32%	0.23%	0.39%		0.12%		1.08%		Nonane		0.33%	0.64%	0.24%	0.77%	0.12%	0.98%	0.56%
3-Methyl-1-Butene		6.54%		5.86%		0.15%		0.14%		Nonene			0.73%		0.92%			
Methyl-tert-Butyl Ether	X	0.02%		0.05%						1-Nonene		0.11%	0.69%	0.10%	0.29%		1.22%	
Methylcyclohexane		0.44%	0.28%	0.40%	0.43%	0.28%	1.62%	0.43%		trans-2-Nonene						0.19%		
Methylcyclooctane					-	0.36%				Octanal		0.03%		0.02%				
Methylcyclopentane		1.10%	0.08%	1.04%	0.10%	1.21%	0.44%	1.83%		Octane		0.60%	0.20%	0.51%	0.45%	0.26%	1.55%	0.89%
-Methylcyclopentene			0.23%			0.03%				1-Octene		0.03%		0.05%				
-Methyldecane					-	0.69%				Pentane		0.06%	1.91%	0.08%	1.52%	5.29%		8.14%
Methylethylbenzene	X	0.19%	0.53%	0.15%	0.68%		2.39%	0.40%		1-Pentene		0.37%	2.98%	0.38%	3.23%	0.45%		0.27%
-Methyl-2-Ethylbenzene		0.75%		0.62%						cis-2-Pentene		0.20%	0.15%	0.20%		1.06%		0.35%
is-1-Methyl-3-Ethylcyclopentane			1.22%		0.74%					trans-2-Pentene		0.39%	1.30%	0.37%	0.97%	0.89%		0.58%
-Methyl-4-Ethylbenzene		0.92%		0.78%						Pentylbenzene							1.62%	
Methyl ethyl ketone		0.05%		0.07%						Pentyne						0.21%		
2-Methylheptane		0.67%	0.15%	0.53%		0.28%	0.44%	1.61%		trans-1-Phenylbutene						0.25%		
3-Methylheptane		0.75%		0.69%		0.38%	0.44%	1.67%		4-Phenyl-1-Butene						0.28%		
l-Methylheptane		0.28%	0.08%	0.28%		0.27%				1,2-Propadiene						0.12%		
2-Methylhexane		1.39%		1.34%			0.52%	3.18%		Propane		0.24%	0.31%	0.23%	3.00%			
3-Methylhexane		1.54%	0.61%	1.38%			1.72%	2.57%		Propene		4.23%	9.08%	4.56%	8.79%	1.71%		1.11%
3-Methyl-1-Hexene					0.58%					Propionaldehyde	X	0.04%		0.11%				
l-Methyl-1-Hexene		0.03%		0.03%						Propylbenzene		0.59%	0.20%	0.49%	0.29%	0.34%	0.51%	0.65%
-Methyl-2-Isopropylbenzene		0.03%		0.02%						Propylcyclopentane								
-Methyl-3-isopropylbenzene		0.09%		0.06%						Propyltoluene							3.37%	
-Methyl-4-Isopropylbenzene		0.02%		0.02%						Propyne			0.38%		0.10%	0.26%		
-Methyloctane		0.38%	0.15%	0.23%		0.04%	0.92%			Styrene	X	0.13%	0.84%	0.10%			2.04%	0.23%
B-Methyloctane		0.34%	0.08%	0.29%		0.34%	1.81%			Tetramethylbenzene		0.26%	0.27%	0.18%	0.42%		14.53%	
l-Methyloctane						0.42%				1.2.3.4-Tetramethylbenzene		0.18%		0.09%				
2-Methylpentane		2.68%	0.28%		0.32%		3.80%	5.81%		1.2.4.5-Tetramethylbenzene		0.20%		0.13%				
B-Methylpentane		1.85%	0.53%	1.80%	1.21%	1.68%	1.20%	3.48%		Toluene	Х	11.19%	1.62%	10.57%	2.06%	3.25%		12.52%
3-Methyl-cis-2-Pentene		0.09%		0.09%						Trimethylbenzene		3.28%	0.31%	2.55%	0.39%	1.57%	4.27%	1.43%
2-Methyl-1-Pentene		0.11%	1.30%	0.11%	0.74%			0.22%		1,2,3-Trimethylbenzene		0.34%	0.23%	0.30%		0.28%		
2-Methyl-2-Pentene		0.10%	0.08%	0.08%		0.37%				1,3,5-Trimethylbenzene		0.89%		0.78%	0.39%	1.32%		1.99%
3-Methyl-trans-2-Pentene		0.10%		0.08%			0.23%			2,2,3-Trimethylbutane		0.03%		0.03%			0.23%	
4-Methyl-1-Pentene			0.79%		0.90%					1,2,3-Trimethylcylcopentane			0.61%					
4-Methyl-trans-2-Pentene							2.62%			2.2.5-Trimethylhexane		0.38%	0.15%	0.43%		0.26%	0.46%	
2-Methylpropane		0.30%	0.15%	0.31%	0.19%	3.74%		0.20%		2.3.5-Trimethylhexane			0.15%		0.19%	0.09%		
2-Methyl-2-Propenal		0.04%		0.17%						2,2,4-Trimethylpentane	Х	2,25%	0.94%	4.04%	0.77%	1.63%	0.24%	1.45%
2-Methylpropene			2,29%		2.01%					2,3,3-Trimethylpentane					0.10%	0.46%		
1-methylpropyl)benzene		0.06%		0.04%	2.0170	0.05%				2,3,4-Trimethylpentane		0.67%	0.46%	0.92%	0.24%	0.28%	0.33%	0.71%
2-methylpropyl)benzene		0.06%		0.05%						2,4,4-Trimethyl-1-pentene		0.02%	0.08%	0.04%		1.88%		
I-Methyl-3-propylbenzene		0.16%		0.11%		0.17%				2,4,4-Trimethyl-2-pentene		0.0270	0.31%	0.0470				
Methylpyrene							1.11%			Undecane		0.13%	1.11%	0.09%	1.40%	0.15%	2.64%	
Methylfluoranthene							1.1170			1-Undecene		0.1370	1.11/0	0.0570	1.40/0	0.15%	2.0470	
Methylpyrene										Valeraldehyde		0.01%		0.01%		0.1370		
Nanhthalene	- 17	0.07%		0.03%						Xvlenes (Mixed Isomers)	X	9.50%	1.90%	8 20%	2.08%	3.02%		10.11%

<sup>1.</sup> SOURCE: Data provided by the EPA's SPECIATE database version 4.4.

<sup>2.</sup> SOURCE: Diesel Unregulated Emissions Characterization. CRC Report No. E-75-2, Coordinating Research Council, Inc., July 2010.

<sup>3.</sup> SOURCE: Air Pollutant Emission Factors from New and In-Use Motorcycles. Atmospheric Environment, April 2000.

<sup>&</sup>quot;X" Indicates compound is a HAP

<sup>&</sup>quot;--" Indicates No data available

Figure 5-2. Data Collection Form for Government Owned Vehicles (GOV's)

Installation Name:				Inventory Year:
Responsible Organizat	ion (Name and Office Sy	mbol):		
POC (Name, Phone #, a	nnd e-mail):			
Vehicle Category:				
	e category listed below t	he table) <sup>1</sup>		
Vehicle Identification				Miles Driven During Inventory
Number (VIN) <sup>2</sup>	Vehicle Description <sup>3</sup>	Bldg. Number <sup>4</sup>	Model Year	Period (mi/yr) <sup>5</sup>
Number (VIIV)				reriod (IIII/yr)
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		Average Model Year	<u> </u>	

<sup>1.</sup> Vehicle Categories are listed in Table 5-9 as the Air Force classification for on-road vehicles.

<sup>2.</sup> If the VIN is unavailable, please provide some other unique identifier for the vehicle.

<sup>3.</sup> Sedan, hatchback, station wagon, etc.

<sup>4.</sup> The primary location the vehicle was assigned to during the inventory period.

<sup>5.</sup> Only include the miles driven on the installation if unknown, provide best estimate to the nearest 100 miles.

Figure 5-3. Example Data Collection Form for Privately Owned Vehicles (POVs)

Installation Name: Inventor				ear:
Responsible Organization (Name and Office Symbol):				
POC (Name, Phone #, a	and e-mail):			
	Question			Response
Can you provide a listing of all registered vehicles on base? (Y/N)?  If so, be sure to include all specific information (make/model, year, etc.) about the vehicles.				
What is the estimated a inventory period?	verage number of registered POVs at the installation during t	he		
•	percentage of <u>registered</u> vehicles which actually travel on the pical weekday (Monday - Friday)			
	percentage of <u>registered</u> vehicles which actually travel on the pical weekend day (Saturday and Sunday)			
What is the estimated d	listance the average POV travels on base during a typical wee	ekday?	mi/day	
What is the estimated distance the average POV travels on base during a typical weekend day?				mi/day
What is the estimated n weekday?	typical			
What is the estimated number of non-registered POVs which travel on base during a typical weekend day?				
What is the estimated average model year of all POVs driven on base during the inventory year? (NOTE: This is not required if the average model years are listed below for each vehicle category)				
	ormation, provide an estimate of the percentage of <u>registered</u> . If possible, please provide the estimated model year for eacl			each of the 12 vehicle
Vehicle Category	Category Description	Estimated % of Registered Vehicles		Average Model Year
LDGV	Light-Duty Casoline Vehicles - All gasoline-powered passenger cars			
LDDV	Light-Duty Diesel Vehicles - All diesel powered-passenger cars			
LDGT	Light-Duty Casoline Trucks - All smaller gasoline-powered trucks (0 - 8,500lbs GVWR)			
LDDT	Light-Duty Diesel Trucks - All smaller diesel-powered trucks (0 - 8,500lbs GVWR)			
HDGV	Heavy-Duty Gasoline Vehicles - All larger gasoline- powered vehicles (>8,500lbs)			
HDDV	Heavy-Duty Diesel Vehicles - All larger diesel-powered vehicles (>10,000lbs GVWR)			
MC	Motorcycles - All motorcycles (assumed to be gasoline-powered)			

# 5.6 References

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USEPA 2006d, "Compilation of Air Pollutant Emission Factors Volume I: Stationary Point and Area Sources (AP 42), Section 13.2.2, "Unpaved Roads," U.S. Environmental Protection Agency, November 2006

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# 6 FUEL DISPENSING (FDSP, FLD) - EXCLUDES ON-ROAD VEHICLE REFUELING

**→** Fugitive Source

# SEE CORRECTIONS ADDENDUM TO 2014 MOBILE GUIDE

\*Air Force policy considers the dispensing of fuel into on-road vehicles a mobile source of emissions. However, if the regulator insists this category be included as a stationary source, subtract those emissions from the Mobile AEI and add them to the stationary AEI to avoid duplicate reporting. This is accomplished by manually calculating emissions generated from on-road vehicle refueling using the procedures given in this section, then subtracting those values from the emissions generated by on-road vehicles covered in the previous section\*

#### 6.1 Introduction

Fuel dispensing refers to the refueling of non-road engines and equipment, aircraft, and fuel trucks. Note that the emissions from the refueling of on-road engines are not addressed here since those emissions are accounted for in the emission factors generated by the MOBILE6 model. Emissions from fuel dispensing are the result of vapors displaced as fuel is added to the vehicle fuel tank. The amount of vapor released to the atmosphere is a function of the gas and fuel tank temperatures, the vapor pressure of the fuel, the dispensing rate, and the presence of vapor emission control devices. The vapor that is emitted into the atmosphere is composed of both VOCs and HAPs and is considered fugitive in nature.

Minor fuel spills are an inevitable consequence of fuel dispensing. Typically, these spills are individually insignificant though may collectively result in a substantial release of VOC and HAP emissions. Emissions from significant spills, which are those spills that are reported to the Environmental or CEV office, are not addressed here but described in the "Fuel Spills" section of the Transitory Guide. Emissions of less significant spills, which are not individually reported, but considered an inevitable consequence of dispensing fuel, are estimated in the "Fuel Transfer" section of the Stationary Guide. The vapor emissions of concern from fuel dispensing operations are described by the simple control volume given in Figure 6-1.

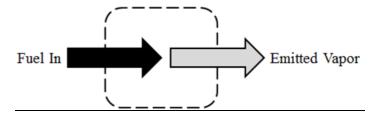


Figure 6-1. Simple Fuel Dispensing Control Volume

These challenges include the fact that there are several different fuels used on base, each with different vapor pressures, and there are multiple destinations for fuels on base which may make it more difficult to gather data or determine what emissions are classified as mobile or stationary. In an effort to simplify how each base should calculate fuel transfer emissions, a diagram of the typical transfer methods and destinations of fuel on base is provided in Figure 6-2.

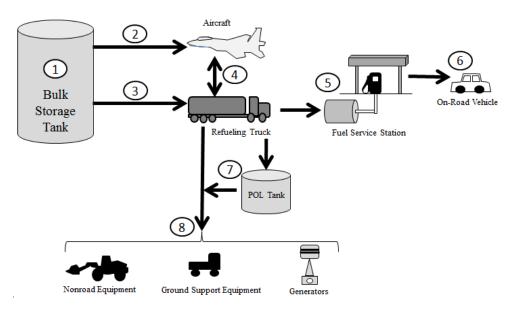


Figure 6-2. Typical On-Base Fuel Transfer Activities and Destinations.

Figure 6-2 shows the typical fuel transfer stages a fuel may go through at an Air Force installation. The fuel is *loaded by* and *loaded into* several pieces of equipment, each of which results in some form of emissions. Depending on the classification (mobile vs. stationary) of these pieces of equipment, determines if the emissions are regarded as mobile or stationary. At any point on this figure, there may be <u>significant</u> fuel spills that result in emissions as the fuel evaporates. These are uncommon occurrences and the emissions are addressed in the Transitory Guide. The stages listed in Figure 6-2 may be described as follows:

- 1. This point in the figure describes emissions from the evaporation of fuel in a storage tank which are known as "breathing losses." These emissions are regarded as stationary and are calculated using the EPA's TANKS modeling program as described in the "Storage Tanks" section of the Stationary Guide.
- 2. This point in the figure describes the loading of fuel <u>from</u> a stationary source (storage tank via a hydrant system) <u>into</u> a mobile source (aircraft). The stationary emissions are the "working losses" from the storage tank. These emissions are calculated by the EPA's TANKS modeling program as described in the "Storage Tanks" section of the Stationary Guide. The mobile emissions from aircraft refueling are generated from the displaced

- **vapor** in the aircraft fuel tanks. The mobile emissions should be reported in the mobile AEI and is calculated as described later in this chapter.
- 3. This point in the figure describes the loading of fuel <u>from</u> a stationary source (Storage tank) <u>into</u> a mobile source (refueling truck). The stationary emissions are the "working losses" from the storage tank. These emissions are calculated by the EPA's TANKS modeling program as described in the "Storage Tanks" section of the Stationary Guide. The mobile emissions from loading fuel into refueling trucks are generated from the displaced vapor in the truck. The mobile emissions should be reported in the mobile AEI and is calculated as described later in this chapter.
- 4. This point in the figure describes the fueling and defueling of aircraft via a refueling truck.

  Both pieces of equipment are **mobile** and all emissions generated from these activities (which come from **displaced vapors** in the refueling truck or aircraft fuel tanks) should be reported in the mobile AEI and calculated as described later in this chapter.
- 5. This point in the figure describes the loading of fuel <u>from</u> a mobile source (refueling truck) <u>into</u> a stationary source (storage tank) at a fuel dispensing location. Likely, the only mobile emissions from the fueling of the tank via the refueling truck are from any <u>significant</u> fuel spills. These emissions are addressed in the Transitory Guide. The stationary emissions include breathing and working losses from the storage tanks. These emissions are calculated by the EPA's TANKS modeling program as described in the "Storage Tanks" section of the Stationary Guide.
- 6. This point in the figure describes the loading of fuel <u>from</u> a stationary source (fuel dispensing facility) <u>into</u> a mobile source (vehicle). The stationary emissions are the result of the evaporation of spilled fuel and are calculated in the "Fuel Transfer" section of the Stationary Guide. The mobile emissions are generated from the displaced vapor in the vehicle fuel tanks. The displaced vapor emissions should be included in a Mobile AEI and are <u>already accounted for in the emission factors given in the "On-Road Vehicles" section of this document.</u>
- 7. This point in the figure describes the loading of fuel <u>from</u> a mobile source (refueling truck) <u>into</u> a stationary source (storage tank). Likely, the only mobile emissions from the fueling of the tank via the refueling truck are from any <u>significant</u> fuel spills. These emissions are addressed in the Transitory Guide. The stationary emissions include the breathing and working losses from smaller storage tanks on base. Provided that these tanks have a diameter of at least 3 feet and minimum length of 5 feet, these emissions are calculated by the EPA's TANKS modeling program as described in the "Storage Tanks" section of the Stationary Guide.
- 8. This point in the figure describes the loading of fuel <u>from either</u> a stationary (storage tank) <u>or mobile source</u> (refueling truck) <u>into</u> a stationary (stationary ICOM) <u>or mobile source</u> (non road equipment NRDE or Ground Support Equipment GSE). The <u>mobile/stationary emissions from the fuel loading outlet</u> (refueling truck or storage tank) at this point are likely to only be the result of any <u>significant fuel spills</u>. These emissions

are addressed in the Transitory Guide. The mobile/stationary emissions from the fuel loading inlet (NRDE, GSE, and stationary ICOM) are generated from the displaced vapor in the fuel tanks. Emissions are similarly calculated for each as described below and in the Stationary Guide. Care should be taken to ensure that emissions are reported in the correct mobile or stationary AEI to avoid duplicate reporting.

#### 6.2 Emission Factors

Section 5.2 of AP-42 describes both the emissions from the loading of fuel into fuel trucks and the evaporative emissions from the fueling of a gasoline vehicle. Since fueling gas vehicles is covered under the MOBILE6 model, the emission factors for vehicle refueling are not provided here, but may be found in table 5.2 7 of AP-42. For non-road engines and fuel trucks, the most appropriate method for calculating emissions from fuel dispensing is to calculate the loading loss. The loading loss is the primary source of evaporative emissions from the loading of fuel. These losses are the result of organic vapors within a fuel tank which are displaced to the atmosphere as the tank is loaded with fuel. To calculate these losses, which is described in the next section, the saturation factor, the vapor pressure of the fuel, the molecular weight of the vapors, and the temperature of the bulk liquid must be known.

The saturation factor refers to the ratio of the saturated value of the expelled vapor to the unsaturated value. These values vary based on the method of fuel loading. A tank that is filled with only one fuel, or fuels with similar characteristics, is said to be practicing "dedicated normal service." When loading vapors are returned back to the loading terminal after the fuel is unloaded to a storage tank, it is known as "dedicated vapor balance". Section 5.2 of AP 42 provides the saturation factors which are given in Table 6-1.

**Table 6-1. Fuel Loading Saturation Factors** 

<b>Loading Method</b>	Loading Parameters	S Factor
	Clean Tank	0.50
Submerged Loading	Dedicated Normal Service	0.60
	Dedicated Vapor Balance Service	1.00
	Clean Tank	1.45
Splash Loading	Dedicated Normal Service	1.45
	Dedicated Vapor Balance Service	1.00

SOURCE: U.S. EPA. "Transportation and Marketing of Petroleum Liquids." Compilation of Air Pollutant Emission Factors Volume 1: Stationary Point and Area Sources. Fifth Edition. 1995. Section 5.2.

The vapor emissions resulting from fuel transfer is a function of the vapor pressure of the fuel. The vapor pressure is indicative of the evaporation rate of a liquid. The vapor pressures for each fuel and their respective vapor molecular weights are provided in Table 6-2.

**Table 6-2. Vapor Pressures for Various Fuels** 

Details of the th	Vapor Molecular	True Vapor Pressure (psia)						
Petroleum Liquid	Weight (lb/lb-Mol)	40°F	50°F	60°F	70°F	80°F	90°F	100°F
Crude Oil RVP 5 <sup>(1)</sup>	50	1.80	2.30	2.80	3.40	4.00	4.60	5.70
Gas RVP 6	69	1.90	2.37	2.93	3.60	4.38	5.29	6.35
Gas RVP 7	68	2.30	2.90	3.50	4.30	5.20	6.20	7.40
Gas RVP 7.8	68	2.59	3.21	3.94	479	5.79	6.96	8.30
Gas RVP 8	68	2.67	3.30	4.04	4.92	5.94	7.13	8.50
Gas RVP 8.3	68	2.79	3.44	4.22	5.13	6.19	7.42	8.83
Gas RVP 9	67	3.06	3.77	4.61	5.59	6.74	8.06	9.58
Gas RVP 10	66	3.40	4.20	5.20	6.20	7.40	8.80	10.50
Gas RVP 11	65	3.87	4.75	5.77	6.96	8.34	9.92	11.74
Gas RVP 11.5	65	4.09	5.00	6.07	7.31	8.75	10.41	12.29
Gas RVP 12	64	4.29	5.24	6.36	7.65	9.15	10.86	12.82
Gas RVP 13	62	4.70	5.70	6.90	8.30	9.90	11.70	13.80
Gas RVP 13.5	62	4.93	6.01	7.26	8.71	10.38	12.29	14.46
Gas RVP 15	60	5.58	6.77	8.16	9.77	11.61	13.71	16.09
Diesel	130	3.10E-03	4.50E-03	6.50E-03	9.00E-03	1.20E-02	1.60E-02	2.20E-02
JP-8/Jet A <sup>(2)</sup>	130	1.58E-02	2.19E-02	3.01E-02	4.08E-02	5.48E-02	7.27E-02	9.54E-02

SOURCE (unless otherwise stated): Data taken from TANKS version 4.0.9d.

<sup>1.</sup> SOURCE: U.S. EPA. "Organic Liquid Storage Tanks." Compilation of Air Pollutant Emission Factors Volume I: Stationary Point and Area Sources. Fifth Edition. 1997. Section 7.1.

<sup>2.</sup> SOURCE: USAF, Environmental Analysis Division. *JP 8 Volatility Study, IERA RS BR SR 2001 0002*. San Antonio, 2001. Vapor pressures calculated using the composite data calculation, an average flash point temperature of 118.238°F, and atmospheric pressure of 760mmHg. Flash point temperature the average provided by Defense Energy Support Center. "Petroleum Quality Information System." Defense Logistics Agency, 1996.

Emissions from fuel dispensing may be controlled using a variety of techniques. However, the overall control efficiency is dependent on the capture efficiency of the system. Typical capture efficiencies are provided in Table 6-3. Additionally, the control efficiencies of several control techniques are provided in Table 6-4.

**Table 6-3. Typical Fuel Truck Capture Efficiencies** 

Fuel Truck Capture System	Capture Efficiency (%)		
Untested	70.0		
EPA standards (NSPS subpart XX) leak test	98.7		
MACT-level annual leak test	99.2		
Trucke with installed blower system	100.0(1)		

SOURCE (Unless otherwise stated): U.S. EPA. "Transportation and Marketing of Petroleum Liquids."

Compilation of Air Pollutant Emission Factors - Volume 1: Stationary Point and Area Sources. Fifth Edition. 1995. Section 5.2.

**Table 6-4. Typical Fuel Transfer Control Efficiencies** 

Control Techniques		Control Efficiency (%)	
Flares <sup>1</sup>	Compounds ≤ 3 Carbon atoms	99.0	
riares	Other Organic Compounds	98.0	
Thermal Oxidizers <sup>2</sup> 99		99.0	
Carbon Systems <sup>3</sup>		98.0	
Vapor Kecovery Units		100.0	

SOURCE: TCEQ. "Tank Truck Loading of Crude Oil or Condensate." 2013. 14 December 2013. <a href="http://www.tceq.texas.gov/assets/public/permitting/air/NewSourceReview/oilgas/tank-truck-load.pdf">http://www.tceq.texas.gov/assets/public/permitting/air/NewSourceReview/oilgas/tank-truck-load.pdf</a>.

Alternatively, emission factors for the loading of fuel trucks have been developed for several fuels likely to be distributed on base. These emission factors are based on an assumed temperature of 60°F and may be used as an alternative to calculating the loading loss. Table 5.2 5 of AP 42 provides these emission factors, which have been reproduced here in Table 6-5.

<sup>1.</sup> SOURCE: TCEQ. "Tank Truck Loading of Crude Oil or Condensate." 2013. 14 December 2013. <a href="http://www.tceq.texas.gov/assets/public/permitting/air/NewSourceReview/oilgas/tank-truck-load.pdf">http://www.tceq.texas.gov/assets/public/permitting/air/NewSourceReview/oilgas/tank-truck-load.pdf</a>>.

<sup>1.</sup> Flares must meet 40 CFR 60.18 requirements of minimum heating value of waste gas and a maximum flare tip velocity.

<sup>2.</sup> Must be designed for the variability of the waste gas stream and basic monitoring which consists of a temperature monitor that indicates the device is achieving a satisfactory minimum temperature.

<sup>3.</sup> Must have an alarm system that will prevent break through.

Emission Factors (lb/10<sup>3</sup> gal) Gasoline<sup>1</sup> Diesel/No. 2 ruel Oil JP-8/Jet A **Loading Method Loading Parameters** 0.014 0.016 Dedicated Normal Service Submerged Loading Vapor Balance Service 8 dicated Normal Service 12 0.03 0.04 Splash Leading Vapor Balance Service 8

Table 6-5. VOC Emission Factors for Fuel Dispensing/Loading

SOURCE: U.S. EPA. "Transportation and Marketing of Petroleum Liquids." *Compilation of Air Pollutant Emission Factors Volume I: Stationary Point and Area Sources*. Fifth Edition. 1995. Section 5.2.

## 6.3—Emission Calculations

Emissions of concern from fuel dispensing operations are VOCs and HAPs. The volume of VOCs and HAPs emitted are directly related to the amount of VOC and HAP constituents within the fuel. Calculations of emissions of VOCs and HAPs from fuel dispensing are outlined below.

## 6.3.1 VOC Emissions Calculations (Preferred Method)

The preferred method for calculating VOC emissions from the dispensing of fuel is to use the fuel vapor pressure, saturation factor, temperature, and total throughput to estimate the loading loss as follows:

$$E(VOC) = Q \times \frac{1}{1000} \times 12.46 \times \frac{S \times P \times M}{T} \times \left\{1 - \left[\left(\frac{Cap}{100}\right) \times \left(\frac{CE}{100}\right)\right]\right\}$$

**Equation 6-1** 

Where.

E(VOC) = Annual emissions of VOCs (lb/yr).

Q = Annual quantity of fuel transferred into the tanks (gal/yr).

1000 = Factor converting gallons to 10<sup>3</sup> gallons (gal/10<sup>3</sup> gal)

12.46 = Equation constant (°R lb-mol/psia 10<sup>3</sup> gal).

S = Saturation factor. This is provided in Table 6-1.

P = True vapor pressure of fuel (psia). This is provided in Table 6-2.

M = Vapor molecular weight of the fuel (lb/lb mol). This is provided in Table 6-2.

T = Temperature of bulk liquid loaded (°R).

Cap = Capture efficiency of the loading terminal (%). This is provided in Table 6-3.

**CE** = Efficiency of the control device (%). This is provided in Table 6-4.

= Factor for converting a percent to a fraction (%).

A detailed control volume outlining the emissions from fuel dispensing is provided in Figure 6-3.

<sup>1.</sup> Gasoline has an RVP of 10 psia

<sup>&</sup>quot;--" Indicates No data available

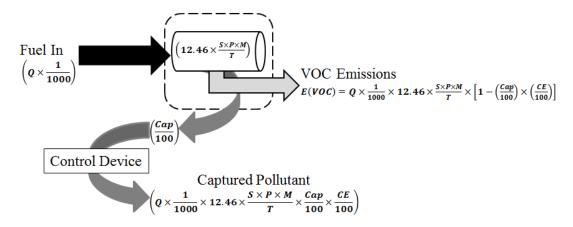


Figure 6-3. Fuel Dispensing Control Volume - Loading Losses Method

# 6.3.2 **VOC Emissions Calculations (Emission Factor Method)**

Using the emission factor method, the appropriate emission factor, selected from Table 6-5, and the total quantity of fuel transferred are used to calculate emissions as follows:

$$E(VOC) = Q \times \frac{1}{1000} \times EF(VOC) \times \left\{ 1 - \left[ \left( \frac{Cap}{100} \right) \times \left( \frac{CE}{100} \right) \right] \right\}$$

**Equation 6-2** 

Where,

**EF(VOC)** = VOC emission factor as provided in Table 6-5 (lb/10<sup>3</sup> gal)

A detailed control volume is provided in Figure 6-4.

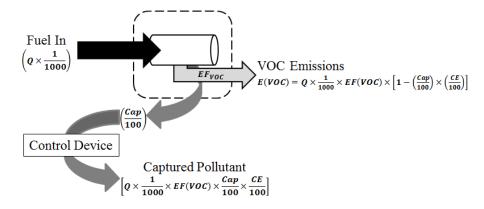


Figure 6-4. Fuel Dispensing Control Volume - Emission Factor Method

#### 6.3.3 HAP Emissions Calculation

The amount of HAPs released into the environment from fuel dispensing may be estimated using the total VOCs emitted, as calculated above, and the weight percent of HAPs in the fuel itself. The typical weight percent of HAPs found in common fuels is provided in Table 6-6.

Using the total VOCs and weight percent HAP in the fuel, the total HAP emissions from fuel dispensing is calculated using Equation 6-3.

$$E(HAP) = E(VOC) \times \frac{WP(HAP)}{100}$$

**Equation 6-3** 

Where,

**E(HAP)** = HAP emissions from fuel dispensing (lb/yr)

**WP(HAP)** = Weight Percent HAP in the fuel (%)

Table 6-6. Weight Percent of HAPs in Fuels Commonly Used at Air Force Installations

	Typical Wt. %			
Compound	In Diesel	In Gasoline	In JP-8/Jet A <sup>(1)</sup>	
Anthracene	2.82E-03 <sup>(2)</sup>			
Benzene	8.00E-04	1.80E+00	3.38E-02	
1,3-Butadiene		2.00E-0467		
Cumene (Isopropylbenzene)		5.00E-01	1.81E-01	
Dibenzofuran	1.64E-02 <sup>(2)</sup>			
Ethylbenzene	1.30E-02	1.40E+00	1.59E-01	
Fluorene	2.94F-02 <sup>(2)</sup>		3.44E-03	
Hexane	1.00E-04	1.00E+00		
Isooctane (2,2,4-Trimethyl Pentane)		4.00E+00	1.23E-03	
Naphthalene	3.39E-01 <sup>(2)</sup>	1.74E-01 <sup>(2)</sup>	2.68E-01	
Phenanthrene	3.22E-02 <sup>(2)</sup>			
Phenylbenzene (111-biphenyl)			6.78E-02	
Pyrene	3.62E-02 <sup>(2)</sup>		1.00E-05	
Toluen	3.20E-02	7.00E+00	2.19E-01	
Y lenes (mixed isomers)	2.90E-01	7.00E+00	1.19E-02	

SOURCE (Unless otherwise stated): Data taken from EPA's TANKS program version 4.09D.

<sup>1.</sup> SOURCE: USAF, Environmental Research Division. "JP 8 Composition and Variability, Report # AL/EQ TR 1996 0006." 1996. An average density of 6.67lb/gal was used for unit conversion.

<sup>2.</sup> SOURCE: Values from the EPA's SPECIATE database version 4.4.

<sup>&</sup>quot;-- " Indicates No Data Available

#### 6.4 Information Resources

Information regarding the annual fuel throughput may be collected from the fuel service station supervisor. The supervisor may also be able to provide specific information regarding the fuel vapor pressure and HAP constituent data. If this information is unavailable, contact the fuel supplier to gather this data for more precise emissions calculations.

# 6.5 Example Problems

# 6.5.1 Problem 1 - Preferred Method

A total of 150,000 gal of gas and 85,000 gal of diesel were dispensed from a POL tank into non-road equipment during the previous year. Assume the gasoline used had an average RVP of 10 and the average temperature at the installation is 60°F. Calculate the total VOCs and Xylene emissions.

<u>Step 1</u> Convert the temperature to the correct units. The temperature was given in terms of °F; however, in order to calculate the emission factors needed, the temperature must be converted to the correct units as follows:

$$T(^{\circ}R) = T(^{\circ}F) + 460.67$$

$$T(^{\circ}R) = 60 + 460.67 = 520.67^{\circ}R$$

<u>Step 2</u> Record the vapor pressures and vapor molecular weights. These values are needed for emission factor calculations and are given in Table 6-2. For RVP 10 gasoline, the molecular weight and vapor pressure at 60°F are given as 66 lb/lb-mol and 5.20 psia, respectively. Similarly, for diesel, the vapor molecular weight and vapor pressure at 60°F are given as 130 lb/lb-mol and 6.50E-03 psia respectively.

<u>Step 3</u> Select and record the saturation factor. The saturation factor is a function of the load method employed. Knowing that this fuel was loaded into non-road equipment from a POL tank, it may be assumed that the fuel was splash loaded without vapor balance. This gives a saturation factor of 1.45.

<u>Step 4</u> — <u>Calculate emissions</u>. Using the data from the previous steps and Equation 6-1, the total VOCs are calculated as follows:

$$E(VOC) = Q \times \frac{1}{1000} \times 12.46 \times \frac{S \times P \times M}{T} \times \left\{1 - \left[\left(\frac{CaP}{100}\right) \times \left(\frac{CE}{100}\right)\right]\right\}$$

For Gasoline:

$$E(VOC) = 150,000 \frac{gal}{yr} \times \frac{1}{1000} \left( \frac{10^{3} \text{gal}}{gal} \right) \times 12.46 \left( \frac{^{\circ}R \text{ }lb-mol}}{psia 10^{3} \text{ }gal} \right) \times \frac{1.45 \times 5.20 (psia) \times 66 \left( \frac{lb}{lb-mol} \right)}{520.67^{\circ}R} \left\{ 1 - \left[ \left( \frac{0\%}{100\%} \right) \times \left( \frac{0\%}{100\%} \right) \right] \right\}$$

$$E(VOC) = 150 \left( \frac{10^{3} \text{gal}}{yr} \right) \times 12.46 \left( \frac{^{\circ}R \text{ }lb-mol}}{psia 10^{3} \text{ }gal} \right) \times \frac{1.45 \times 4.04 (psia) \times 68 \left( \frac{lb}{lb-mol} \right)}{520.67^{\circ}R} \left\{ 1 \right\}$$

$$E(VOC) = 1869 \left( \frac{^{\circ}R \text{ }lb-mol}}{psia \text{ }ur} \right) \times 0.765 \left( \frac{psia \text{ }lb}{^{\circ}R \text{ }lb-mol} \right) = 1429.8 \frac{lb}{ur}$$

For Diesel:

$$\begin{split} \mathbb{E}(VOC) &= 85,000 \frac{gal}{yr} \times \frac{1}{1000} \left( \frac{10^3 \text{gal}}{gal} \right) \times 12.46 \left( \frac{{}^{\circ}R \text{ }lb-mol}}{psia \text{ }10^3 \text{ }gal} \right) \times \frac{1.45 \times 0.0065 (psia) \times 130 \left( \frac{lb}{lb-mol} \right)}{520.67^{\circ}R} \left\{ 1 - \left[ \left( \frac{0\%}{100\%} \right) \times \left( \frac{0\%}{100\%} \right) \right] \right\} \\ &= \mathbb{E}(VOC) = 85 \left( \frac{10^3 \text{gal}}{yr} \right) \times 12.46 \left( \frac{{}^{\circ}R \text{ }lb-mol}}{psia \text{ }10^3 \text{ }gal} \right) \times \frac{1.45 \times 0.0065 (psia) \times 130 \left( \frac{lb}{lb-mol} \right)}{520.67^{\circ}R} \left\{ 1 \right\} \\ &= \mathbb{E}(VOC) = 1059.1 \left( \frac{{}^{\circ}R \text{ }lb-mol}}{psia \text{ }vr} \right) \times 0.002 \left( \frac{psia \text{ }lb}{{}^{\circ}R \text{ }lb-mol} \right) = 2.12 \frac{lb}{yr} \end{split}$$

<u>Step 5</u> Record Xylene weight percent. Table 6 6 states that the weight percent xylene in gasoline and diesel fuel is 7% and 0.29%, respectively.

<u>Step 6</u> — Calculate Xylene emissions. Using the VOC emissions for gasoline and diesel fuel calculated in Step 4 and the weight percent xylene in each fuel as recorded in Step 5, the total xylene emissions are calculated using Equation 6-3 as shown:

$$E(HAP) = E(VOC) \times \frac{WP(HAP)}{100}$$

For Gasoline:

$$E(Xylene) = 1429.8 \frac{lb}{vr} \times \frac{7\%}{100\%}$$

$$E(Xylene) = 1429.8 \frac{lb}{yr} \times 0.07 = 100.086 \frac{lb}{yr}$$

For Diesel:

$$E(Xylene) = 2.12 \frac{lb}{vr} \times \frac{0.29\%}{100\%}$$

$$E(Xylene) = 2.12 \frac{lb}{yr} \times 0.0029 = 0.006 \frac{lb}{yr}$$

<u>Step 7</u> – <u>Calculate total VOC emissions</u>. The total VOC emissions from fuel dispensing are the sum of evaporative emissions from each fuel calculated in Step 4:

$$\mathbb{E}(VOC) = \sum_{i=1}^{n} [E(VOC_i) + \dots + E(VOC_n)]$$

$$E(VOC) = \left(1429.8 \frac{lb}{yr} + 2.12 \frac{lb}{yr}\right)$$

$$E(VOC) = 1431.9 \frac{lb}{yr}$$

<u>Step 8</u> — Calculate total Xylene emissions. The total xylene emissions from fuel dispensing are the sum of evaporative emissions from each fuel calculated in Step 6:

$$E(HAP) = \sum_{i=1}^{n} [E(HAP_i) + \dots + E(HAP_n)]$$

$$E(Xylene) = \left(100.086 \frac{lb}{vr} + 0.006 \frac{lb}{vr}\right)$$

$$E(Xylene) = 100.1 \frac{lb}{yr}$$

#### 6.5.2 Problem 2 - Emission Factor Method

Using the same throughput for gasoline and diesel as given in Problem 1, recalculate the VOC emissions using the emission factor method.

<u>Step 1</u> Select and record appropriate emission factors. Again, since the fuel was loaded into non-road equipment, the loading method is assumed to be splash loading without vapor balance. The emission factors for gasoline and diesel are 12 and 0.03 lb/10<sup>3</sup> gal respectively.

<u>Step 2</u> — <u>Calculate VOC emissions.</u> Using Equation 6-2 and the emission factors as recorded in Step 1, the total VOCs emitted are calculated as follows:

$$E(VOC) = Q \times \frac{1}{1000} \times EF(VOC) \times \left\{ 1 - \left[ \left( \frac{Cap}{100} \right) \times \left( \frac{CE}{100} \right) \right] \right\}$$

<u>For Gasoline:</u>

$$E(VOC) = 150,000 \frac{gal}{yr} \times \frac{1}{1000} \left( \frac{10^3 gal}{gal} \right) \times 12 \frac{lb}{10^3 gal} \times \left\{ 1 - \left[ \left( \frac{0\%}{100\%} \right) \times \left( \frac{0\%}{100\%} \right) \right] \right\}$$

$$E(VOC) = 150 \frac{10^3 gal}{yr} \times 12 \frac{lb}{10^3 gal} \times \{1\} = 1800 \frac{gal}{yr}$$

For Diesel:

$$E(VOC) = 85,000 \frac{gal}{yr} \times \frac{1}{1000} \left( \frac{10^3 gal}{gal} \right) \times 0.03 \frac{lb}{10^3 gal} \times \left\{ 1 - \left[ \left( \frac{0\%}{100\%} \right) \times \left( \frac{0\%}{100\%} \right) \right] \right\}$$

$$E(VOC) = 85 \frac{10^3 gal}{yr} \times 0.03 \frac{lb}{10^3 gal} \times \{1\} = 2.55 \frac{gal}{yr}$$

<u>Step 3</u> — <u>Sum the VOC emissions.</u> Adding the calculated emissions from Step 2, the total VOCs, as determined by the emission factor method is calculated as follows:

$$E(VOC) = \sum_{i=1}^{n} [E(VOC_i) + \dots + E(VOC_n)]$$

$$E(VOC) = \left(1800 \frac{lb}{yr} + 2.55 \frac{lb}{yr}\right)$$

$$E(VOC) = 1802.55 \frac{lb}{yr}$$

#### 6.6 References

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# Corrections Addendum to the October 2014 Air Emissions Guide for Air Force Mobile Sources

## Methods for Estimating Emissions of Air Pollutants For Mobile Sources at U.S. Air Force Installations



Air Force Civil Engineer Center
Compliance Technical Support Branch
250 Goodrich Drive; Building #1650
San Antonio, TX 78226

December 2015

Supersedes 12/9/2014 Update

#### 1 CHAPTER 1 – INTRODUCTION CHANGES

### 1.1 ISSUE: Missing GWP information for GHGs

RESOLUTION: Updated GHG information regarding GWPs

CORRECTION: See section below

#### 1.5.3 Greenhouse Gases (GHGs)

Global climate change is becoming one of the most important and discussed issues of the 21st century. Some GHGs, such as carbon dioxide, occur naturally and are emitted to the atmosphere through natural processes as well as human activities. Other GHGs (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHGs that enter the atmosphere because of human activities are carbon dioxide ( $CO_2$ ), methane ( $CH_4$ ), Nitrous Oxide ( $CO_2$ ), and fluorinated gases.

- CO<sub>2</sub> enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and as a result of other chemical reactions (e.g., manufacture of cement). CO<sub>2</sub> is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
- CH<sub>4</sub> is emitted during the production and transport of coal, natural gas, and oil. CH<sub>4</sub> emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- N<sub>2</sub>O is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
- Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful
  GHGs that are emitted from a variety of industrial processes. Fluorinated gases are
  sometimes used as substitutes for ozone-depleting chemicals discussed earlier (i.e., CFCs,
  HCFCs, and halons). These gases are typically emitted in smaller quantities, but because
  they are potent GHGs, they are sometimes referred to as High Global Warming Potential
  gases ("High GWP gases").

Greenhouse gases are assigned a Global Warming Potential (GWP), a measurement of how much heat the gas traps in the atmosphere calculated over a specific time interval, which is typically 100 years. The higher the GWP, the greater the potential for the gas to trap heat, and the more harmful the gas is regarded. CO<sub>2</sub> is used as the baseline gas and is assigned a GWP of 1. Emissions of GHGs may be converted into equivalent CO<sub>2</sub> (CO<sub>2</sub>e) by taking the product of each GHG emission factor and its respective GWP. Table A-1 of 40 CFR 98 provides the GWPs for several greenhouse gases. These were included below in Table 1-1. The GWP values used to calculate GHG emissions

throughout this document are subject to change in the upcoming years due to new data becoming available, but are considered current as of March 30, 2015. The total GHG emissions are calculated by summing all emissions from each gas and are generally derived from the following equation:

$$EF_{GHG} = \sum_{i=1}^{n} (EF_i \times GWP_i)$$

**Equation 1-2** 

Where,

EF<sub>GHG</sub> = Greenhouse gas emission factor in equivalent CO<sub>2</sub>

EF<sub>i</sub> = Emission Factor for greenhouse gas species i

GWP<sub>i</sub> = Global warming potential for greenhouse gas species i

**Table 1-1. List of Global Warming Potentials** 

Name	GWP (100 yrs)
$CO_2$	1
CH <sub>4</sub>	21
N <sub>2</sub> O	310

# 2 CHAPTER 2 – AIRCRAFT FLIGHT OPERATIONS (AOPS) CHANGES

## 2.1 ISSUE I: Table 2-8 GHG Emission factors need to be updated.

RESOLUTION: Replaced table values with new values to reflect 2015 global warming potentials.

CORRECTION: See tables on following pages.

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	sion Factor	s (lb/1000 ll	b fuel)		
Aircraft Eligine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	co	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	<40%	72	0.46	1.06	363.70	12.33		60.00( <b>S</b> )	54.00( <b>S</b> )	323
	Approach	40%	84	4.72	1.06	1022.63	18.50		47.95( <b>S</b> )	43.16( <b>S</b> )	323
6-285-B	Climb out	75-100%	166	5.50	1.06	668.07	9.63		40.00( <b>S</b> )	36.00( <b>S</b> )	323
	Takeoff	100%	153	5.88	1.06	998.04	13.38		20.00(S)	18.00( <b>S</b> )	323
es: 3a, 4b (for PM <sub>10</sub> and Pl	M <sub>2.5</sub> data at all power settin	gs), 5, 8, 11, 1	2h					1			
	Idle		362	4.15	1.06	8.35	0.10		1.58	1.42	323
	Flight Idle		663	6.05	1.06	3.47	0.02		1.58	1.42	323
AE1107C	Intermediate		948	7.87	1.06	1.82	0.02		1.58	1.42	323
	Max Continuous		2507	18.03	1.06	0.29	0.01		1.58	1.42	32:
es: 3f (This is the commerce	cial designation of the T406	 5-AD-400 engi	ne), 8, 12d								
	T	_									
	Idle (Taxi)	7%	389	3.83	1.06	17.35	2.89		0.05	0.05	32:
A E2007 A	Approach	30%	929	7.79	1.06	3.28	0.74		0.07	0.07	32
AE3007A	Climb out Takeoff	85% 100%	2500 2992	17.47 20.54	1.06 1.06	0.92 0.75	0.33		0.06	0.05	32
es: 3b, 5, 6, 8, 10, 12e											
	Idle (Taxi)	7%	379	3.38	1.06	45.63	7.65		0.10	0.09	32
	Approach	30%	930	6.47	1.06	3.97	0.21		0.11	0.10	32
ALF 502L-2	Climb out	85%	2568	12.03	1.06	0.30	0.03		0.10	0.09	32
	Takeoff	100%	3174	13.43	1.06	0.40	0.02		0.07	0.07	32
es: 3b, 5, 6, 8, 10, 12h											
	Idle (Taxi)	7%	343	3.30	1.06	44.67	7.49		0.09	0.08	32
	Approach	30%	815	6.15	1.06	8.43	0.33		0.09	0.08	32
ALF 502R-3	Climb out	85%	2286	9.94	1.06	0.50	0.06		0.10	0.09	32
	Takeoff	100%	2759	11.20	1.06	0.43	0.06		0.10	0.09	32
es: 3b, 5, 6, 8, 10, 12h											
	Idle (Taxi)	7%	324	3.78	1.06	40.93	6.20		0.09	0.08	32
	Approach	30%	821	6.60	1.06	7.10	0.25		0.09	0.08	32
ALF 502R-5	Climb out	85%	2345	10.56	1.06	0.25	0.06		0.11	0.10	32
	Takeoff	100%	2842	13.35	1.06	0.30	0.07		0.11	0.10	32
es: 3b, 5, 6, 8, 10, 12h											
	Idle (Taxi)	7%	381	3.91	1.06	33.24	1.45	l	0.10	0.09	32
	Approach	30%	825	8.81	1.06	6.28	0.14		0.10	0.05	32
AS907-1-1A	Climb out	85%	2286	16.17	1.06	0.63	0.07		0.31	0.03	32
	Takeoff	100%	2854	17.90	1.06	0.56	0.06		0.36	0.33	32
			-								
es: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	389	3.91	1.06	29.28	1.08		0.08	0.07	32
	Approach	30%	849	8.74	1.06	6.29	0.13		0.06	0.05	32
AS907-2-1G	Climb out	85%	2444	16.39	1.06	0.61	0.07		0.31	0.28	32
	Takeoff	100%	2952	18.29	1.06	0.54	0.07		0.36	0.33	32

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power Per				Emis	sion Factor	s (lb/1000 ll	fuel)		
Antrait Engine	Setting Thru	st/hp Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub> e
	Idle (Taxi) 7		4.00	1.06	26.09	2.28		0.05	0.05	3234
	Approach 30		8.20	1.06	4.24	0.05		0.04	0.04	3234
BR700-710A1-10	Climb out 85		13.93	1.06	0.66	0.03		0.25	0.22	3234
	Takeoff 10	0% 5611	17.07	1.06	0.52	0.00		0.28	0.26	3234
otes: 3b, 5, 6, 8, 10, 12h		l .			1					
	Idle (Taxi) 7	% 706	4.67	1.06	28.00	1.29		0.06	0.05	3234
	Approach 30		7.67	1.06	4.81	0.06		0.05	0.04	3234
BR700-710A2-20	Climb out 85		15.03	1.06	0.93	0.02		0.34	0.31	3234
	Takeoff 10		18.73	1.06	1.04	0.02		0.37	0.33	3234
otes: 3b, 5, 6, 8, 10, 12h										
							_	1		
	Idle (Taxi) 7		4.50	1.06	31.57	2.63		0.06	0.06	3234
PP500 51000	Approach 30		7.71	1.06	4.92	0.06		0.05	0.04	3234
BR700-710C4-11	Climb out 85 Takeoff 10		15.43 19.52	1.06	0.92 1.04	0.02		0.35	0.32	3234 3234
	Tukcon	3727	17.32	1.00	1.04	0.02		0.57	0.55	323
stes: 3b, 5, 6, 8, 10, 12h										
	Idle (Taxi) 7	% 762	5.37	1.06	16.27	0.24		0.07	0.06	3234
	Approach 30	1944	11.19	1.06	3.76	0.01		0.06	0.06	3234
BR700-715A1-30	Climb out 85	% 5476	18.65	1.06	0.75	0.02		0.09	0.08	3234
	Takeoff 10	0% 6635	23.97	1.06	0.78	0.00		0.10	0.09	3234
otes: 3b, 5, 6, 8, 10, 12h										
	Idle (Taxi) 7	% 802	5.72	1.06	14.86	0.16		0.07	0.06	3234
	Approach 30		11.55	1.06	3.06	0.00		0.07	0.06	3234
BR700-715C1-30	Climb out 85		22.41	1.06	0.78	0.00		0.10	0.09	3234
	Takeoff 10		31.39	1.06	0.75	0.00		0.11	0.10	3234
otes: 3b, 5, 6, 8, 10, 12h										
							_	1		
	Idle (Taxi) 7		3.38	1.06	41.88	3.45		0.06	0.05	3234
	Approach 30		7.81	1.06	5.93	0.00		0.04	0.03	3234
BR725A1-12	Climb out 85 Takeoff 10		13.32 16.92	1.06	0.32	0.00		0.13	0.12 0.10	3234 3234
	Tukcon	0202	10.72	1.00	0.40	0.00		0.11	0.10	323
etes: 3b, 5, 6, 8, 10, 12h										
	Idle (Taxi) 7	% 1371	4.50	1.06	54.20	24.15		0.20	0.18	3234
	Approach 30	% 3841	11.40	1.06	6.50	0.81		0.10	0.09	3234
CF6-6D	Climb out 85		32.60	1.06	0.50	0.35		0.07	0.06	3234
	Takeoff 10	0% 13778	40.00	1.06	0.50	0.35		0.09	0.08	323
otes: 3b, 5, 6, 8, 10, 12a										
	Idle (Taxi) 7	% 1397	4.60	1.06	52.00	22.89		0.19	0.17	323
	Approach 30		11.80	1.06	5.50	0.69		0.19	0.17	323
CF6-6D1A	Climb out 85		33.90	1.06	0.50	0.35		0.07	0.06	323
	Takeoff 10		41.60	1.06	0.50	0.35		0.09	0.08	3234
tes: 3b, 5, 6, 8, 10, 12a										

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
Aircrait Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	1371	4.50	1.06	54.20	24.15		0.20	0.18	3234
	Approach	30%	3841	11.40	1.06	6.50	0.81		0.10	0.09	3234
CF6-6K	Climb out	85%	11357	32.60	1.06	0.50	0.35		0.07	0.06	3234
	Takeoff	100%	13778	40.00	1.06	0.50	0.35		0.09	0.08	3234
otes: 3b, 5, 6, 8, 10, 12a											
	III (T. :)	70/	1207	4.60	1.06	52.00	22.00		0.10	0.17	2024
	Idle (Taxi)	7% 30%	1397 3921	4.60 11.80	1.06	52.00	22.89 0.69		0.19	0.17	3234 3234
CF6-6K2	Approach			33.90	1.06	5.50 0.50	0.69		0.09	0.08	3234
CF0-0K2	Climb out Takeoff	85% 100%	11921 14381	41.60	1.06	0.50	0.35		0.07	0.08	3234
	Takeon	100%	14381	41.60	1.06	0.50	0.33		0.09	0.08	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1294	3.40	1.06	24.04	3.13		0.06	0.06	3234
	Approach	30%	4960	9.72	1.06	4.35	0.36		0.06	0.06	3234
CF6-50A	Climb out	85%	14183	23.27	1.06	0.49	0.16		0.11	0.10	3234
	Takeoff	100%	17206	27.17	1.06	0.43	0.17		0.11	0.10	3234
otes: 3b, 5, 6, 8, 10, 12a											
								I			
	Idle (Taxi)	7%	1683	3.50	1.06	62.30	26.45		0.22	0.20	3234
CF6-50C	Approach Climb out	30% 85%	5103 15199	9.40	1.06	5.20	1.15 0.81		0.11	0.10	3234 3234
CF0-30C	Takeoff	100%				0.50	0.69				
	1 акеоп	100%	18881	35.00	1.06	0.50	0.69		0.12	0.11	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1706	3.60	1.06	61.80	25.07		0.21	0.19	3234
	Approach	30%	5238	9.50	1.06	4.30	1.15		0.11	0.10	3234
CF6-50C1, -50C2	Climb out	85%	15675	29.70	1.06	0.50	0.81		0.10	0.09	3234
	Takeoff	100%	19738	36.30	1.06	0.50	0.69		0.12	0.11	3234
otes: 3b (CF6-50C2 is the cor	nmercial designation of the F	103-GE-10	1 engine), 5, 6, 8	3, 10, 12a							
	Idle (Taxi)	7%	1294	3.40	1.06	24.04	3.13		0.06	0.06	3234
	Approach	30%	5294	10.49	1.06	3.42	0.30		0.06	0.05	3234
CF6-50C2B	Climb out	85%	15849	26.34	1.06	0.44	0.17		0.11	0.10	3234
	Takeoff	100%	19127	29.59	1.06	0.46	0.15		0.10	0.09	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1683	3.50	1.06	62.30	26.45		0.22	0.20	3234
	Approach	30%	5103	9.40	1.06	5.20	1.15		0.11	0.10	3234
CF6-50C2R	Climb out	85%	15199	29.00	1.06	0.50	0.81		0.11	0.10	3234
	Takeoff	100%	18881	35.00	1.06	0.50	0.69		0.10	0.11	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1294	3.40	1.06	24.04	3.13		0.06	0.06	3234
	Approach	30%	5087	10.09	1.06	3.99	0.33		0.06	0.06	3234
CF6-50CA	Climb out	85%	14881	24.30	1.06	0.46	0.16		0.11	0.10	3234
	Takeoff	100%	18103	28.03	1.06	0.44	0.16		0.10	0.09	3234
otes: 3b, 5, 6, 8, 10, 12a											

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
Aircraft Eligille	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	1294	3.40	1.06	24.04	3.13		0.06	0.06	3234
	Approach	30%	5262	10.16	1.06	3.71	0.32		0.06	0.06	3234
CF6-50E, -50E1	Climb out	85%	15397	25.50	1.06	0.45	0.17		0.11	0.10	3234
	Takeoff	100%	18738	28.97	1.06	0.45	0.16		0.10	0.09	3234
otes: 3b, 5, 6, 8, 10, 12a											
	T. (7. 1)	50/	1204	2.10	1.05	24.04	2.12		0.05	0.05	2224
	Idle (Taxi)	7%	1294	3.40	1.06	24.04	3.13		0.06	0.06	3234
CF6-50E2	Approach	30% 85%	5262 15397	10.16 25.50	1.06	3.71 0.45	0.32		0.06	0.06	3234 3234
CF0-30E2	Climb out Takeoff	100%	18738	28.97	1.06	0.45	0.17		0.11	0.10	3234
	Takeon	100%	10/30	20.91	1.00	0.43	0.10		0.10	0.09	3234
otes: 3b (This is the commerc	ial designation of the F103-G	E-100 engi	ne), 5, 6, 8, 10, 1	2a							
	Idle (Taxi)	7%	1190	3.40	1.06	28.20	7.23		0.09	0.08	3234
	Approach	30%	4881	10.30	1.06	3.10	0.54		0.08	0.07	3234
CF6-80A	Climb out	85%	14246	25.60	1.06	1.10	0.33		0.11	0.10	3234
	Takeoff	100%	17024	29.80	1.06	1.00	0.33		0.12	0.11	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1190	3.40	1.06	28.20	7.22		0.09	0.08	3234
CEC 9042 9042	Approach	30%	5087	10.80	1.06	2.80	0.52		0.07	0.07	3234
CF6-80A2, -80A3	Climb out	85%	14960	26.60	1.06	1.10	0.43		0.11	0.10	3234
	Takeoff	100%	17889	29.60	1.06	1.00	0.35		0.13	0.11	3234
otes: 3b, 5, 6, 8, 10, 12a							ı			l	l.
	Idle (Taxi)	7%	1579	3,99	1.06	42.24	10.57		0.12	0.11	3234
	Approach	30%	5048	9.76	1.06	2.19	0.23		0.06	0.06	3234
CF6-80C2A1	Climb out	85%	15500	24.85	1.06	0.54	0.10		0.06	0.06	3234
	Takeoff	100%	19048	32.22	1.06	0.56	0.09		0.08	0.07	3234
otes: 3b, 5, 6, 8, 10, 12a											
, , , , ,											
	Idle (Taxi)	7%	1500	3.95	1.06	46.01	12.05		0.13	0.11	3234
	Approach	30%	4603	9.44	1.06	2.94	0.26		0.06	0.06	3234
CF6-80C2A2	Climb out	85%	13849	20.69	1.06	0.55	0.12		0.06	0.06	3234
	Takeoff	100%	16802	27.93	1.06	0.57	0.09		0.07	0.07	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1603	3.92	1.06	41.51	10.28		0.12	0.10	3234
	Approach	30%	5151	9.93	1.06	2.07	0.22		0.06	0.10	3234
CF6-80C2A3	Climb out	85%	15897	25.46	1.06	0.56	0.09		0.07	0.06	3234
	Takeoff	100%	19500	34.50	1.06	0.58	0.07		0.07	0.07	3234
	Tukcon	10070	17300	54.50	1.00	0.50	0.07		0.00	0.07	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1643	3.79	1.06	41.65	10.34		0.12	0.10	3234
	Approach	30%	5452	9.11	1.06	1.93	0.23		0.06	0.06	3234
CF6-80C2A5	Climb out	85%	16524	22.86	1.06	0.52	0.09		0.07	0.06	3234
	Takeoff	100%	20484	34.38	1.06	0.52	0.08		0.08	0.07	3234
otes: 3b, 5, 6, 8, 10, 12a											

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
Ancian Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	co	voc	HAP's	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub> e
	Idle (Taxi)	7%	1746	4.90	1.06	16.96	1.36		0.05	0.04	3234
	Approach	30%	5484	12.64	1.06	1.92	0.13		0.04	0.04	3234
CF6-80C2A5F	Climb out	85%	16714	21.27	1.06	0.04	0.05		0.06	0.06	3234
	Takeoff	100%	20873	28.11	1.06	0.05	0.06		0.07	0.07	3234
es: 3b, 5, 6, 8, 10, 12a						l					
	Idle (Taxi)	7%	1556	3.73	1.06	43.22	10.88		0.12	0.11	3234
	Approach	30%	4889	8.83	1.06	2.37	0.24		0.12	0.06	323
CF6-80C2B1	Climb out	85%	14865	21.26	1.06	0.55	0.10		0.06	0.06	323
	Takeoff	100%	18135	28.11	1.06	0.58	0.09		0.08	0.07	323
es: 3b, 5, 6, 8, 10, 12a											
03. 30, 3, 0, 0, 10, 124											
	Idle (Taxi)	7%	1579	4.73	1.06	19.23	1.77		0.05	0.04	3234
	Approach	30%	5159	12.47	1.06	2.13	0.13		0.04	0.04	3234
CF6-80C2B1F	Climb out	85%	15738	19.72	1.06	0.04	0.06		0.06	0.05	3234
	Takeoff	100%	19222	24.94	1.06	0.04	0.06		0.07	0.06	323
es: 3b, 5, 6, 8, 10, 12a											
					1						
	Idle (Taxi)	7%	1508	4.45	1.06	22.41	2.27		0.05	0.05	323
CEC 00C2D2	Approach	30%	4643	11.79	1.06	2.61	0.14		0.04	0.04	323
CF6-80C2B2	Climb out	85%	13937	18.25	1.06	0.05	0.06		0.05	0.05	323
	Takeoff	100%	16857	22.02	1.06	0.04	0.06		0.06	0.06	323
es: 3b, 5, 6, 8, 10, 12a	1				I	ı		l			
	Idle (Taxi)	7%	1492	4.52	1.06	21.56	2.14		0.05	0.04	323-
	Approach	30%	4706	11.80	1.06	2.64	0.14		0.04	0.04	323
CF6-80C2B2F	Climb out	85%	14103	18.09	1.06	0.06	0.06		0.05	0.05	323
	Takeoff	100%	17048	21.55	1.06	0.04	0.06		0.07	0.06	323
es: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1595	4.68	1.06	19.76	1.83		0.05	0.04	323
	Approach	30%	5087	12.37	1.06	2.12	0.14		0.04	0.04	323
CF6-80C2B4	Climb out	85%	15595	20.17	1.06	0.04	0.06		0.06	0.05	323
	Takeoff	100%	19119	25.93	1.06	0.05	0.06		0.07	0.06	323
es: 3b, 5, 6, 8, 10, 12a						l					
	Idle (Taxi)	7%	1579	4.73	1.06	19.23	1.77		0.05	0.04	323
	Approach	30%	5159	12.47	1.06	2.13	0.13		0.03	0.04	323
CF6-80C2B4F	Climb out	85%	15738	19.72	1.06	0.04	0.06		0.06	0.05	323
	Takeoff	100%	19302	25.08	1.06	0.04	0.06		0.07	0.06	323
es: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1635	4.91	1.06	17.45	1.51		0.05	0.04	323
	Approach	30%	5532	12.74	1.06	1.83	0.13		0.04	0.04	323
CF6-80C2B5F	Climb out	85%	17159	21.76	1.06	0.04	0.06		0.06	0.06	323
	Takeoff	100%	21310	28.58	1.06	0.05	0.06		0.07	0.07	323

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	1627	4.76	1.06	18.89	1.70		0.05	0.04	3234
	Approach	30%	5333	12.53	1.06	1.91	0.13		0.04	0.04	3234
CF6-80C2B6	Climb out	85%	16635	21.69	1.06	0.04	0.06		0.06	0.06	3234
	Takeoff	100%	20476	28.57	1.06	0.06	0.05		0.07	0.06	3234
otes: 3b, 5, 6, 8, 10, 12a	1										1
	I.II. (T)	7%	1611	4.81	1.06	18.42	1.64		0.05	0.04	3234
	Idle (Taxi) Approach	30%	5413	12.63	1.06	1.93	0.13		0.03	0.04	3234
CF6-80C2B6F	Climb out	85%	16699	21.05	1.06	0.04	0.13		0.04	0.04	3234
0100002201	Takeoff	100%	20587	27.38	1.06	0.05	0.06		0.07	0.06	3234
otes: 3b, 5, 6, 8, 10, 12a											
nes. 30, 3, 0, 6, 10, 12a											
	Idle (Taxi)	7%	1611	4.81	1.06	18.42	1.64		0.05	0.04	3234
	Approach	30%	5413	12.63	1.06	1.93	0.13		0.04	0.04	3234
CF6-80C2B7F	Climb out	85%	16699	21.05	1.06	0.04	0.06		0.06	0.06	3234
	Takeoff	100%	20587	27.38	1.06	0.05	0.06		0.07	0.06	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1627	4.59	1.06	16.69	1.31	l	0.05	0.04	3234
	Approach	30%	5437	12.42	1.06	1.69	0.10		0.03	0.04	3234
CF6-80C2B8F	Climb out	85%	16714	20.84	1.06	0.02	0.05		0.06	0.05	3234
	Takeoff	100%	20500	26.85	1.06	0.03	0.05		0.06	0.06	3234
otes: 3b, 5, 6, 8, 10, 12a											
	1 1							1			
	Idle (Taxi)	7%	1556	3.80	1.06	41.78	10.38		0.12	0.11	3234
CF6-80C2D1F	Approach	30%	5214 16389	9.16	1.06 1.06	1.94	0.23		0.06	0.06	3234 3234
CF0-80C2D1F	Climb out Takeoff	85% 100%	20603	32.65	1.06	0.52 0.52	0.09		0.07	0.06	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1810	4.53	1.06	42.67	10.78		0.10	0.09	3234
	Approach	30%	5746	9.91	1.06	1.61	0.16		0.05	0.04	3234
CF6-80E1A2	Climb out	85%	17818	28.02	1.06	0.34	0.08		0.08	0.07	3234
	Takeoff	100%	21960	39.29	1.06	0.38	0.06		0.09	0.08	3234
otes: 3b, 5, 6, 8, 10, 12a											
	TH (77 )	701	1002	4.60	100	27.02	10.00		0.10	0.00	222:
	Idle (Taxi)	7%	1802	4.69	1.06	37.02	10.96		0.10	0.09	3234
CF6-80E1A3	Approach	30%	5992 18945	10.29	1.06	0.31	0.21		0.05	0.04	3234
CFU-OUEIA3	Climb out Takeoff	85% 100%	23722	31.74 45.63	1.06	0.31	0.08		0.08	0.08	3234 3234
	1 akeon	100%	23122	43.03	1.00	0.34	0.08		0.09	0.06	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1802	4.62	1.06	38.09	11.90		0.10	0.09	3234
	Approach	30%	5905	10.13	1.06	1.33	0.21		0.05	0.04	3234
CF6-80E1A4	Climb out	85%	18548	30.30	1.06	0.30	0.08		0.08	0.07	3234
	Takeoff	100%	23048	43.15	1.06	0.34	0.07		0.09	0.08	3234

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	sion Factor	s (lb/1000 ll	o fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	co	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	394	3.82	1.06	42.60	4.54		0.09	0.08	323
	Approach	30%	944	6.86	1.06	1.90	0.15		0.06	0.06	323
CF34-3A, -3A1	Climb out	85%	2653	10.14	1.06	0.00	0.07		0.09	0.08	323
	Takeoff	100%	3230	11.61	1.06	0.00	0.07		0.16	0.14	323
s: 3b, 5, 6, 8, 10, 12d					l .						
	Idle (Taxi)	7%	388	3.72	1.06	47.59	5.39		0.09	0.08	323
	Approach	30%	921	6.63	1.06	1.88	0.15		0.06	0.06	323
CF34-3B	Climb out	85%	2610	9.68	1.06	0.00	0.06		0.09	0.08	323
	Takeoff	100%	3167	11.28	1.06	0.00	0.07		0.13	0.12	323
s: 3b, 5, 6, 8, 10, 12a											
3. 30, 3, 0, 0, 10, 124											
	Idle (Taxi)	7%	548	4.31	1.06	24.92	0.09		0.04	0.03	323
	Approach	30%	1334	11.10	1.06	2.91	0.07		0.04	0.04	323
CF34-8C1	Climb out	85%	3921	12.82	1.06	0.50	0.02		0.04	0.04	32:
	Takeoff	100%	4795	14.67	1.06	0.41	0.02		0.06	0.05	32:
s: 3b, 5, 6, 8, 10, 12a											
	TH (T ')	70/	510	1.60	1.06	10.25	0.15		0.04	0.04	20
	Idle (Taxi)	7% 30%	510 1423	4.60 10.75	1.06	18.25 4.24	0.15		0.04	0.04	32:
CF34-8C5	Approach Climb out	85%	4204	12.60	1.06	0.57	0.07		0.04	0.04	32.
C1 54-6C5	Takeoff	100%	5144	14.69	1.06	0.64	0.02		0.03	0.04	32
s: 3b, 5, 6, 8, 10, 12a											
s. 50, 5, 0, 6, 10, 12a											
	Idle (Taxi)	7%	516	4.65	1.06	17.85	0.15		0.04	0.04	323
	Approach	30%	1452	10.87	1.06	4.17	0.07		0.04	0.04	323
CF34-8C5A1	Climb out	85%	4310	12.82	1.06	0.57	0.02		0.05	0.04	32:
	Takeoff	100%	5278	15.09	1.06	0.66	0.02		0.08	0.07	32
s: 3b, 5, 6, 8, 10, 12a											
	T		524	4.70	1.05	17.00	0.15		0.04	0.04	22
	Idle (Taxi)	7%	524 1492	4.70 11.06	1.06	17.30	0.15		0.04	0.04	32
CF34-8C5A2	Approach Climb out	30% 85%	1492 4468	13.15	1.06	4.05 0.57	0.07		0.04	0.04	32
C1'34-0C3A2	Takeoff	100%	5484	15.13	1.06	0.37	0.02		0.03	0.09	32
s: 3b, 5, 6, 8, 10, 12a											
s. 50, 5, 0, 0, 10, 12a											
	Idle (Taxi)	7%	500	4.50	1.06	19.52	0.18		0.04	0.04	32
	Approach	30%	1357	10.42	1.06	4.44	0.08		0.04	0.04	32
CF34-8C5B1	Climb out	85%	3944	12.03	1.06	0.58	0.03		0.04	0.04	32
	Takeoff	100%	4810	13.89	1.06	0.60	0.02		0.06	0.05	32
s: 3b, 5, 6, 8, 10, 12a						1					<u> </u>
	III (77 )	2001	460	0.00	1.00	155.00	20.70		0.00(0)	0.00/0	- 22
	Idle (Taxi)	<30%	460	0.89	1.06	155.00	20.70		0.00(S)	0.00( <b>S</b> )	32
CF700-2D	Approach	30%	919	1.80	1.06	62.00	1.61		0.01(S)	0.01(S)	32
CF/00-2D	Climb out Takeoff	90 - 100% >100%	2322 2607	4.30 5.60	1.06 1.06	11.34 9.98	0.11		0.01(S) 0.02(S)	0.01(S) 0.02(S)	32
						7,70	0.11				1 32

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
Ancian Engine	Setting	Thrust/hp	Rate (lb/hr)	$NO_X$	$SO_X^{-1}$	co	VOC	HAP's	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub> e
	Idle (Taxi)	7%	1032	4.30	1.06	23.50	1.30		0.06	0.05	3234
	Approach	30%	2524	8.70	1.06	3.40	0.09		0.06	0.05	3234
CFM56-2A Series	Climb out	70%	7230	17.30	1.06	0.90	0.05		0.06	0.05	3234
	Takeoff	100%	8841	20.40	1.06	0.90	0.05		0.07	0.07	3234
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	9%	1136	3.88	1.06	23.65	0.19	0.208	2.07	0.16	3234
	Approach	30%	2547	5.73	1.06	8.57	0.06	0.084	1.55	0.76	3234
CFM56-2B-1	Intermediate	70%	5650	11.04	1.06	2.32	0.03	0.069	0.65	0.36	3234
	Military	78%	6458	12.05	1.06	0.36	0.03	0.018	1.59	1.02	3234
tes: 3c (this is the commercia	l designation of the F108-CI	F-100 engine	e), 10, 12e								
								1			
	Idle (Taxi)	7%	1016	4.00	1.06	30.70	2.10		0.06	0.06	3234
	Approach	30%	2468	8.20	1.06	4.20	0.09		0.06	0.05	3234
CFM56-2-C5	Climb out Takeoff	85% 100%	6500 7818	16.00 18.50	1.06	0.90	0.06		0.05	0.05	3234 3234
	Takeon	100%	7010	18.50	1.00	0.90	0.03		0.07	0.00	3234
tes: 3b, 5, 6, 8, 10, 12a						•		•			
	Idle (Taxi)	7%	905	3.90	1.06	34.40	2.62		0.07	0.06	3234
	Approach	30%	2302	8.30	1.06	3.80	0.09		0.06	0.05	3234
CFM56-3-B1	Climb out	85%	6286	15.50	1.06	0.95	0.06		0.05	0.05	3234
	Takeoff	100%	7508	17.70	1.06	0.90	0.05		0.06	0.05	3234
tes: 3b, 5, 6, 8, 10, 12a											
	III (T. ')	70/	044	4.10	1.06	20.10	2.01	1	0.06	0.00	2224
	Idle (Taxi)	7%	944 2492	4.10	1.06	30.10	2.01		0.06	0.06	3234
CFM56-3B-2	Approach Climb out	30% 85%	6968	8.70 16.70	1.06	0.90	0.08		0.06	0.05	3234 3234
CI WI30-3B-2	Takeoff	100%	8381	19.40	1.06	0.90	0.03		0.06	0.06	3234
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	984	4.30	1.06	26.80	1.63		0.06	0.06	3234
	Approach	30%	2667	9.10	1.06	3.10	0.08		0.06	0.05	3234
CFM56-3C-1	Climb out	85%	7571	17.80	1.06	0.90	0.05		0.06	0.05	3234
	Takeoff	100%	9159	20.70	1.06	0.90	0.03		0.07	0.07	3234
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	802	4.00	1.06	17.60	1.61		0.06	0.06	3234
CDMCC 7 11	Approach	30%	2310	8.00	1.06	2.50	0.46		0.09	0.08	3234
CFM56-5-A1	Climb out	85%	6841	19.60	1.06	0.90	0.26		0.13	0.12	3234
	Takeoff	100%	8341	24.60	1.06	0.90	0.26		0.14	0.13	3234
tes: 3b, 5, 6, 8, 10, 12a						1	•	1		1	1
	Idle (Taxi)	7%	829	4.10	1.06	16.20	1.50		0.07	0.06	3234
	Approach	30%	2437	8.30	1.06	2.40	0.35		0.07	0.08	3234
CFM56-5A3	Climb out	85%	7341	21.10	1.06	0.90	0.23		0.13	0.12	3234
	Takeoff	100%	8976	26.40	1.06	0.90	0.23		0.14	0.13	3234

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Frains	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	754	4.04	1.06	20.30	2.01		0.07	0.06	3234
	Approach	30%	2071	8.51	1.06	3.10	0.58		0.09	0.08	3234
CFM56-5A4	Climb out	85%	5873	19.11	1.06	1.10	0.26		0.11	0.10	3234
	Takeoff	100%	7119	22.64	1.06	1.10	0.26		0.13	0.12	3234
tes: 3b, 5, 6, 8, 10, 12a	<u> </u>										
	Idle (Taxi)	7%	778	4.29	1.06	18.50	1.76		0.06	0.06	3234
	Approach	30%	2190	8.94	1.06	2.80	0.52		0.09	0.08	3234
CFM56-5A5	Climb out	85%	6341	19.98	1.06	1.10	0.26		0.12	0.08	323
CI MSO SI IS	Takeoff	100%	7714	24.79	1.06	1.10	0.26		0.12	0.11	323
	Tukcon	10070	7714	24.77	1.00	1.10	0.20		0.15	0.12	323
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	929	4.60	1.06	28.40	3.69		0.06	0.05	3234
	Approach	30%	2889	10.80	1.06	1.57	0.14		0.04	0.04	3234
CFM56-5B1	Climb out	85%	8833	27.20	1.06	0.50	0.12		0.10	0.09	323
	Takeoff	100%	10786	35.10	1.06	0.50	0.12		0.09	0.08	323
tes: 3b, 5, 6, 8, 10, 12a	1										
	Idle (Taxi)	7%	944	4.70	1.06	27.40	3.50		0.06	0.05	323
	Approach	30%	2984	11.00	1.06	1.40	0.14		0.04	0.03	323
CFM56-5B2	Climb out	85%	9191	28.50	1.06	0.50	0.14		0.04	0.04	323
C1 M30-3B2	Takeoff	100%	11318	37.80	1.06	0.50	0.12		0.08	0.07	323
	Tukcon	10070	11510	37.00	1.00	0.50	0.12		0.00	0.07	323
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	849	4.30	1.06	31.90	4.45		0.06	0.06	323
	Approach	30%	2587	10.00	1.06	2.33	0.15		0.05	0.04	323
CFM56-5B4	Climb out	85%	7627	23.30	1.06	0.50	0.12		0.10	0.09	323
	Takeoff	100%	9254	28.70	1.06	0.50	0.12		0.09	0.08	323
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	810	4.22	1.06	32.07	2.21		0.06	0.06	323
	Approach	30%	2508	8.85	1.06	3.24	0.06		0.05	0.05	323
CFM56-5B4/3	Climb out	85%	7452	17.23	1.06	0.16	0.02		0.09	0.08	323
	Takeoff	100%	9064	21.57	1.06	0.25	0.02		0.10	0.09	323
tes: 3b, 5, 6, 8, 10, 12a	1										
	Idle (Taxi)	7%	810	4.22	1.06	32.07	2.21		0.06	0.06	323
	Approach	30%	2508	8.85	1.06	3.24	0.06		0.05	0.05	323
CFM56-5B7/3	Climb out	85%	7452	17.23	1.06	0.16	0.02		0.09	0.08	323
	Takeoff	100%	9064	21.57	1.06	0.25	0.02		0.10	0.09	323
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	754	3.92	1.06	38.80	3.46		0.07	0.06	323
	Approach	30%	2206	8.26	1.06	4.42	0.08		0.05	0.05	323
CFM56-5B9/3	Climb out	85%	6294	14.76	1.06	0.17	0.03		0.08	0.07	323
	Takeoff	100%	7587	17.54	1.06	0.16	0.02		0.09	0.08	323
	Takcon	10070	7507	17.54	1.00	0.10	0.02		0.07	0.00	

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power I	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
All Craft Eligine	Setting TI	hrust/hp	Rate (lb/hr)	$NO_X$	$SO_X^{-1}$	co	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	933	4.19	1.06	34.00	6.53		0.12	0.11	3234
	Approach	30%	2824	10.00	1.06	1.75	0.09		0.08	0.07	3234
CFM56-5C2	Climb out	85%	8540	25.80	1.06	0.80	0.01		0.34	0.31	3234
	Takeoff	100%	10381	32.60	1.06	0.93	0.01		0.41	0.37	3234
tes: 3b, 5, 6, 8, 10, 12a						1					
	Idle (Taxi)	7%	865	3.90	1.06	35.10	6 67		0.12	0.11	3234
	Approach	30%	2714	9.30	1.06	2.10	6.67 0.00		0.12	0.11	3234
CFM56-5C2/P	Climb out	85%	8214	23.80	1.06	0.70	0.00		0.34	0.30	323
011120 002/1		100%	9937	29.70	1.06	0.80	0.00		0.39	0.35	323
tes: 3b, 5, 6, 8, 10, 12a											
nes. 30, 3, 0, 8, 10, 12a											
	Idle (Taxi)	7%	889	4.00	1.06	33.40	6.21		0.12	0.11	323
	Approach	30%	2817	9.60	1.06	1.90	0.00		0.07	0.07	323
CFM56-5C3/P	Climb out	85%	8611	25.10	1.06	0.70	0.00		0.36	0.32	323
	Takeoff	100%	10445	31.60	1.06	0.80	0.00		0.42	0.38	3234
tes: 3b, 5, 6, 8, 10, 12a								ı			
	Idle (Taxi)	7%	984	4.28	1.06	30.93	5.75	l	0.12	0.11	323
	Approach	30%	3064	10.67	1.06	1.40	0.07		0.08	0.07	323
CFM56-5C4	Climb out	85%	9484	29.05	1.06	0.85	0.01		0.39	0.35	323
		100%	11556	37.67	1.06	1.00	0.01		0.46	0.42	323
tes: 3b, 5, 6, 8, 10, 12a											
								ı			
	Idle (Taxi)	7%	913 2937	4.10 9.90	1.06	31.60	5.75		0.12	0.11	323
CFM56-5C4/P	Approach Climb out	30% 85%	9071	26.70	1.06	1.60 0.70	0.00		0.07	0.07	323 323
CFWI30-3C4/F		100%	11072	34.10	1.06	0.70	0.00		0.38	0.39	323
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	730	3.65	1.06	46.64	5.19		0.08	0.07	323
	Approach	30%	2032	7.78	1.06	5.54	0.09		0.05	0.05	323
CFM56-7B18/3	Climb out	85%	5571	13.00	1.06	0.28	0.03		0.07	0.06	323
	Takeoff	100%	6683	14.81	1.06	0.17	0.03		0.07	0.07	323
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	794	4.30	1.06	25.90	3.57		0.06	0.05	323
	Approach	30%	2175	9.50	1.06	3.20	0.12		0.04	0.03	323
CFM56-7B20	Climb out	85%	6040	17.40	1.06	0.50	0.12		0.08	0.07	323
		100%	7246	20.50	1.06	0.60	0.12		0.10	0.09	323
tes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	810	3.75	1.06	49.71	9.33		0.09	0.08	323
CENTE CERCOLO	Approach	30%	2206	9.39	1.06	11.37	0.41		0.07	0.06	323
CFM56-7B20/2	Climb out	85%	5984	10.81	1.06	11.38	0.26		0.06	0.05	323
	Takeoff	100%	7167	13.25	1.06	4.26	0.08		0.05	0.04	323

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine		Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
All Craft Eligine	Setting T	hrust/hp	Rate (lb/hr)	$NO_X$	$SO_X^{-1}$	co	voc	HAP's	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub> e
	Idle (Taxi)	7%	746	3.77	1.06	43.31	4.42		0.08	0.07	3234
	Approach	30%	2127	7.98	1.06	5.03	0.09		0.05	0.05	3234
CFM56-7B20/3	Climb out	85%	5921	13.53	1.06	0.23	0.03		0.07	0.06	3234
	Takeoff	100%	7111	15.61	1.06	0.15	0.03		0.08	0.07	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	794	3.80	1.06	43.30	4.37		0.08	0.07	3234
	Approach	30%	2381	8.00	1.06	5.00	0.12		0.08	0.07	323
CFM56-7B20E	Climb out	85%	5556	13.50	1.06	0.20	0.12		0.07	0.05	323
011120 12202	Takeoff	100%	7143	15.60	1.06	0.20	0.00		0.07	0.07	323
otes: 3b, 5, 6, 8, 10, 12a											
ics. 50, 5, 0, 0, 10, 12a											
	Idle (Taxi)	7%	833	4.50	1.06	22.80	2.88		0.05	0.05	323
	Approach	30%	2365	10.00	1.06	2.50	0.12		0.04	0.04	3234
CFM56-7B22	Climb out	85%	6698	19.00	1.06	0.60	0.12		0.10	0.09	323
	Takeoff	100%	8103	23.10	1.06	0.50	0.12		0.10	0.09	3234
otes: 3b, 5, 6, 8, 10, 12a								1			
	Idle (Taxi)	7%	833	3.94	1.06	45.35	8.35		0.09	0.08	323
	Approach	30%	2405	6.37	1.06	30.87	6.97		0.38	0.34	323
CFM56-7B22/2	Climb out	85%	6643	12.16	1.06	6.58	0.12		0.05	0.04	323
	Takeoff	100%	8000	15.08	1.06	2.18	0.07		0.05	0.04	323
otes: 3b, 5, 6, 8, 10, 12a											
	T	501	706	2.05	1.05	27.00	2.25	1	0.05	0.05	222
	Idle (Taxi)	7%	786 2310	3.95 8.35	1.06	37.90 4.18	3.25 0.08		0.07	0.06	323
CFM56-7B22/3	Approach Climb out	30% 85%	6603	14.67	1.06	0.17	0.08		0.05	0.05	323
CFM30-7B22/3	Takeoff	100%	7968	17.40	1.06	0.17	0.03		0.08	0.07	323
21.5.6.0.10.12											
etes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	794	4.00	1.06	37.90	3.22		0.07	0.06	323
	Approach	30%	2381	8.40	1.06	4.20	0.12		0.06	0.05	323
CFM56-7B22E	Climb out	85%	6349	14.70	1.06	0.20	0.00		0.07	0.07	323
	Takeoff	100%	7937	17.40	1.06	0.20	0.00		0.08	0.07	323
etes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	865	4.40	1.06	22.00	2.76		0.05	0.05	323
	Approach	30%	2508	10.10	1.06	2.20	0.12		0.03	0.03	323
CFM56-7B24	Climb out	85%	7222	20.50	1.06	0.60	0.12		0.10	0.09	323
	Takeoff	100%	8754	25.30	1.06	0.40	0.12		0.11	0.10	323
otes: 3b, 5, 6, 8, 10, 12a											
			T				_		_		
	Idle (Taxi)	7%	865	4.08	1.06	42.72	7.53		0.08	0.07	323
CENTER EDGLIG	Approach	30%	2484	6.72	1.06	30.32	6.91		0.38	0.34	323
CFM56-7B24/2	Climb out	85%	7159	13.23	1.06	4.30	0.08		0.05	0.04	3234
	Takeoff	100%	8643	16.63	1.06	1.38	0.06		0.05	0.04	323

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	co	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	817	4.09	1.06	34.71	2.65		0.07	0.06	3234
	Approach	30%	2444	8.60	1.06	3.68	0.07		0.05	0.05	3234
CFM56-7B24/3	Climb out	85%	7103	15.60	1.06	0.15	0.03		0.08	0.07	3234
-	Takeoff	100%	8619	18.93	1.06	0.18	0.02		0.09	0.08	3234
totes: 3b, 5, 6, 8, 10, 12a											
	III (TE ')	70/	704	4.10	1.00	24.70	2.65		0.07	0.06	2224
_	Idle (Taxi)	7% 30%	794 2381	4.10 8.60	1.06	34.70 3.70	2.65 0.12		0.07	0.06	3234 3234
CFM56-7B24E	Approach Climb out	85%	7143	15.60	1.06	0.20	0.12		0.08	0.03	3234
CI MSO 7B2+E	Takeoff	100%	8730	18.90	1.06	0.20	0.00		0.09	0.08	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	794	4.10	1.06	34.70	2.65		0.07	0.06	3234
	Approach	30%	2381	8.60	1.06	3.70	0.12		0.06	0.05	3234
CFM56-7B24E/B1	Climb out	85%	7143	15.60	1.06	0.20	0.00		0.08	0.07	3234
_	Takeoff	100%	8730	18.90	1.06	0.20	0.00		0.09	0.08	3234
lotes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	897	4.70	1.06	18.80	2.19	l	0.05	0.04	3234
_	Approach	30%	2683	10.80	1.06	1.60	0.12		0.04	0.04	3234
CFM56-7B26	Climb out	85%	7929	22.50	1.06	0.60	0.12		0.11	0.09	3234
CFM56-7B26	Takeoff	100%	9691	28.80	1.06	0.20	0.12		0.12	0.11	3234
Totes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	897	4.27	1.06	39.93	6.76	l	0.08	0.07	3234
-	Approach	30%	2651	7.26	1.06	26.07	5.44		0.31	0.28	3234
CFM56-7B26/2	Climb out	85%	7849	14.77	1.06	2.51	0.07		0.04	0.04	3234
	Takeoff	100%	9548	19.20	1.06	0.77	0.03		0.04	0.04	3234
Totes: 3b, 5, 6, 8, 10, 12a											
		ı				1		1			
	Idle (Taxi)	7%	857	4.27	1.06	30.94	2.01		0.06	0.06	3234
CENTS TROOM	Approach	30%	2627	8.93	1.06	3.07	0.06		0.05	0.05	3234
CFM56-7B26/3	Climb out Takeoff	85% 100%	7825 9627	17.08 21.79	1.06	0.16 0.25	0.02		0.09	0.08	3234 3234
	Takcon	10070	7021	21.77	1.00	0.23	0.02		0.10	0.07	323
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	794	4.30	1.06	30.90	2.07		0.06	0.06	3234
CFM56-7B26E, -7B26E/B1,	Approach	30%	2381	8.90	1.06	3.10	0.12		0.06	0.05	3234
-7B26E/B2, -7B26E/B2F,	Climb out	85%	7937	17.10	1.06	0.20	0.00		0.09	0.08	3234
-7B26E/F	Takeoff	100%	9524	21.80	1.06	0.20	0.00		0.10	0.09	3234
otes: 3b, 5, 6, 8, 10, 12a								1			
	Idle (Taxi)	7%	921	4.80	1.06	17.90	1.96		0.05	0.04	3234
	Approach	30%	2770	11.00	1.06	1.40	0.12		0.03	0.04	3234
CFM56-7B27	Climb out	85%	8278	23.70	1.06	0.50	0.12		0.11	0.10	3234
	Takeoff	100%	10191	30.90	1.06	0.20	0.12		0.12	0.11	3234
otes: 3b, 5, 6, 8, 10, 12a											

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 ll	fuel)		
Antian Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	913	4.36	1.06	38.73	6.39		0.08	0.07	3234
	Approach	30%	2786	7.53	1.06	24.28	4.84		0.28	0.25	3234
CFM56-7B27/2	Climb out	85%	8198	15.59	1.06	1.97	0.07		0.04	0.04	3234
	Takeoff	100%	10040	20.81	1.06	0.54	0.06		0.05	0.04	3234
otes: 3b, 5, 6, 8, 10, 12a											
-	Idle (Taxi)	7%	873	4.36	1.06	29.39	1.77		0.06	0.06	3234
CFM56-7B27/3	Approach	30%	2722	9.09	1.06	2.82	0.06		0.05	0.05	323
CFWI30-7B27/3	Climb out Takeoff	85% 100%	8183 10262	17.89 23.94	1.06	0.17	0.02		0.10	0.09	323 323
	1 akeon	10070	10202	23.54	1.00	0.31	0.03		0.10	0.09	323
otes: 3b, 5, 6, 8, 10, 12a		•				•	•		•		
	Idle (Taxi)	7%	794	4.40	1.06	29.40	1.73		0.06	0.06	323
CFM56-7B27E, -7B27E/B1,	Approach	30%	2381	9.10	1.06	2.80	0.12		0.06	0.05	3234
-7B27E/B1F, -7B27E/B3,	Climb out	85%	7937	17.90	1.06	0.20	0.00		0.09	0.08	323
-7B27E/F	Takeoff	100%	10318	23.90	1.06	0.30	0.00		0.10	0.09	323
otes: 3b, 5, 6, 8, 10, 12a											
100.00,0,0,0,10,124									ı		
	Idle (Taxi)	7%	131	2.20	1.06	35.33	3.78		0.18	0.16	323
CT7-5	Approach	30%	364	6.88	1.06	5.29	1.42		0.37	0.33	323
CT7-5	Climb out	70%	756	13.17	1.06	2.59	0.95		0.57	0.51	323
C17-5	Takeoff	100%	809	13.77	1.06	2.59	0.95		0.69	0.62	323
otes: 3m, 11, 12h		•				•	•		•		
	Idle (Taxi)	3%	1127	4.64	1.06	49.58	3.79	1.538	3.13	2.82	323
	Approach	13%	2765	12.52	1.06	3.99	1.06	0.853	1.57	1.41	323
F100-PW-100	Intermediate	45%	7685	27.09	1.06	0.72	0.14	0.044	0.72	0.65	323
	Military	100%	10996	35.01	1.06	0.70	0.12	0.067	1.24	1.12	323
	Afterburner-1	134%	54007	6.62	1.06	9.57	0.13	0.026	0.87	0.78	323
otes: 3n, 8, 10, 12e											
	Idle (Taxi)	3%	1006	6.21	1.06	24.06	2.05	1.294	2.49	2.24	323
	Approach	13%	3251	17.93	1.06	1.22	0.05	0.003	2.37	2.13	323
F100-PW-200	Intermediate	45%	5651	26.55	1.06	0.38	0.07	0.018	1.58	1.42	323
	Military	100%	8888	34.32	1.06	0.56	0.11	0.026	1.58	1.42	323
. 2 0 10 12	Afterburner-5	134%	40123	6.63	1.06	10.42	0.69	0.046	3.04	2.74	323
otes: 3e, 8, 10, 12e											
	Idle (Taxi)		1084	4.61	1.06	35.30	7.94		2.06	1.85	323
	Approach		3837	12.53	1.06	1.92	5.12		2.63	2.37	323
F100-PW-220	Intermediate		5770	22.18	1.06	0.86	2.89		2.06	1.85	323
	Military		9679	29.32	1.06	0.86	1.79		1.33	1.20	323
4 2f 8 12-	Afterburner-5		41682	8.37	1.06	11.99	1.53		1.15	1.04	323
otes: 3f, 8, 12e											
	Idle (Taxi)	5%	1087	3.80	1.06	10.17	0.45		2.06(S)	1.85(S)	323
	Approach	21%	3098	15.08	1.06	1.17	0.24		2.63(S)	2.37( <b>S</b> )	323
F100-PW-229	Intermediate	49%	5838	17.54	1.06	0.15	0.35		2.06(S)	1.85(S)	323
	Military	86%	11490	29.29	1.06	0.33	0.31		1.33( <b>S</b> )	1.20(S)	323
		102%	20793	14.30	1.06	21.51	5.26		1.15(S)	1.04(S)	323

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factors	s (lb/1000 ll	fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)		476	7.30	1.06	120.10	28.98		0.09	0.08	3234
	Approach		4533( <b>S</b> )	9.16( <b>S</b> )	1.06	1.03(S)	0.02(S)		4.21(S)	3.74(S)	3234
F101-GE-100	Intermediate		6557( <b>S</b> )	13.15(S)	1.06	0.85(S)	0.04(S)		1.35(S)	0.72(S)	323
	Military		10000	2.30	1.06	7.60	0.46		0.03	0.03	323
	Afterburner		66747	4.60	1.06	16.70	0.12		0.05	0.05	323
es: 3g, 4e (all emission facto	ors and fuel flow rates for	Approach and	Intermediate Po	wer settings	), 5, 8, 12h						
		50/	4445	4.10	100	24.45	0.15	0.105	2.10	0.05	222
	Idle (Taxi)	5%	1117	4.10	1.06	24.46	0.16	0.127	2.18	0.96	323
E101 CE 102	Approach	47%	4533	9.16	1.06	1.03	0.02	0.009	4.21	3.74	323
F101-GE-102	Intermediate	66%	6557	13.15	1.06	0.85	0.04	0.009	1.35	0.72	323
	Military Afterburner-1	77% 106%	7828 15314	12.83 16.92	1.06	0.83 43.49	0.12 1.46	0.014	1.68 2.87	1.20 2.40	323 323
es: 3c, 10, 12e	Atterburner-1	100%	15514	10.92	1.06	43.49	1.40	0.969	2.87	2.40	323
03. 30, 10, 120											
	Idle (Taxi)	7%	1294	3.40	1.06	24.04	3.13		0.06	0.06	323
	Approach	30%	5262	10.16	1.06	3.71	0.32		0.06	0.06	323
F103-GE-100	Climb out	85%	15397	25.50	1.06	0.45	0.17	-	0.11	0.10	323
	Takeoff	100%	18738	28.97	1.06	0.45	0.16		0.10	0.09	323
es: 3b (This is the military of	lesignation of the CF6-50E	2 engine), 5, 6	5, 8, 10, 12a								
	Idle (Taxi)	7%	1706	3.60	1.06	61.80	25.07		0.21	0.19	323
	Approach	30%	5238	9.50	1.06	4.30	1.15		0.21	0.19	323
F103-GE-101	Climb out	85%	15675	29.70	1.06	0.50	0.81		0.11	0.10	323
1 105-GL-101	Takeoff	100%	19738	36.30	1.06	0.50	0.69		0.10	0.09	323
	Tukcon	10070	17730	50.50	1.00	0.50	0.07		0.12	0.11	32.
es: 3b (this is the military de	esignation of the CF6-50C2	2 engine), 5, 6.	, 8, 10, 12a			I.					
•											
	Idle (Taxi)	9%	1136	3.88	1.06	23.65	0.19	0.125	2.07	0.16	323
	Approach	30%	2547	5.73	1.06	8.57	0.06	0.027	1.55	0.76	323
F108-CF-100, -201	Intermediate	70%	5650	11.04	1.06	2.32	0.03	0.008	0.65	0.36	323
	Military	78%	6458	12.05	1.06	0.36	0.03	0.009	1.59	1.02	323
es: 3c (F108-CF-100 is the	military designation of the	CEM56 2D 1	angina this and	ina usad as s	currogata	t all cattings	for E109 C	E 201 angin	10 120		
es. 5c (1106-C1-100 is the	illintary designation of the	CI WISO-2D-1	engine, this eng	ine used as a	surrogate a	it an settings	101 1·106-C	1-201 engin	5), 10, 126		
	Idle (Taxi)	3%	1111	3.77	1.06	24.11	0.22	0.164	2.60	1.12	323
	Approach	44%	5080	9.78	1.06	5.77	0.03	0.015	1.37	0.91	323
F110-GE-100	Intermediate	66%	7332	16.92	1.06	3.47	0.05	0.025	0.58	0.41	323
	Military	100%	11358	29.00	1.06	3.38	0.04	0.019	0.14	0.00	323
	Afterburner-1	113%	18088	14.26	1.06	67.41	1.21	0.697	3.35	2.98	32:
es: 3c, 10, 12e											
	T										
	Idle (Taxi)	4%	961	2.62	1.06	45.04	4.90		2.60(S)	1.12(S)	32:
E110 GE 120	Approach	45%	4832	13.42	1.06	1.93	0.03(S)		1.37(S)	0.91( <b>S</b> )	32:
F110-GE-129	Intermediate	65%	6939	17.82	1.06	1.53	0.05(S)		0.58(S)	0.41( <b>S</b> )	323
	Military	76%	8611	20.34	1.06	1.17	0.93		0.14(S)	0.00(S)	323
es: 3c, 4g (for VOC data for	Afterburner-1	99%	15564 PM., and PM.	7.09	1.06	63.28	53.46		3.35( <b>S</b> )	2.98( <b>S</b> )	323
cs. 5c, 4g (101 VOC data 101	Approach and intermedia	ic seimigs and	1 IV110 allu FIVI2.	5 101 all pow	or settings),	5, 10, 120					
	Idle (Taxi)	7%	1287	2.76	1.06	16.57	3.48		0.02	0.02	323
	Approach	30%	5809	12.41	1.06	0.96	0.44		0.02	0.02	323
F110-GE-400	Climb out	70%	11868	58.57	1.06	0.90	0.38		0.02	0.02	323
. 110 OL 400	Takeoff	100%	11833	28.47	1.06	0.84	0.38		0.20	0.23	323
	Lukcon	10070	11000	20.77	1.00	0.04	0.50		0.51	0.20	52.

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
Ancrait Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	$SO_X^{-1}$	co	VOC	HAP's	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub> e
	Idle (Taxi)	7%	1008	3.60	1.06	31.77	4.24		0.16	0.15	3234
	Approach	30%	2206	7.20	1.06	2.65	0.21		0.22	0.20	3234
F113-RR-100	Climb out	85%	5762	17.30	1.06	0.63	0.14		0.24	0.22	3234
	Takeoff	100%	7071	22.70	1.06	0.12	0.10		0.23	0.21	3234
21 /TL:- :- 41:1:4 1	iif-th- CDEV N	(I-511i)	5 C 0 10 12h								
otes: 3b (This is the military de	esignation of the SPET r	vik511 engine),	5, 6, 8, 10, 121								
	Idle (Taxi)	4%	978	3.76	1.06	22.70	0.37	0.291	10.67	8.75	3234
	Approach	31%	4645	15.49	1.06	0.51	0.05	0.019	5.53	5.10	323
F117-PW-100	Intermediate	68%	10408	32.72	1.06	0.32	0.04	0.012	2.31	1.42	323
	Takeoff		13905( <b>S</b> )	35.04( <b>S</b> )	1.06	0.32(S)	0.01( <b>S</b> )	0.013( <b>C</b> )	0.06(S)	0.05(S)	323
otes: 3c (this is the military de	signation of the PW2040	angina) 4a (H	A Do at Takaoff	satting only)	Ab (All ror	noining Emis	sion Factors	at Takaoff	otting) 10	120	
ites: 50 (this is the military de	signation of the PW2040	engine), 4a (H/	APS at Takeon	setting only),	4n (All rei	naming Emis	sion Factors	at Takeon s	setting), 10,	12e	
	Idle (Taxi)		1097	4.30	1.06	20.98	0.29	0.234	1.25	1.03	323
	Approach		3773	11.09	1.06	2.02	0.05	0.017	4.70	2.32	323
F118-GE-100	Intermediate		6350	18.01	1.06	0.85	0.03	0.013	3.05	2.72	323
	Military		10887	33.12	1.06	0.65	0.03	0.007	1.64	1.48	323
otes: 3c, 10, 12e											
tes. 5c, 10, 12c											
	Idle (Taxi)	10%	1377	3.01	1.06	48.15	1.67	1.492	2.42	1.76	323
	Approach	20%	2740	6.59	1.06	7.92	0.05	0.047	1.96	1.73	323
F119-PW-100	Intermediate	70%	10110	12.40	1.06	2.14	0.03	0.030	1.40	1.09	323
1117-1 **-100					1.06	0.75	0.01	0.010	1.12	0.97	323
1117-1 W-100	Military	100%	18612	19.81	1.06	0.75	0.01	0.010	1.12	0.77	
	Afterburner	150%	50170	7.37	1.06	16.10	0.00(C)	0.002(C)	0.85(C)	0.75(C)	_
otes: 3d, 4a (VOC, HAP, PM <sub>16</sub> ) F135-PW-100	Afterburner  and PM <sub>2.5</sub> Emission face	150%	50170 urner setting only	7.37 y), 10, 12e	1.06	16.10	0.00(C)	0.002(C)	0.85(C)	0.75(C)	323
otes: 3d, 4a (VOC, HAP, PM <sub>I</sub> (	Afterburner b, and PM <sub>2.5</sub> Emission face	150% ctors for afterbu	50170 urner setting only	7.37 y), 10, 12e	1.06	16.10	0.00(C)	0.002(C)	0.85(C)	0.75(C)	323
otes: 3d, 4a (VOC, HAP, PM <sub>I</sub> (	Afterburner  a, and PM <sub>2.5</sub> Emission face  Proprietary	150% ctors for afterbu	50170  The setting only  Intact Air Quality	7.37 y), 10, 12e ty Subject Ma	1.06	16.10	0.00(C)	0.002(C)	0.85(C)	0.75(C)	323.
otes: 3d, 4a (VOC, HAP, PM <sub>I</sub> (	Afterburner  and PM <sub>2.5</sub> Emission factor  Proprietary  Idle (Taxi)	150% ctors for afterbu	50170  mer setting onl  ntact Air Qualit  1251	7.37 y), 10, 12e ty Subject Ma	1.06  atter Expert	16.10 for More Int	0.00(C)  formation re	0.002(C)	0.85(C) engine's Emi	0.75(C) ssion Factor 0.44	323 s
tes: 3d, 4a (VOC, HAP, PM <sub>I</sub> (	Afterburner  and PM2.5 Emission factor  Proprietary  Idle (Taxi)  Approach	150% ctors for afterbu	50170  The setting only  Intact Air Quality	7.37 y), 10, 12e ty Subject Ma	1.06	16.10 for More Int	0.00(C)	0.002(C)	0.85(C) engine's Emi 0.49 0.30	0.75(C) ssion Factor  0.44 0.27	323 s 323 323
rtes: 3d, 4a (VOC, HAP, PM <sub>16</sub> ) F135-PW-100	Afterburner  and PM <sub>2.5</sub> Emission factor  Proprietary  Idle (Taxi)	150% ctors for afterbu	50170 rmer setting onl ntact Air Qualit  1251 3735	7.37 y), 10, 12e ty Subject Ma	1.06  1.06  1.06	16.10 for More Int	0.00(C)  formation re	garding this 6	0.85(C) engine's Emi	0.75(C) ssion Factor 0.44	323 8 323 323 323
tes: 3d, 4a (VOC, HAP, PM <sub>R</sub> ) F135-PW-100 F402-RR-406A	Afterburner a and PM <sub>2.5</sub> Emission face  Proprietary 1  Idle (Taxi)  Approach  Intermediate	150% etors for afterbu	50170 urner setting onl ntact Air Qualit  1251 3735 7125	7.37 y), 10, 12e ty Subject Ma 1.80 4.99 9.48	1.06 atter Expert 1.06 1.06 1.06	16.10  for More Int  106.08  21.46  8.35	0.00(C)  formation re.  18.75  1.05  0.43	0.002(C)	0.85(C) engine's Emi 0.49 0.30 0.30	0.75(C) ssion Factor  0.44 0.27 0.27	323 8 323 323 323
tes: 3d, 4a (VOC, HAP, PM <sub>R</sub> ) F135-PW-100 F402-RR-406A	Afterburner a and PM <sub>2.5</sub> Emission face  Proprietary 1  Idle (Taxi)  Approach  Intermediate	150% etors for afterbu	50170 urner setting onl ntact Air Qualit  1251 3735 7125	7.37 y), 10, 12e ty Subject Ma 1.80 4.99 9.48	1.06 atter Expert 1.06 1.06 1.06	16.10  for More Int  106.08  21.46  8.35	0.00(C)  formation re.  18.75  1.05  0.43	0.002(C)	0.85(C) engine's Emi 0.49 0.30 0.30	0.75(C) ssion Factor  0.44 0.27 0.27	323 8 323 323 323
rtes: 3d, 4a (VOC, HAP, PM <sub>R</sub> ) F135-PW-100 F402-RR-406A	Afterburner a and PM <sub>2.5</sub> Emission face  Proprietary 1  Idle (Taxi)  Approach  Intermediate	150% etors for afterbu	50170 urner setting onl ntact Air Qualit  1251 3735 7125	7.37 y), 10, 12e ty Subject Ma 1.80 4.99 9.48	1.06 atter Expert 1.06 1.06 1.06	16.10  for More Int  106.08  21.46  8.35	0.00(C)  formation re.  18.75  1.05  0.43	0.002(C)	0.85(C) engine's Emi 0.49 0.30 0.30	0.75(C) ssion Factor  0.44 0.27 0.27	323 323 323 323
rtes: 3d, 4a (VOC, HAP, PM <sub>R</sub> ) F135-PW-100 F402-RR-406A	Afterburner  a and PM <sub>2.5</sub> Emission factors  Proprietary  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)	150% etors for afterbu	50170  Inter setting only  Intact Air Quality  1251  3735  7125  8094	7.37 y), 10, 12e ty Subject Ma 1.80 4.99 9.48 10.78	1.06 1.06 1.06 1.06	16.10 for More Inf	0.00(C)  Formation results 18.75 1.05 0.43 0.43	garding this e	0.85(C) engine's Emi 0.49 0.30 0.30 0.32	0.75(C) ssion Factor  0.44 0.27 0.29	323 323 323 323 323
tes: 3d, 4a (VOC, HAP, PM <sub>R</sub> ) F135-PW-100 F402-RR-406A	Afterburner  and PM <sub>2.5</sub> Emission factor  Proprietary  Idle (Taxi)  Approach  Intermediate  Military	150% ctors for afterbut Information. Co  7% 30% 70% 100%	50170 uner setting onl ntact Air Qualit  1251 3735 7125 8094	7.37 y), 10, 12e ty Subject Ma 1.80 4.99 9.48 10.78	1.06  1.06  1.06  1.06  1.06  1.06	106.08 106.08 21.46 8.35 6.93	0.00(C)  formation results 18.75 1.05 0.43 0.43	garding this e	0.85(C) engine's Emi  0.49 0.30 0.30 0.32	0.75(C) ssion Factor  0.44 0.27 0.27 0.29	323 323 323 323 323 323
F135-PW-100  F402-RR-406A  stes: 3m, 11, 12h	Afterburner a, and PM <sub>2.5</sub> Emission face  Proprietary l  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach	150% etors for afterbu	50170  Inter setting only  Intact Air Qualit  1251  3735  7125  8094  1449  3974	7.37 y), 10, 12e by Subject Ma 1.80 4.99 9.48 10.78	1.06  1.06  1.06  1.06  1.06  1.06  1.06	106.08 21.46 8.35 6.93	18.75 1.05 0.43 0.43	garding this 6	0.85(C) engine's Emi  0.49 0.30 0.30 0.32	0.75(C) ssion Factor  0.44 0.27 0.27 0.29  0.14 0.17	323 323 323 323 323 323 323 323
F135-PW-100  F402-RR-406A  tes: 3m, 11, 12h  F402-RR-408	Afterburner a and PM <sub>2.5</sub> Emission factors  Proprietary I  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Intermediate  Intermediate	150% etors for afterbu	50170 uner setting onl  1251 3735 7125 8094  1449 3974 7290	7.37 y), 10, 12e ty Subject Ma 1.80 4.99 9.48 10.78	1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06	16.10  for More Inf  106.08 21.46 8.35 6.93  39.72 16.57 9.79	18.75 1.05 0.43 0.43	0.002(C)	0.85(C) engine's Emi  0.49 0.30 0.30 0.32  0.16 0.19 0.02	0.75(C) ssion Factor  0.44 0.27 0.29  0.14 0.17 0.02	322 322 322 323 323 323 323 323 323
F135-PW-100  F402-RR-406A  res: 3m, 11, 12h	Afterburner a and PM <sub>2.5</sub> Emission factors  Proprietary I  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Intermediate  Intermediate	150% etors for afterbu	50170 uner setting onl  1251 3735 7125 8094  1449 3974 7290	7.37 y), 10, 12e ty Subject Ma 1.80 4.99 9.48 10.78	1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06	16.10  for More Inf  106.08 21.46 8.35 6.93  39.72 16.57 9.79	18.75 1.05 0.43 0.43	0.002(C)	0.85(C) engine's Emi  0.49 0.30 0.30 0.32  0.16 0.19 0.02	0.75(C) ssion Factor  0.44 0.27 0.29  0.14 0.17 0.02	323 323 323 323 323 323 323 323
F135-PW-100  F402-RR-406A  tes: 3m, 11, 12h  F402-RR-408	Afterburner a and PM <sub>2.5</sub> Emission factors  Proprietary I  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Intermediate  Intermediate	150% etors for afterbu	50170 uner setting onl  1251 3735 7125 8094  1449 3974 7290	7.37 y), 10, 12e ty Subject Ma 1.80 4.99 9.48 10.78	1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06	16.10  for More Inf  106.08 21.46 8.35 6.93  39.72 16.57 9.79	18.75 1.05 0.43 0.43	0.002(C)	0.85(C) engine's Emi  0.49 0.30 0.30 0.32  0.16 0.19 0.02	0.75(C) ssion Factor  0.44 0.27 0.29  0.14 0.17 0.02	323 323 323 323 323 323 323 323
F135-PW-100  F402-RR-406A  res: 3m, 11, 12h	Afterburner a and PM <sub>2.5</sub> Emission face  Proprietary l  Idle (Taxi)  Approach Intermediate  Military  Idle (Taxi)  Approach Intermediate  Military  Idle (Taxi)  Approach Intermediate  Military	150% etors for afterbut finformation. Co  7% 30% 70% 100%   7% 30% 70% 100%	50170 uner setting onl  1251 3735 7125 8094  1449 3974 7290 8494	7.37 y), 10, 12e by Subject Ma 1.80 4.99 9.48 10.78 2.20 5.02 7.55 8.38	1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06	106.08 21.46 8.35 6.93 39.72 16.57 9.79 8.58	0.00(C)  18.75 1.05 0.43 0.43  2.41 0.46 0.20 0.20	garding this e	0.85(C) engine's Emi  0.49 0.30 0.30 0.32  0.16 0.19 0.02 0.21	0.75(C)  ssion Factor  0.44 0.27 0.27 0.29  0.14 0.17 0.02 0.19	323 323 323 323 323 323 323 323 323 323
F135-PW-100  F402-RR-406A  res: 3m, 11, 12h	Afterbumer a and PM <sub>2.5</sub> Emission face  Proprietary l  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military	150% etors for afterbu	50170  Inter setting only  1251  3735  7125  8094  1449  3974  7290  8494  685	7.37 y), 10, 12e ty Subject Ma 1.80 4.99 9.48 10.78 2.20 5.02 7.55 8.38	1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06	106.08 21.46 8.35 6.93 39.72 16.57 9.79 8.58	18.75 1.05 0.43 0.43 2.41 0.46 0.20 0.20	0.002(C)  garding this 6	0.85(C) engine's Emi  0.49 0.30 0.30 0.32  0.16 0.19 0.02 0.21	0.75(C) ssion Factor  0.44 0.27 0.27 0.29  0.14 0.17 0.02 0.19	323 323 323 323 323 323 323 323 323 323
F135-PW-100  F402-RR-406A  btes: 3m, 11, 12h  F402-RR-408	Afterburner a and PM25 Emission face  Proprietary l  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military	150% etors for afterbu Information. Co  7% 30% 70% 100%  796 30% 70% 100%	50170 uner setting onl  1251 3735 7125 8094  1449 3974 7290 8494  688 3111 6464	7.37 y), 10, 12e ty Subject Ma 1.80 4.99 9.48 10.78 2.20 5.02 7.55 8.38	1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06	16.10  for More Inf  106.08 21.46 8.35 6.93  39.72 16.57 9.79 8.58  110.18 2.02 1.54	18.75 1.05 0.43 0.43 2.41 0.46 0.20 0.20	0.002(C)  garding this 6	0.85(C) engine's Emi  0.49 0.30 0.30 0.32  0.16 0.19 0.02 0.21  4.47 1.46 1.57	0.75(C)  ssion Factor  0.44  0.27  0.29  0.14  0.17  0.02  0.19  3.10  0.87  0.90	323
F135-PW-100  F402-RR-406A  res: 3m, 11, 12h  F402-RR-408	Afterbumer a and PM <sub>2.5</sub> Emission face  Proprietary l  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military  Idle (Taxi)  Approach  Intermediate  Military	150% etors for afterbu Information. Co  7% 30% 70% 100%  7% 30% 70% 100%	50170 uner setting onl  1251 3735 7125 8094  1449 3974 7290 8494  685 3111	7.37 y), 10, 12e ty Subject Ma 1.80 4.99 9.48 10.78 2.20 5.02 7.55 8.38	1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06  1.06	16.10  for More Inf  106.08 21.46 8.35 6.93  39.72 16.57 9.79 8.58	18.75 1.05 0.43 0.43 2.41 0.46 0.20 0.20	0.002(C)  garding this e	0.85(C) engine's Emi  0.49 0.30 0.30 0.32  0.16 0.19 0.02 0.21	0.75(C) ssion Factor  0.44 0.27 0.29  0.14 0.17 0.02 0.19	323 323 323 323 323 323 323 323 323 323

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power I	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
Aircraft Engine	Setting T	hrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	со	VOC	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	2937	5.11	1.06	40.59	5.23		0.07	0.06	3234
	Approach	30%	8571	15.78	1.06	2.29	0.07		0.05	0.04	3234
GE90-110B1	Climb out	85%	27540	33.85	1.06	0.07	0.03		0.05	0.04	3234
	Takeoff	100%	34286	44.44	1.06	0.07	0.03		0.05	0.05	3234
otes: 3b, 5, 6, 8, 10, 12a											
	III (T :)	70/	2016	5.10	1.06	20.11	4.00		0.07	0.06	2024
	Idle (Taxi)	7%	3016	5.19	1.06	39.11	4.88		0.07	0.06	3234
CE00 115D	Approach	30%	8968	16.50	1.06	1.98	0.07		0.05	0.04	3234
GE90-115B	Climb out	85%	29127	35.98	1.06	0.07	0.03		0.05	0.04	3234
	Takeoff	100%	37222	50.34	1.06	0.08	0.05		0.06	0.05	3234
otes: 3b, 5, 6, 8, 10, 12a	-									1	
	Idle (Taxi)	7%	2048	5.10	1.06	34.12	3.69		0.07	0.06	3234
	Approach	30%	5857	13.76	1.06	2.77	0.08		0.05	0.04	3234
GE90-76B	Climb out	85%	18103	32.43	1.06	0.32	0.03		0.04	0.04	3234
	Takeoff	100%	22191	40.25	1.06	0.31	0.03		0.04	0.04	3234
otes: 3b, 5, 6, 8, 10, 12a											
										1	
	Idle (Taxi)	7%	2064	5.12	1.06	33.81	3.63		0.07	0.06	3234
	Approach	30%	5913	13.87	1.06	2.71	0.08		0.05	0.04	3234
GE90-77B	Climb out	85%	18326	32.78	1.06	0.32	0.03		0.04	0.04	3234
	Takeoff	100%	22460	40.83	1.06	0.31	0.03		0.04	0.04	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	2151	5.33	1.06	31.34	3.22		0.06	0.06	3234
	Approach	30%	6381	14.77	1.06	2.16	0.07		0.05	0.04	3234
GE90-85B	Climb out	85%	20262	36.35	1.06	0.31	0.07		0.03	0.04	3234
GL)0-05B	Takeoff	100%	24849	45.54	1.06	0.30	0.05		0.05	0.04	3234
otes: 3b, 5, 6, 8, 10, 12a											
otes. 50, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	2222	5.48	1.06	29.89	2.98		0.06	0.05	3234
	Approach	30%	6762	15.44	1.06	1.88	0.07		0.05	0.04	3234
GE90-90B	Climb out	85%	21706	39.07	1.06	0.31	0.03		0.04	0.04	3234
	Takeoff	100%	26826	49.21	1.06	0.30	0.05		0.05	0.05	3234
otes: 3b, 5, 6, 8, 10, 12a											
	T 11 07 11	50/	20-1			1 20.22	2.00		0.00	0.00	
	Idle (Taxi)	7%	2254	5.55	1.06	29.23	2.86		0.06	0.05	3234
GE00 - :-	Approach	30%	6952	15.81	1.06	1.74	0.07		0.05	0.04	3234
GE90-94B	Climb out	85%	22468	40.63	1.06	0.31	0.03		0.04	0.04	3234
	Takeoff	100%	27881	51.33	1.06	0.30	0.05		0.05	0.05	3234
otes: 3b, 5, 6, 8, 10, 12a						1	•	ı		1	l .
	Idle (Taxi)	7%	1579	4.24	1.06	21.62	0.93		0.04	0.04	3234
	Approach	30%	4794	9.03	1.06	2.99	0.07		0.08	0.07	3234
GEnx-1B64	Climb out	85%	14770	14.61	1.06	0.38	0.02		0.04	0.04	3234
	Takeoff	100%	17976	24.82	1.06	0.18	0.02		0.04	0.04	3234
otes: 3b, 5, 6, 8, 10, 12a											

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power Perce	ent Fuel Flow			Emiss	sion Factor	s (lb/1000 l	b fuel)		
Aircraft Engine	Setting Thrus	t/hp Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi) 7%	1611	4.30	1.06	20.70	0.83		0.04	0.04	323
	Approach 30%	6 4960	9.29	1.06	2.76	0.07		0.08	0.07	323
GEnx-1B67	Climb out 85%		16.26	1.06	0.30	0.02		0.04	0.04	323
	Takeoff 1009	% 18794	28.56	1.06	0.17	0.02		0.04	0.04	323
tes: 3b, 5, 6, 8, 10, 12a										
	III (T. 1) 70(	1651	4.27	1.00	10.60	0.72		0.04	0.04	222
	Idle (Taxi) 7% Approach 30%		4.37 9.63	1.06	19.68 2.49	0.72		0.04	0.04	323 323
GEnx-1B70	Approach 30% Climb out 85%		18.48	1.06	0.24	0.07		0.08	0.07	323
GLIX-1D/0	Takeoff 1009		34.06	1.06	0.24	0.02		0.04	0.04	323
	Tulcon	15751	21.00	1.00	0.17	0.02		0.01	0.01	520
tes: 3b, 5, 6, 8, 10, 12a										
	Idle (Taxi) 7%	1714	4.43	1.06	18.95	0.66		0.04	0.04	323
	Approach 30%		9.58	1.06	2.53	0.07		0.08	0.07	323
GEnx-2B67	Climb out 85%	6 15968	17.94	1.06	0.28	0.02		0.04	0.04	323
	Takeoff 1009	% 19453	31.20	1.06	0.17	0.02		0.04	0.04	323
tes: 3b, 5, 6, 8, 10, 12a										
	Idle (Taxi) 7%	1857	5.24	1.06	33.58	4.65		0.09	0.08	323
	Approach 30%		12.90	1.06	1.27	0.08		0.05	0.05	323
GP7270	Climb out 85%		31.37	1.06	0.09	0.03		0.06	0.05	323
	Takeoff 1009		41.73	1.06	0.11	0.03		0.06	0.05	323
tes: 3b, 5, 6, 8, 10, 12a										
	Idle (Taxi) <409	% 22	0.88	1.06	720.50	47.31		60.00( <b>S</b> )	54.00( <b>S</b> )	323
	Pattern 40%		7.70	1.06	697.40	7.52		47.95( <b>S</b> )	43.16( <b>S</b> )	323
GTSIO-520-H	Climb out 75%		9.76	1.06	728.75	7.04		40.00( <b>S</b> )	36.00( <b>S</b> )	323
01510 520 11	Takeoff 1009		1.03	1.06	1045.66	11.66		20.00(S)	18.00( <b>S</b> )	323
tes: 3h, 4b (for PM <sub>10</sub> and PM	I <sub>2.5</sub> at all power settings), 5, 9, 12h									
, , ,				ı			1		1	
	Idle (Taxi) 5-10		1.16	1.06	897.40	56.58		60.00( <b>S</b> )	54.00(S)	323
IO 260 P	Approach 30%		10.16	1.06	691.26	11.15		47.95( <b>S</b> )	43.16( <b>S</b> )	323
Ю-360-В	Climb out 75% Takeoff 1009		4.59 1.99	1.06 1.06	983.26 1199.03	9.38 11.50		40.00( <b>S</b> ) 20.00( <b>S</b> )	36.00( <b>S</b> ) 18.00( <b>S</b> )	323
								23133 (8)	70100(0)	
tes: 3a, 4b (for PM <sub>10</sub> and PM	I <sub>2.5</sub> at all power settings), 5, 11, 12h									
	Idle (Taxi)	30	1.10	1.06	848.00	166.75		60.00	54.00	323
	Approach		4.00	1.06	912.45	54.17		47.95	43.16	323
IO-360-D	Intermediate		6.60	1.06	972.00	20.01		40.00	36.00	323
	Military	90	5.80	1.06	1030.00	25.88		20.00	18.00	323
tes: 3g, 5, 12h				I .	1		<u> </u>		<u>I</u>	
	Idle (Taxi)	1190	1.50	1.06	127.00	22.43		0.73	0.66	323
	Approach	1984	1.90	1.06	84.60	7.48		0.57	0.51	323
J33-A-35	Intermediate		2.70	1.06	49.10	1.50		0.02	0.02	323
	Military	5556	3.60	1.06	31.30	0.58		0.02	0.02	323
2 5 7 0 121										
tes: 3g, 5, 7, 8, 12h										

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 ll	fuel)		
AirCraft Eligille	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	<35%	714	2.07	1.06	86.37	27.46		19.94	17.95	3234
	3000lb Thrust	35% (C)	2301	3.91	1.06	16.57	0.94		0.18(S)	0.16(S)	3234
J52-P-6B	75% Thrust	75%	3977	5.84	1.06	6.00	0.75		0.18(S)	0.16(S)	3234
	Military	>75%	6328	9.00	1.06	3.01	0.38		7.75	6.98	3234
tes: 3i, 4i (for PM <sub>10</sub> and PM <sub>2</sub>	5 at 3000lb and 75% thrus	t power settin	gs only), 5, 7, 8,	11 (percent	thrust for 3	000lb setting	g assumes m	aximum thru	st of 85001b	for this engi	ne), 12h
	Idle (Taxi)	<32%	680	1.79	1.06	63.78	48.53		0.18(S)	0.16( <b>S</b> )	3234
	3000lb Thrust	32% (C)	2300	6.34	1.06	10.54	1.98		0.18(S)	0.16(S)	3234
J52-P-8B	75% Thrust	75%	4320	10.10	1.06	3.00	0.67		0.13(S)	0.12(S)	3234
	Military	>75%	7370	13.05	1.06	0.71	1.07		0.13( <b>S</b> )	0.12(S)	3234
tes: 3i, 4i (for PM <sub>10</sub> and PM <sub>2</sub>	<sub>5</sub> at all power settings), 5,	11 (percent th	rust for 3000lb	setting assur	nes maximu	m thrust of 9	93001b for th	is engine), 1	2h		
	Idle (Taxi)	7%	1466	2.79	1.06	50.10	3.62		0.18	0.16	3234
	Approach	30%	3325	7.25	1.06	16.07	0.29		0.18	0.16	3234
J52-P-408	Intermediate	70%	6502	7.53	1.06	7.70	0.03		0.13	0.12	3234
	Military	100%	6483	7.53	1.06	7.70	0.03		0.13	0.12	3234
tes: 3m, 5, 11, 12h											
	Idle (Taxi)	<75%	1100	1.87	1.06	80.52	111.09		0.16(S)	0.14(S)	3234
755 D 10	75% Thrust	75%	5670	7.40	1.06	3.21	0.87		0.93(S)	0.84(S)	3234
J57-P-10	Normal Rated	76-99%	7250	9.00	1.06	1.79	1.15		1.92(S)	1.73( <b>S</b> )	3234
	Military	100%	8370	10.37	1.06	1.16	0.99		1.72(S)	1.55(S)	3234
tes: 3i, 4j (for PM <sub>10</sub> and PM <sub>2</sub>	at all nower settings) 5	11 (assumes 1	100% thrust at N	Military setti	ng) 12h		L				
105. 51, 41 (101 1 141 <sub>[]</sub> ) and 1 141 <sub>2</sub>	5 at an power settings), 5,	11 (assumes	10070 till dist at 1	muny seur	115), 1211						
	Idle (Taxi)		952	2.20	1.06	79.00	88.55		0.16	0.14	3234
	Approach		3333	5.80	1.06	7.90	1.61		0.93	0.84	3234
J57-P-19W	Intermediate		6508	9.50	1.06	2.40	0.23		1.92	1.73	3234
	Military		7460	11.00	1.06	1.90	0.12		1.72	1.55	3234
tes: 3g, 5, 7, 8, 12h											
	I-11- (T:)	<30%	1322	1.53	1.06	80.74	87.93		0.16(6)	0.14( <b>S</b> )	3234
	Idle (Taxi) 30% Thrust	30%	3413	4.45	1.06	14.83	5.22		0.16(S) 0.93(S)	0.14(S) 0.84(S)	3234
J57-P-420	75% Thrust	75%	5767	6.99	1.06	4.32	1.25		1.92( <b>S</b> )	1.73( <b>S</b> )	3234
337-1-420	Intermediate	75-100%	10570	12.97	1.06	0.34	0.56		1.72(S)	1.75(S) 1.55(S)	3234
	Afterburner	>100%	39721	5.16	1.06	14.20	2.92		3.10(C)	2.80(C)	3234
tes: 3i, 4a (for PM <sub>10</sub> and PM <sub>2</sub>							2.72	1	3.10(0)	2.00(C)	323
	Idle (Taxi)		952	2.20	1.06	78.00	86.25		0.14	0.13	3234
	Approach		1825	4.45	1.06	16.85	6.33		0.41	0.37	3234
J57-P/F-43WB	Intermediate		6667	9.90	1.06	2.30	0.12		1.23	1.11	3234
	Military		7778	11.00	1.06	1.50	0.12		1.74	1.57	3234
tes: 3g, 5, 7, 8, 12h							<u> </u>	<u> </u>			<u> </u>
25, 2, 7, 0, 1211											
	Idle (Taxi)		1270	2.40	1.06	65.00	60.84		0.13	0.12	3234
	Approach		1825	3.30	1.06	32.50	16.33		0.22	0.20	3234
J57-P/F-59W	Intermediate		3889	6.10	1.06	8.90	1.27		0.60	0.54	3234
337-171-3744											
337-171-37W	Military		7937	11.30	1.06	2.40	0.23		0.84	0.76	3234

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)		556	1.50	1.06	70.00	10.58		0.02	0.02	3234
	Approach		556	1.70	1.06	50.50	6.44		0.02	0.02	3234
J60-P-3A	Intermediate		1429	4.00	1.06	5.80	0.23		0.23	0.21	3234
	Military		3413	4.60	1.06	4.00	0.12		0.17	0.15	3234
otes: 3g, 5, 7, 8, 12h											
	Idle (Taxi)		476	1.50	1.06	70.00	10.58		0.02	0.02	3234
	Approach		556	1.70	1.06	50.50	6.44		0.02	0.02	3234
J60-P-5A, -5B	Intermediate		1429	4.00	1.06	5.80	0.23		0.23	0.21	3234
	Military		2460	4.60	1.06	4.00	0.12		0.17	0.15	3234
otes: 3g, 5, 7, 8, 12h											
	Idle (Taxi)		1320	2.46	1.06	47.16	11.25		0.18(S)	0.16( <b>S</b> )	3234
	7450 rpm		4370	7.30	1.06	12.61	1.09		0.18(S)	0.16( <b>S</b> )	3234
J65-W-5F	8000 rpm		5970	5.71	1.06	7.39	0.83		0.13( <b>S</b> )	0.12(S)	3234
	8300 rpm		7040	5.15	1.06	4.57	0.38		0.13( <b>S</b> )	0.12(S)	3234
	Military		6946	5.23	1.06	5.31	0.70		0.13( <b>S</b> )	0.12(S)	3234
otes: 3i, 4i (PM <sub>10</sub> and PM <sub>2.5</sub> at	all power settings), 5, 12h	I									
	T		1222	2.70	1.05	50.10	4.21		0.10(0)	0.15(0)	222
	Idle (Taxi)		1333	2.78	1.06	50.19	4.31		0.18(S)	0.16( <b>S</b> )	3234
J65-W-20	75% rpm		2346	4.82	1.06	21.82	1.57		0.18( <b>S</b> )	0.16(S)	3234
J03-W-20	85% rpm		3260	7.27	1.06	16.13	0.32		0.18( <b>S</b> )	0.16(S)	3234
	90% rpm		3951	7.97 7.55	1.06	14.30 7.72	0.15		0.18( <b>S</b> ) 0.13( <b>S</b> )	0.16( <b>S</b> )	3234
otes: 3a, 4i (PM <sub>10</sub> and PM <sub>2.5</sub> at	Intermediate (Mil)		6421	1.55	1.06	1.12	0.04		0.13(3)	0.12( <b>S</b> )	3234
otes. 5a, 41 (1 141 <sub>[0</sub> and 1 141 <sub>2.5</sub> at	un power settings), 5, 121										
	Idle (Taxi)	4%	167	0.80	1.06	160.08	2.33	1.712	3.15	1.47	3234
	Approach	30%	568(C)	1.71(C)	1.06	56.03(C)	0.14(C)	0.233(C)	1.52(C)	0.58(C)	3234
J69-T-25	Intermediate	63%	872	2.92	1.06	38.27	0.06	0.038	0.94	0.39	3234
	Military	84%	1085	4.53	1.06	32.86	0.03	0.015	0.67	0.38	3234
		L									
otes: 3c, 4a (for all values for	approach power setting on	ly), 7, 8, 10, 1	12e								
	Idle (Taxi)		1700	1.29	1.06	76.18	65.41		0.47	0.42	3234
	Approach		11300	11.90	1.06	1.40	0.11		0.10	0.09	3234
J75-P-17	Intermediate		12386(C)	9.79( <b>C</b> )	1.06	0.94(C)	0.20(C)		0.64(C)	0.58(C)	3234
0,011,	Military		13200	8.20	1.06	0.60	0.26		1.05	0.95	3234
	Afterburner		53700	4.10	1.06	12.00	0.14		1.73(C)	1.57(C)	3234
otes: 3a, 4a (for PM <sub>10</sub> and PM <sub>2</sub>		nly), 5, 7, 8, 1						), 12h	-1(0)	-10.(0)	
	Late (TP 1)	70/	1225	2.26	1.00	55.50	16.14		0.44	0.40	222
	Idle (Taxi)	7%	1325	2.36	1.06	55.59	16.14 4.20		0.44	0.40	3234
170 CE 9D	75% rpm	30% 70%	1550 8310	2.97	1.06	30.55	0.12			0.81	3234
J79-GE-8D	87% rpm	100%	9544	8.44 10.42	1.06	2.56 2.56	0.12		0.15	0.14	3234 3234
	Military Afterburner	110-150%	34647	4.71	1.06	8.14	0.12		0.18	0.16	3234
otes: 3m, 5, 11, 12h	Atterbumer	110-130%	3404/	4./1	1.00	0.14	0.19		0.30	0.30	3234
,,,											
	Idle (Taxi)	7%	1375	1.33	1.06	111.18	37.37		0.88	0.79	3234
	Approach	30%	3490	4.22	1.06	20.00	2.80		0.63	0.57	3234
	- 11	70%	7674	8.24	1.06	4.69	1.34		0.72	0.65	3234
J79-GE-10D	Intermediate	7070									
J79-GE-10D	Intermediate Military	100%	10097	10.24	1.06	2.83	1.34		0.72	0.65	3234

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	sion Factor	s (lb/1000 lb	fuel)		
Aircraft Eligille	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	co	voc	HAP's	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub> e
	Idle (Taxi)		1111	2.50	1.06	57.00	13.80		0.50	0.45	3234
	Approach		3492	4.80	1.06	9.40	1.27		1.80	1.62	3234
J79-GE-15	Intermediate		5397	5.60	1.06	4.60	0.35		2.80	2.52	3234
	Military		8889	8.90	1.06	2.20	0.23		2.20	1.98	3234
	Afterburner		32223	9.10	1.06	4.00	0.01		0.15	0.14	3234
otes: 3g, 5, 7, 8, 12h											
	Idle (Taxi)		1032	2.70	1.06	66.00	26.57		0.18	0.16	3234
	Approach		3492	4.50	1.06	15.40	0.58		0.18	0.16	3234
J79-GE-17	Intermediate		6984	5.80	1.06	7.80	0.12		0.72	0.65	3234
377-GE-17	Military		9841	10.60	1.06	5.20	0.12		0.72	0.83	3234
	Afterburner		34921	8.10	1.06	4.00	0.01		0.15	0.14	3234
otes: 3g, 5, 7, 8, 12h	Anterounier		54721	0.10	1.00	4.00	0.01		0.15	0.14	323-
•											
	Idle (Taxi)	4%	434	1.34	1.06	250.22	2.00	1.306	4.70	4.02	3234
	Approach	13%(C)	875(C)	1.45(C)	1.06	115.08(C)	1.31(C)	0.851(C)	2.42(C)	0.81(C)	3234
J85-GE-5A	Intermediate	15%	950	1.47	1.06	104.02	0.92	0.811	1.79	0.69	3234
	Military	88%	2740	2.64	1.06	32.91	0.12	0.094	1.13	0.04	3234
	Afterburner-1	116%	8138	1.98	1.06	13.46	0.05	0.038	0.25	0.09	3234
otes: 3c, 10, 12e											
	Idle (Taxi)		524	1.34	1.06	178.05	34.46		4.70(S)	4.02(S)	3234
	75% rpm		798	2.13	1.06	78.20	2.59		3.01( <b>C</b> )	1.84(C)	3234
J85-GE-5F	85% rpm		1098	2.73	1.06	58.01	1.36		2.15(C)	1.20(C)	3234
000 02 51	Intermediate		1297	2.31	1.06	43.02	3.99		1.79(S)	0.69(S)	3234
	Afterburner		8470	2.60	1.06	29.00	0.92		0.25(S)	0.09( <b>S</b> )	3234
otes: 3a, 4a (for PM <sub>10</sub> and PM	I <sub>2.5</sub> at 75% rpm and 85% rps	m power setti				power setting					
	T										
	Idle (Taxi)		434	1.14	1.06	211.97	39.12		4.70	4.02	3234
105 GD 511	Approach		875(C)	1.64(C)	1.06	148.04(C)	6.56(C)		2.42(C)	0.81(C)	3234
J85-GE-5H	Intermediate		950	1.74	1.06	123.43	6.51		1.79	0.69	3234
	Military		2740 8138	2.92	1.06	36.40	0.67		1.13 0.25	0.04	3234 3234
otes: 3j, 7, 10, 12h	Afterburner		8138	2.09	1.06	14.19	2.63		0.25	0.09	3234
	Idle (Taxi)		525	0.79	1.06	191.41	4.01	3.111	7.02	4.90	3234
	Idle (Taxi) Approach		525 703( <b>C</b> )	0.79 1.09( <b>C</b> )	1.06	191.41 110.79( <b>C</b> )	4.01 1.50( <b>C</b> )	3.111 1.12( <b>C</b> )	7.02 8.83( <b>C</b> )	4.90 6.52( <b>C</b> )	
J85-GE-5M											3234
J85-GE-5M	Approach		703( <b>C</b> )	1.09(C)	1.06	110.79( <b>C</b> )	1.50( <b>C</b> )	1.12(C)	8.83(C)	6.52(C)	3234 3234
	Approach Intermediate Military Afterburner		703(C) 1045 2550 7695	1.09(C) 1.81 1.65 1.21	1.06	110.79( <b>C</b> ) 48.90	1.50( <b>C</b> ) 0.54	1.12(C) 0.450	8.83( <b>C</b> ) 12.30	6.52( <b>C</b> ) 9.63	3234 3234 3234
	Approach Intermediate Military Afterburner		703(C) 1045 2550 7695	1.09(C) 1.81 1.65 1.21	1.06 1.06 1.06	110.79(C) 48.90 25.35	1.50( <b>C</b> ) 0.54 0.04	1.12(C) 0.450 0.032	8.83( <b>C</b> ) 12.30 4.25	6.52( <b>C</b> ) 9.63 2.43	3234 3234 3234
J85-GE-5M otes: 3j, 4l (for VOC, HAPs,	Approach Intermediate Military Afterburner PM <sub>10</sub> and PM <sub>2.5</sub> at Afterburn		703(C) 1045 2550 7695 ting only), 10, 1	1.09(C) 1.81 1.65 1.21 2f	1.06 1.06 1.06 1.06	110.79(C) 48.90 25.35 10.19	1.50(C) 0.54 0.04 0.05(S)	1.12(C) 0.450 0.032	8.83(C) 12.30 4.25 0.25(S)	6.52(C) 9.63 2.43 0.09(S)	3234 3234 3234 3234
	Approach Intermediate Military Afterburner PM <sub>10</sub> and PM <sub>25</sub> at Afterbun Idle (Taxi)	   ner power set	703(C) 1045 2550 7695	1.09(C) 1.81 1.65 1.21 2f	1.06 1.06 1.06	110.79(C) 48.90 25.35 10.19	1.50( <b>C</b> ) 0.54 0.04 0.05( <b>S</b> )	1.12(C) 0.450 0.032 0.045(S)	8.83(C) 12.30 4.25 0.25(S) 4.70(S)	6.52(C) 9.63 2.43 0.09(S) 4.02(S)	3234 3234 3234 3234 3234 3234
	Approach Intermediate Military Afterburner PM <sub>10</sub> and PM <sub>2.5</sub> at Afterburn Idle (Taxi) Approach	  ner power set	703(C) 1045 2550 7695 ting only), 10, 1	1.09(C) 1.81 1.65 1.21 2f	1.06 1.06 1.06 1.06	110.79(C) 48.90 25.35 10.19	1.50(C) 0.54 0.04 0.05(S)	1.12(C) 0.450 0.032 0.045(S)	8.83(C) 12.30 4.25 0.25(S) 4.70(S) 2.42(S)	6.52(C) 9.63 2.43 0.09(S)	3234 3234 3234 3234 3234
otes: 3j, 4l (for VOC, HAPs,	Approach Intermediate Military Afterburner PM <sub>10</sub> and PM <sub>25</sub> at Afterbun Idle (Taxi)	  ner power set	703(C) 1045 2550 7695 ting only), 10, 1 520 689(C)	1.09(C) 1.81 1.65 1.21 2f 1.08 0.91(C)	1.06 1.06 1.06 1.06 1.06	110.79(C) 48.90 25.35 10.19 177.45 119.23(C)	1.50(C) 0.54 0.04 0.05(S) 16.80 7.96(C)	1.12(C) 0.450 0.032 0.045(S)	8.83(C) 12.30 4.25 0.25(S) 4.70(S)	6.52(C) 9.63 2.43 0.09(S) 4.02(S) 0.81(S)	3234 3234 3234 3234 3234
otes: 3j, 4l (for VOC, HAPs,	Approach Intermediate Military Afterburner PM <sub>10</sub> and PM <sub>2.5</sub> at Afterburn Idle (Taxi) Approach Intermediate	ner power set	703(C) 1045 2550 7695 ting only), 10, 1 520 689(C) 1030	1.09(C) 1.81 1.65 1.21 2f 1.08 0.91(C) 0.70	1.06 1.06 1.06 1.06 1.06 1.06	110.79(C) 48.90 25.35 10.19 177.45 119.23(C) 65.07	1.50(C) 0.54 0.04 0.05(S) 16.80 7.96(C) 2.78	1.12(C) 0.450 0.032 0.045(S)	8.83(C) 12.30 4.25 0.25(S) 4.70(S) 2.42(S) 1.79(S)	6.52(C) 9.63 2.43 0.09(S) 4.02(S) 0.81(S) 0.69(S)	3234 3234 3234 3234 3234 3234 3234 3234
otes: 3j, 4l (for VOC, HAPs,	Approach Intermediate Military Afterburner PM <sub>10</sub> and PM <sub>2.5</sub> at Afterburn  Idle (Taxi) Approach Intermediate Military Afterburner	er power set	703(C) 1045 2550 7695 ting only), 10, 1 520 689(C) 1030 2220	1.09(C) 1.81 1.65 1.21 2f 1.08 0.91(C) 0.70 1.92	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	110.79(C) 48.90 25.35 10.19 177.45 119.23(C) 65.07 30.99	1.50(C) 0.54 0.04 0.05(S) 16.80 7.96(C) 2.78 0.75	1.12(C) 0.450 0.032 0.045(S)	8.83(C) 12.30 4.25 0.25(S) 4.70(S) 2.42(S) 1.79(S) 1.13(S)	6.52(C) 9.63 2.43 0.09(S) 4.02(S) 0.81(S) 0.69(S) 0.04(S)	3234 3234 3234 3234 3234 3234 3234 3234
J85-GE-5R	Approach Intermediate Military Afterburner PM <sub>10</sub> and PM <sub>2.5</sub> at Afterbun  Idle (Taxi) Approach Intermediate Military Afterburner t all power settings), 5, 10,	er power set	703(C) 1045 2550 7695 ting only), 10, 1 520 689(C) 1030 2220 7695	1.09(C) 1.81 1.65 1.21 2f 1.08 0.91(C) 0.70 1.92 6.23	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	110.79(C) 48.90 25.35 10.19 177.45 119.23(C) 65.07 30.99 53.43	1.50(C) 0.54 0.04 0.05(S) 16.80 7.96(C) 2.78 0.75 6.97	1.12(C) 0.450 0.032 0.045(S)	8.83(C) 12.30 4.25 0.25(S) 4.70(S) 2.42(S) 1.79(S) 1.13(S) 0.25(S)	6.52(C) 9.63 2.43 0.09(S) 4.02(S) 0.81(S) 0.69(S) 0.04(S) 0.09(S)	3234 3234 3234 3234 3234 3234 3234 3234
J85-GE-5R	Approach Intermediate Military Afterburner PM <sub>10</sub> and PM <sub>2.5</sub> at Afterbun  Idle (Taxi) Approach Intermediate Military Afterburner t all power settings), 5, 10,	 ner power set	703(C) 1045 2550 7695 ting only), 10, 1 520 689(C) 1030 2220 7695	1.09(C) 1.81 1.65 1.21 2f 1.08 0.91(C) 0.70 1.92 6.23	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	110.79(C) 48.90 25.35 10.19 177.45 119.23(C) 65.07 30.99 53.43	1.50(C) 0.54 0.04 0.05(S) 16.80 7.96(C) 2.78 0.75 6.97	1.12(C) 0.450 0.032 0.045(S)	8.83(C) 12.30 4.25 0.25(S) 4.70(S) 2.42(S) 1.79(S) 1.13(S) 0.25(S)	6.52(C) 9.63 2.43 0.09(S) 4.02(S) 0.81(S) 0.69(S) 0.04(S) 0.09(S)	3234 3234 3234 3234 3234 3234 3234 3234
J85-GE-5R  otes: 3j, 4l (for VOC, HAPs,  J85-GE-5R  otes: 3j, 4l (PM <sub>10</sub> and PM <sub>2.5</sub> a	Approach Intermediate Military Afterburner PM <sub>10</sub> and PM <sub>2.5</sub> at Afterburn  Idle (Taxi) Approach Intermediate Military Afterburner t all power settings), 5, 10,  Idle (Taxi) Approach	  ner power set	703(C) 1045 2550 7695 ting only), 10, 1  520 689(C) 1030 2220 7695	1.09(C) 1.81 1.65 1.21 2f  1.08 0.91(C) 0.70 1.92 6.23	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	110.79(C) 48.90 25.35 10.19 177.45 119.23(C) 65.07 30.99 53.43	1.50(C) 0.54 0.04 0.05(S) 16.80 7.96(C) 2.78 0.75 6.97 34.50 5.69	1.12(C) 0.450 0.032 0.045(S)	8.83(C) 12.30 4.25 0.25(S) 4.70(S) 2.42(S) 1.79(S) 1.13(S) 0.25(S)	6.52(C) 9.63 2.43 0.09(S) 4.02(S) 0.81(S) 0.69(S) 0.04(S) 0.09(S)	3234 3234 3234 3234 3234 3234 3234 3234
J85-GE-5R	Approach Intermediate Military Afterburner PM <sub>10</sub> and PM <sub>2.5</sub> at Afterburn  Idle (Taxi) Approach Intermediate Military Afterburner t all power settings), 5, 10,  Idle (Taxi) Approach Intermediate	ner power set	703(C) 1045 2550 7695 ting only), 10, 1  520 689(C) 1030 2220 7695	1.09(C) 1.81 1.65 1.21 2f  1.08 0.91(C) 0.70 1.92 6.23  1.30 2.05 2.30	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	110.79(C) 48.90 25.35 10.19 177.45 119.23(C) 65.07 30.99 53.43 178.00 58.30 43.00	1.50(C) 0.54 0.04 0.05(S) 16.80 7.96(C) 2.78 0.75 6.97 34.50 5.69 4.03	1.12(C) 0.450 0.032 0.045(S)	8.83(C) 12.30 4.25 0.25(S) 4.70(S) 2.42(S) 1.79(S) 1.13(S) 0.25(S)	6.52(C) 9.63 2.43 0.09(S) 4.02(S) 0.81(S) 0.69(S) 0.04(S) 0.09(S)	3234 3234 3234 3234 3234 3234 3234 3234
J85-GE-5R  Dtes: 3j, 4l (for VOC, HAPs,  J85-GE-5R  Dtes: 3j, 4l (PM <sub>10</sub> and PM <sub>2.5</sub> a	Approach Intermediate Military Afterburner PM <sub>10</sub> and PM <sub>2.5</sub> at Afterburn  Idle (Taxi) Approach Intermediate Military Afterburner t all power settings), 5, 10,  Idle (Taxi) Approach	  ner power set	703(C) 1045 2550 7695 ting only), 10, 1  520 689(C) 1030 2220 7695	1.09(C) 1.81 1.65 1.21 2f  1.08 0.91(C) 0.70 1.92 6.23	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	110.79(C) 48.90 25.35 10.19 177.45 119.23(C) 65.07 30.99 53.43	1.50(C) 0.54 0.04 0.05(S) 16.80 7.96(C) 2.78 0.75 6.97 34.50 5.69	1.12(C) 0.450 0.032 0.045(S)	8.83(C) 12.30 4.25 0.25(S) 4.70(S) 2.42(S) 1.79(S) 1.13(S) 0.25(S)	6.52(C) 9.63 2.43 0.09(S) 4.02(S) 0.81(S) 0.69(S) 0.04(S) 0.09(S)	3234 3234 3234 3234 3234 3234 3234 3234

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 ll	o fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO2
	Idle (Taxi)		556	1.30	1.06	178.00	34.50		0.00(S)	0.00(S)	323
	Approach		1230	2.05	1.06	58.30	5.69		0.01( <b>S</b> )	0.01( <b>S</b> )	323
J85-GE-17A	Intermediate		2222	2.30	1.06	43.00	4.03		0.01( <b>S</b> )	0.01( <b>S</b> )	323
	Military		3810	2.60	1.06	29.00	0.92		0.02(S)	0.02( <b>S</b> )	323
es: 3g, 4c (PM <sub>10</sub> and PM <sub>2.5</sub>	for all power settings), 5, 7,	8, 10, 12h				1	l				
	Idle (Taxi)		400	1.25	1.06	159.00	27.89		0.00( <b>S</b> )	0.00(S)	323
	75% rpm		700	2.00	1.06	92.14	14.29		0.01(S)	0.01(S)	32:
J85-GE-21	85% rpm		1200	2.92	1.06	46.17	2.97		0.01( <b>S</b> )	0.01( <b>S</b> )	32
	Intermediate (Military)		3200	5.00	1.06	21.56	0.29		0.02(S)	0.02(S)	32
	Afterburner		10650	5.60	1.06	36.40	0.12		0.01(S)	0.01(S)	32
es: 3a, 4c (PM <sub>10</sub> and PM <sub>2.5</sub>	at all power settings), 5, 7,	8, 12h									
	Idle (Taxi)	7%	1071	2.50	1.06	98.00	128.80		0.16( <b>S</b> )	0.14(S)	32
	Approach	30%	2746	4.80	1.06	24.50	4.60		0.93(S)	0.84( <b>S</b> )	32
JT3D-3B	Climb out	85%	7397	9.90	1.06	2.80	2.30		1.92(S)	1.73( <b>S</b> )	32
	Takeoff	100%	9318	12.10	1.06	1.50	4.60		1.72(S)	1.55( <b>S</b> )	32
es: 3b, 4j (for PM <sub>10</sub> and PM	$M_{2.5}$ at all power settings), 5,	6, 8, 10, 12a									
-							ı		1	I	
	Idle (Taxi)	7%	1016	2.20	1.06	138.99	141.45		0.16( <b>S</b> )	0.14(S)	32
IEOD 7.6 :	Approach	30%	3087	5.30	1.06	19.50	2.42		0.93(S)	0.84(S)	32
JT3D-7 Series	Climb out	85%	8191	9.59	1.06	1.90	0.46		1.92(S)	1.73( <b>S</b> )	32
	Takeoff	100%	9952	12.69	1.06	0.89	0.58		1.72(S)	1.55(S)	32
es: 3b, 4j (for PM <sub>10</sub> and PM	M <sub>2.5</sub> at all power settings), 5,	6, 8, 10, 12a			I		l	l	I.	I .	
	Idle (Taxi)	7%	1025	2.70	1.06	35.50	12.19		0.23	0.20	32
	Approach	30%	2271	5.50	1.06	10.50	1.84		0.22	0.20	32
JT8D-7 Series	Climb out	85%	6439	13.50	1.06	2.00	0.58		0.31	0.28	32
	Takeoff	100%	7851	17.10	1.06	1.50	0.46		0.32	0.28	32
es: 3b, 5, 6, 8, 10, 12a											
	1		1070								
	Idle (Taxi)	7%	1050	2.90	1.06	14.14	3.59		0.10	0.09	32
JT8D-9 Series	Approach	30%	2363 6709	6.00 14.50	1.06	2.14	0.69		0.11	0.10 0.12	32
J I oD-9 Selles	Climb out Takeoff	85% 100%	8254	19.30	1.06	1.11	0.21		0.14	0.12	32
es: 3b, 5, 6, 8, 10, 12a											
o. 50, 5, 0, 0, 10, 12a											
	Idle (Taxi)	7%	1155	2.89	1.06	14.11	2.95		0.21	0.19	32
	Approach	30%	2409	5.99	1.06	2.14	0.57		0.25	0.23	32
JT8D-9A	Intermediate	70%	6794	14.47	1.06	1.07	0.16		0.27	0.24	32
	Military	100%	8334	19.26	1.06	1.07	0.16		0.27	0.24	32
es: 3m, 11, 12h	1					1	l		1		
	Idle (Taxi)	70/	1155	2.75	1.06	35.00	11.50		0.12(8)	0.11( <b>S</b> )	22
	. , ,	7% 30%	1155 2650	5.80	1.06	9.40	1.61		0.13( <b>S</b> ) 0.13( <b>S</b> )	0.11(S) 0.12(S)	32
JT8D-11	Approach Climb out	85%	7251	14.60	1.06	1.90	0.52		0.13( <b>S</b> ) 0.21( <b>S</b> )	0.12( <b>S</b> ) 0.19( <b>S</b> )	32
31012-11	Takeoff	100%	8897	18.90	1.06	1.90	0.32		0.21(S) 0.22(S)	0.19( <b>S</b> )	32
	1 akeon	100%	009/	10.90	1.00					0.19(3)	

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power Per	cent Fuel I	low	Emission Factors (lb/1000 lb fuel)								
Aircrait Engine	Setting Thru	st/hp Rate (l	b/hr) NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e		
	Idle (Taxi) 7	% 117	2 3.20	1.06	11.00	1.68		0.13	0.11	3234		
	**	)% 270		1.06	2.77	0.63		0.13	0.12	3234		
JT8D-15		5% 750		1.06	1.15	0.32		0.21	0.19	3234		
	Takeoff 10	0% 934	9 19.40	1.06	1.03	0.28		0.22	0.19	3234		
tes: 3b, 5, 6, 8, 10, 12a		<b>I</b>										
	Idle (Taxi) 7	% 108	3.10	1.06	12.93	2.14		0.13	0.12	3234		
		% 108 0% 247		1.06	2.90	0.75		0.13	0.12	3234		
JT8D-15A	**	5% 710		1.06	1.20	0.73		0.14	0.12	323		
		0% 884		1.06	1.08	0.29		0.22	0.20	323		
tes: 3b, 5, 6, 8, 10, 12a												
	Idle (Taxi) 7	% 117	70 3.20	1.06	10.46	1.44		0.13	0.12	3234		
	Approach 30	0% 281	0 8.00	1.06	2.67	0.60		0.13	0.12	3234		
JT8D-17		5% 791		1.06	1.10	0.31		0.22	0.20	323		
	Takeoff 10	0% 988	20.60	1.06	0.95	0.25		0.22	0.20	323		
tes: 3b, 5, 6, 8, 10, 12a												
		o/   111	2 200	1.05	1 12.15	7.50		0.15	0.15	222		
		% 111 0% 262		1.06	12.46	7.59 0.74		0.17 0.14	0.15 0.13	323 323		
JT8D-17A	**	5% 741		1.06	2.88 1.16	0.74		0.14	0.13	323		
J10D-17A		0% 931		1.06	1.07	0.33		0.22	0.20	323		
4 2h 5 6 9 10 12-												
tes: 3b, 5, 6, 8, 10, 12a												
	Idle (Taxi) 7	% 117	2 3.20	1.06	10.70	1.53		0.15	0.13	323		
	Approach 30	0% 283	7 8.00	1.06	2.68	0.63		0.15	0.13	323		
JT8D-17AR	Climb out 8:	5% 831	0 16.00	1.06	1.08	0.31		0.25	0.22	323		
	Takeoff 10	0% 108	33 24.50	1.06	0.93	0.24		0.25	0.23	323		
tes: 3b, 5, 6, 8, 10, 12a												
	L11 (T. ') 7	0/ 100	2.20	1.06	0.42	1.09		0.14	0.12	222		
		% 123 0% 298		1.06	9.43 2.54	0.61		0.14	0.13	323		
JT8D-17R		5% 875	-	1.06	1.03	0.81		0.15	0.13	323		
J10D-17K		0% 112		1.06	0.95	0.31		0.25	0.22	323		
tes: 3b, 5, 6, 8, 10, 12a												
50, 5, 0, 0, 10, 124												
	Idle (Taxi) 7	% 103	3.50	1.06	14.10	4.63		0.13	0.12	323		
	Approach 30	)% 285	8.80	1.06	4.37	1.94		0.19	0.17	323		
JT8D-209		5% 780		1.06	1.40	0.58		0.21	0.19	323		
	Takeoff 10	0% 945	22.80	1.06	1.03	0.40		0.21	0.19	323		
tes: 3b, 5, 6, 8, 10, 12a					1							
	Lile (Te. 1)	0/ 100	100	1.00	15.21	0.00		0.07	0.00	222		
	_ ' /	% 108 0% 304		1.06	15.31 3.54	0.00		0.07	0.06	323		
JT8D-217	11	5% 855		1.06	0.47	0.00		0.06	0.06	323 323		
J10D-21/		0% 855		1.06	0.47	0.00		0.10	0.09	323		
tes: 3b, 5, 6, 8, 10, 12a									_			

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 ll	o fuel)		
Aircraft Eligilie	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	co	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	1089	4.57	1.06	15.31	0.00		0.07	0.06	3234
	Approach	30%	3042	7.66	1.06	3.54	0.00		0.06	0.06	323-
JT8D-217A	Climb out	85%	8556	13.54	1.06	0.47	0.00		0.10	0.09	323
	Takeoff	100%	10476	17.54	1.06	0.42	0.00		0.10	0.09	323
es: 3b, 5, 6, 8, 10, 12a											
	T11 (T :)	70/	1007	4.05	1.06	17.00	0.00		0.04	0.02	222
	Idle (Taxi)	7% 30%	1087 2881	4.05 7.65	1.06	17.89 3.79	0.00		0.04	0.03	323 323
JT8D-217C	Approach Climb out	85%	8294	13.02	1.06	0.49	0.00		0.08	0.03	323
310D-217C	Takeoff	100%	10175	16.49	1.06	0.49	0.00		0.08	0.09	323
	Takcon	10070	10173	10.47	1.00	0.42	0.00		0.10	0.07	323
es: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1067	3.60	1.06	12.63	4.00		0.15	0.14	323
	Approach	30%	3029	9.13	1.06	4.07	1.83		0.20	0.18	323
JT8D-219	Climb out	85%	8611	20.80	1.06	1.20	0.48		0.25	0.22	323
	Takeoff	100%	10746	27.00	1.06	0.73	0.31		0.25	0.22	323
es: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1667	3.10	1.06	84.10	41.98		0.27	0.24	323
	Approach	30%	4833	7.60	1.06	7.80	1.50		0.27	0.24	323
JT9D-7	Climb out	85%	14000	27.70	1.06	0.00	0.12		0.13	0.08	323
31757	Takeoff	100%	16532	37.90	1.06	0.00	0.12		0.10	0.09	323
es: 3b, 5, 6, 8, 10, 12a											
	TH (Th. ')	70/	1675	2.10	1.06	02.60	41.50	I	0.26	0.24	222
	Idle (Taxi)	7%	1675 4913	7.60	1.06	83.60	41.52 1.50		0.26	0.24	323 323
JT9D-7A	Approach Climb out	30% 85%	14199	28.50	1.06	7.60 0.00	0.12		0.13	0.11	323
J19D-/A	Takeoff	100%	16659	38.70	1.06	0.00	0.12		0.09	0.09	323
2h 5 6 9 10 12a											
es: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1841	3.20	1.06	68.60	29.79		0.24	0.21	323
	Approach	30%	4952	9.10	1.06	5.80	0.69		0.10	0.09	323
JT9D-7F	Climb out	85%	14119	31.50	1.06	0.90	0.00		0.11	0.10	323
	Takeoff	100%	17151	41.70	1.06	0.90	0.00		0.11	0.10	323
res: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1889	3.30	1.06	66.70	28.18		0.24(S)	0.21( <b>S</b> )	323
	Approach	30%	5389	9.40	1.06	5.50	0.58		0.10(S)	0.09(S)	323
JT9D-7J	Climb out	85%	15095	34.90	1.06	0.90	0.00		0.11( <b>S</b> )	0.10( <b>S</b> )	323
	Takeoff	100%	18373	44.90	1.06	0.90	0.00		0.11( <b>S</b> )	0.10( <b>S</b> )	323
es: 3b, 4n (PM <sub>10</sub> and PM <sub>2.5</sub> a	at all power settings), 5, 6, 8,	10, 12a				<u> </u>					<u> </u>
	Idle (Taxi)	70/	1881	3.00	1.06	53.00	13.80		0.24(S)	0.21( <b>S</b> )	323
	Approach	7% 30%	5400	7.80	1.06	1.70	0.35		0.24(S) 0.10(S)	0.21( <b>S</b> ) 0.09( <b>S</b> )	323
JT9D-70	Approach Climb out	85%	15870	25.60	1.06	0.20	0.35		0.10( <b>S</b> )	0.09(S) 0.10(S)	323
J17D-/Q	Takeoff	100%	19380	31.60	1.06	0.20	0.23		0.11(S) 0.11(S)	0.10(S) 0.10(S)	323
		100/0	1,500	21.00	1.00	0.20	0.23		U I (D)	0.10(0)	220

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow	Emission Factors (lb/1000 lb fuel)								
Aircraft Engine	Setting	Thrust/hp	rust/hp Rate (lb/hr) NO <sub>X</sub> SO <sub>X</sub> <sup>1</sup> CO VOC HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e						
	Idle (Taxi)	7%	1630	4.10	1.06	8.84	1.44		0.05	0.05	3234	
	Approach	30%	5233	9.80	1.06	1.36	0.15		0.05	0.05	3234	
JT9D-7R4D, -7R4D1	Climb out	85%	13318	30.00	1.06	0.48	0.14		0.06	0.06	3234	
	Takeoff	100%	16310	38.50	1.06	0.51	0.17		0.07	0.06	3234	
totes: 3b, 5, 6, 8, 10, 12a							l	1				
	Idle (Taxi)	7%	1754	4.10	1.06	8.27	1.28		0.05	0.05	3234	
	Approach	30%	5182	10.40	1.06	1.23	0.15		0.05	0.05	3234	
JT9D-7R4E, -7R4E1	Climb out	85%	13683	34.20	1.06	0.53	0.15		0.03	0.05	3234	
	Takeoff	100%	16810	41.60	1.06	0.57	0.18		0.07	0.07	3234	
otes: 3b, 5, 6, 8, 10, 12a												
	Idle (Taxi)	7%	1750	3.50	1.06	16.00	3.85		0.07	0.06	3234	
	Approach	30%	5079	8.50	1.06	1.46	0.25		0.06	0.05	3234	
JT9D-7R4E4	Climb out	85%	14516	29.70	1.06	0.67	0.15		0.06	0.06	3234	
	Takeoff	100%	17603	36.90	1.06	0.67	0.17		0.07	0.06	3234	
otes: 3b, 5, 6, 8, 10, 12a	1										l	
	Idle (Taxi)	7%	1777	3.80	1.06	11.82	1.78		0.06	0.06	3234	
JT9D-7R4G2	Approach	30%	5230	8.80	1.06	1.40	0.21		0.06	0.05	3234	
	Climb out	85%	14921	29.50	1.06	0.63	0.16		0.08	0.07	3234	
	Takeoff	100%	19278	41.30	1.06	0.74	0.17		0.08	0.07	3234	
otes: 3b, 5, 6, 8, 10, 12a												
	Idle (Taxi)	7%	1948	3.80	1.06	11.63	1.70	l	0.06	0.06	3234	
JT9D-7R4H1	Approach	30%	5736	8.90	1.06	1.39	0.21		0.06	0.06	3234	
	Climb out	85%	15865	30.00	1.06	0.63	0.16		0.08	0.03	3234	
	Takeoff	100%	19937	45.20	1.06	0.74	0.17		0.09	0.08	3234	
otes: 3b, 5, 6, 8, 10, 12a												
otes. 50, 5, 0, 8, 10, 12a												
	Idle (Taxi)	7%	1675	3.10	1.06	83.60	41.52		0.26	0.24	3234	
	Approach	30%	4913	7.60	1.06	7.60	1.50		0.13	0.11	3234	
JT9D-20	Climb out	85%	14199	28.50	1.06	0.00	0.12		0.09	0.08	3234	
	Takeoff	100%	16659	38.70	1.06	0.00	0.12		0.10	0.09	3234	
otes: 3b, 5, 6, 8, 10, 12h								1				
	Idle (Taxi)	7%	1889	3.30	1.06	66.70	28.18		0.26( <b>S</b> )	0.24(S)	3234	
	Approach	30%	5389	9.40	1.06	5.50	0.58		0.13(S)	0.11(S)	3234	
JT9D-20J	Climb out	85%	15095	34.90	1.06	0.90	0.00		0.09(S)	0.08(S)	3234	
	Takeoff	100%	18373	44.90	1.06	0.90	0.00		0.10(S)	0.09( <b>S</b> )	3234	
otes: 3b, 4o (PM <sub>10</sub> and PM <sub>2.5</sub> a	t all power settings), 5,	6, 8, 10, 12a										
	Idla (T. 1)	70/	1001	2.00	1.00	52.00	12.00		0.26(6)	0.24(0)	222	
	Idle (Taxi)	7% 30%	1881 5400	7.80	1.06	53.00	13.80 0.35		0.26( <b>S</b> ) 0.13( <b>S</b> )	0.24(S) 0.11(S)	3234 3234	
JT9D-59A, -70A	Approach Climb out	85%	15870	25.60	1.06	0.20	0.35		0.13( <b>S</b> ) 0.09( <b>S</b> )	0.11( <b>S</b> ) 0.08( <b>S</b> )	3234	
317D-37A, = 10A	Takeoff	100%	19380	31.60	1.06	0.20	0.23		0.09(S) 0.10(S)	0.08(S) 0.09(S)	3234	
otes: 3b, 4o (PM <sub>10</sub> and PM <sub>2.5</sub> a												

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow	Emission Factors (lb/1000 lb fuel)								
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	$SO_X^{-1}$	co	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e	
	Idle (Taxi)	7%	183	1.75	1.06	132.00	58.08		0.39	0.35	3234	
	Approach	30%	405	3.44	1.06	40.50	5.09		0.32	0.28	3234	
JT15D-1 Series	Climb out	85%	984	6.77	1.06	3.50	0.01		0.11	0.10	3234	
	Takeoff	100%	1175	7.60	1.06	2.65	0.01		0.11	0.10	3234	
otes: 3b, 5, 6, 8, 10, 12b												
	III (T. ')	70/	225	1.66	1.06	110.20	126.07		0.00	0.74	2024	
	Idle (Taxi)	7% 30%	235 524	1.66 4.93	1.06	119.20 38.60	136.97 13.46		0.82	0.74	3234 3234	
JT15D-5, -5A, -5B	Approach Climb out	85%	1371	10.08	1.06	1.15	1.50		0.73	0.00	3234	
3113D 3, 311, 3D	Takeoff	100%	1630	11.13	1.06	0.00	0.00		0.13	0.12	3234	
	Tutoon	10070	1050	11115	1.00	0.00	0.00		0.15	0.12	323	
otes: 3b, 5, 6, 8, 10, 12b												
	Idle (Taxi)	7%	360	3.28	1.06	37.83	5.43		0.13	0.12	3234	
	Approach	30%	860	6.39	1.06	4.43	0.14		0.09	0.08	3234	
LF507-1F	Climb out	85%	2350	12.02	1.06	0.30	0.01		0.09	0.08	3234	
	Takeoff	100%	2840	14.52	1.06	0.20	0.01		0.08	0.08	3234	
otes: 3b, 5, 6, 8, 10, 12b												
	Idle (Taxi)	7%	1905	2.70	1.06	116.00	119.37		2.60( <b>S</b> )	1.12( <b>S</b> )	3234	
	Approach	30%	4603	5.40	1.06	21.00	5.75		1.37( <b>S</b> )	0.91(S)	3234	
NK-8-2U	Climb out	85%	9286	12.90	1.06	6.00	0.63		0.58( <b>S</b> )	0.41(S)	3234	
	Takeoff	100%	13889	13.90	1.06	5.50	0.52		0.14(S)	0.00(S)	3234	
otes: 3b, 4g (PM <sub>10</sub> and PM <sub>2.5</sub> a	at all power settings), 5, 6,	8, 10, 12h										
		,		1.50	1.05		22.25		50.00/60	5.4.00(G)	222	
O-200	Idle (Taxi)	<40% 40%	8 26	1.58 1.14	1.06	644.42 1187.84	33.36 38.20		60.00( <b>S</b> ) 47.95( <b>S</b> )	54.00(S) 43.16(S)	3234 3234	
	Approach Climb out	75-100%	45	4.87	1.06	974.10	23.93		47.95( <b>S</b> )	36.00( <b>S</b> )	3234	
	Takeoff	100%	45	4.87	1.06	974.10	23.93		20.00(S)	18.00( <b>S</b> )	3234	
otes: 3a, 4b (PM <sub>10</sub> and PM <sub>2.5</sub> a	at all nower settings) 5 11	12h										
5005. 50, 40 (1 111 <sub>0</sub> ) and 1 111 <sub>2.5</sub> a	it an power settings), 5, 11	, 1211										
	Idle (Taxi)	<40%	9	0.52	1.06	1077.00	42.46		60.00(S)	54.00(S)	3234	
	Approach	40%	47	0.95	1.06	1221.51	22.13		47.95( <b>S</b> )	43.16( <b>S</b> )	3234	
O-320	Climb out	75-100%	67	3.97	1.06	989.51	14.24		40.00(S)	36.00(S)	3234	
	Takeoff	100%	89	2.19	1.06	1077.44	13.55		20.00(S)	18.00( <b>S</b> )	3234	
otes: 3a, 4b (PM <sub>10</sub> and PM <sub>2.5</sub> a	at all power settings), 5, 11	, 12h										
	Idle (Taxi)	5-10%	15	1.32	1.06	741.72	220.86		60.00( <b>S</b> )	54.00( <b>S</b> )	3234	
	Approach	30%	86	9.35	1.06	691.59	10.75		47.95( <b>S</b> )	43.16( <b>S</b> )	3234	
O-470C	Intermediate	70%(C)	112(C)	4.44(C)	1.06	956.61(C)	5.49(C)		40.00(S)	36.00(S)	3234	
	Military	100%	131	0.76	1.06	1155.37	3.50		20.00( <b>S</b> )	18.00( <b>S</b> )	3234	
otes: 3a, 4b (PM <sub>10</sub> and PM <sub>2.5</sub> a	at all power settings), 5, 11	, 12h										
	Idle (Taxi)	<30%	115	2.43	1.06	64.00	57.70		0.50(S)	0.45(S)	3234	
	Approach	<30% 30%	215	8.37	1.06	23.26	2.51		0.50( <b>S</b> )	0.45( <b>S</b> ) 0.09( <b>S</b> )	3234	
PT6A-27	Climb out	90%	400	7.00	1.06	1.20	0.00		0.10(S) 0.25(S)	0.09(S) 0.23(S)	3234	
110.12,	Takeoff	100%	425	7.81	1.06	1.01	0.00		0.24(S)	0.22( <b>S</b> )	3234	

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power Percer		Emission Factors (lb/1000 lb fuel)								
An Craft Engine	Setting Thrust/	p Rate (lb/hr)	$NO_X$	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub> e	
	Idle (Taxi) 7%	103	2.09	1.06	82.44	2.09		0.50	0.45	3234	
	Approach 30%	275	4.79	1.06	7.29	0.00		0.10	0.09	3234	
PT6A-38	Climb out 70%	450	6.69	1.06	2.17	0.00		0.25	0.23	3234	
	Takeoff 90%	489	7.08	1.06	2.05	0.00		0.24	0.22	3234	
tes: 3m, 11, 12h							1				
	Idle (Taxi) <30%	147	1.97	1.06	115.31	116.88		0.50(S)	0.45(S)	3234	
	Approach 30%	273	4.65	1.06	34.80	26.12		0.30(S) 0.10(S)	0.43(S) 0.09(S)	323	
PT6A-41	Climb out 90%	473	7.57	1.06	6.49	2.33		0.25(S)	0.23(S)	323	
	Takeoff 100%	510	7.98	1.06	5.10	2.01		0.24(S)	0.22(S)	323	
tes: 3a, 4p (PM <sub>10</sub> and PM <sub>2.5</sub> f	For all power settings), 5, 11, 12h										
	<u></u>					,					
	Idle (Taxi) 7%	103	2.16	1.06	76.55	16.61		0.45	0.41	3234	
PER CALLO	Approach 30%	275	4.89	1.06	6.89	0.00		0.10	0.09	3234	
PT6A-42	Intermediate 70% Military 90%	466 513	6.88 7.28	1.06	1.95 1.95	0.00		0.24	0.22	323	
	Winterly 50%	313	7.20	1.00	1.75	0.00		0.23	0.21	323	
tes: 3m, 11, 12h											
	Idle (Taxi) 7%	131	1.89	1.06	166.43	53.66		1.23	1.11	323	
	Approach 30%	340	4.59	1.06	20.86	3.31		0.74	0.67	323	
PT6A-65	Intermediate 70%	571	6.69	1.06	6.72	0.72		0.29	0.26	323	
	Military 90%	633	7.08	1.06	5.36	0.53		0.26	0.23	323	
tes: 3m, 11, 12h											
	III (TE 1) 70/	142	1.02	1.06	102.00	61.50	1	1.20	1.04	222	
	Idle (Taxi) 7% Approach 30%	143 364	1.83 4.59	1.06	183.80 20.96	61.52 3.24		1.38 0.72	1.24 0.65	323	
PT6A-67B	Approach 30% Intermediate 70%	619	6.59	1.06	6.12	0.61		0.72	0.03	323	
110A-07B	Military 90%	681	6.98	1.06	5.73	0.45		0.25	0.23	323	
tes: 3m, 11, 12h											
511, 11, 1211											
	Idle (Taxi) 7%	149	1.83	1.06	177.91	57.94		1.31	1.18	323	
	Approach 30%	372	4.69	1.06	19.76	2.93		0.66	0.59	323	
PT6A-67D	Intermediate 70%	643	6.69	1.06	5.35	0.50		0.28	0.25	323	
	Military 90%	713	7.18	1.06	5.09	0.35		0.24	0.22	323	
tes: 3m, 11, 12h											
	Ground Idle 2%	156	1.77	1.06	117.85	7.89	6.571	3,95	2.16	323	
	Flight Idle 3%	180	1.77	1.06	94.99	1.33	7.546	4.18	1.96	323	
PT6A-68	Descend 19%	328	5.03	1.06	33.69	3.29	3.208	4.15	1.23	323	
110/100	Approach 46%	449	4.73	1.06	10.91	0.71	0.697	3.34	0.70	323	
	Max. Continuous 88%	612	8.18	1.06	3.88	0.20	0.104	4.30	0.61	323	
tes: 3k, 10, 11 (percent hp ca	lculated assuming maximum hp of 1	250 per manufactur	er's stated s	pecifications	s), 12f						
	Idle (Taxi) 7%	335	4.26	1.06	36.35	5.01		0.07	0.06	323	
	Approach 30%	773	11.87	1.06	7.11	0.00		0.04	0.03	323	
PW306A	Climb out 85%	2096	19.26	1.06	2.51	0.00		0.05	0.04	323	
	Takeoff 100%	2517	20.08	1.06	2.27	0.00		0.08	0.07	3234	
21.5.6.0.10.12											
tes: 3b, 5, 6, 8, 10, 12a											

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Idle   App   Clin   Tal	(Taxi) proach mb out keoff	Thrust/hp  7% 30% 85% 100%  7% 30% 85% 100%  4% 31% 68% 100%  100%  7% 30% 70% 100%	Rate (lb/hr)   353   980   2374   2860     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     2260     226	3.65 8.03 14.06 16.74 4.10 9.77 23.96 29.41 3.76 15.49 32.72 35.04 0n of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	22.36 1.95 0.34 0.33 22.70 0.51 0.32 0.32 0.32 23.05 2.49 0.20	7.61 0.02 0.00 0.00 0.00 0.00 0.00 0.00 0.0	HAP's	0.14 0.11 0.44 0.39  0.06 0.06 0.09 0.06  10.67 5.53 2.31 0.06 0.09 0.15 0.15 0.13 0.12	0.12 0.10 0.39 0.35 0.05 0.06 0.08 0.06 0.06 0.08 0.06 0.01 1.42 0.12 0.11	3234 3234 3234 3234 3234 3234 3234 3234
PW308A Clin Tal  tes: 3b, 5, 6, 8, 10, 12a    Idle	(Taxi) proach mb out ikeoff  (Taxi) proach mb out ikeoff  (Taxi) proach mediate ikeoff  (GHG), 3c  (Taxi) proach mb out ikeoff	30% 85% 100%  7% 30% 85% 100%  4% 31% 68% 100%  (this is the comm 7% 30% 70% 100%	980 2374 2860  1206 3635 10373 12468  978 4645 10408 13905  hercial designation  1388 4184 12345 15362	8.03 14.06 16.74 4.10 9.77 23.96 29.41 3.76 15.49 32.72 35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	22.36 1.95 0.34 0.33  22.70 0.51 0.32 0.32 0.32  23.05 2.49 0.20	0.02 0.00 0.00 0.00 2.21 0.13 0.02 0.02 0.05 0.04 0.01 MAPs at Tak 2.13 0.15 0.03	0.311 0.033 0.026	0.11 0.44 0.39 0.06 0.06 0.09 0.06 10.67 5.53 2.31 0.06 only), 10, 12 0.15 0.13 0.12	0.10 0.39 0.35 0.05 0.06 0.08 0.06 0.08 1.42 0.05 e	3234 3234 3234 3234 3234 3234 3234 3234
PW308A Clin Tal  les: 3b, 5, 6, 8, 10, 12a    Idle	(Taxi) proach mb out ikeoff  (Taxi) proach mb out ikeoff  (Taxi) proach mediate ikeoff  (Taxi) proach mediate ikeoff  (Taxi) proach mb out ikeoff	85% 100%  7% 30% 85% 100%  4% 31% 68% 100%  (this is the comm 7% 30% 70% 100%	2374 2860 1206 3635 10373 12468 978 4645 10408 13905 ercial designation 1388 4184 12345 15362	3.76 15.49 32.72 35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	22.36 1.95 0.34 0.33 22.70 0.51 0.32 0.32 0.32 23.05 2.49 0.20	0.00 0.00 0.00 0.00 0.13 0.02 0.02 0.05 0.04 0.01 0.15 0.03	0.311 0.033 0.026	0.44 0.39 0.06 0.06 0.09 0.06 10.67 5.53 2.31 0.06 only), 10, 12	0.39 0.35 0.05 0.06 0.08 0.06 0.08 0.06 1.42 0.05 e	323-4 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 323-3 3 3 3
Tal   Idle	(Taxi) proach mb out ikeoff  (Taxi) proach mediate ikeoff  (Taxi) proach mediate ikeoff  (Taxi) proach mb out ikeoff	7% 30% 85% 100%  4% 31% 68% 100%  (this is the comm 7% 30% 70% 100%	2860  1206 3635 10373 12468  978 4645 10408 13905  ercial designation  1388 4184 12345 15362	3.76 15.49 32.72 35.04 30 of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	22.36 1.95 0.34 0.33 22.70 0.51 0.32 0.32 0.32 23.05 2.49 0.20	0.00  2.21 0.13 0.02 0.02  0.37 0.05 0.04 0.01  IAPs at Tak 2.13 0.15 0.03	0.311 0.033 0.026	0.39 0.06 0.06 0.09 0.06 10.67 5.53 2.31 0.06 only), 10, 12	0.35 0.05 0.06 0.08 0.06 8.75 5.10 1.42 0.05 e	32344 32344 32344 32344 32344 32344 32344 32344 32344
Idle	(Taxi) proach mb out deeff  (Taxi) proach mediate deeff  (GHG), 3c  (Taxi) proach mb out deeff	7% 30% 85% 100%  4% 31% 68% 100%  (this is the comm 7% 30% 70% 100%	978 4645 10408 13905 ercial designation 1388 4184 12345 15362	3.76 29.41 3.76 15.49 32.72 35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	22.36 1.95 0.34 0.33 22.70 0.51 0.32 0.32 0.32 23.05 2.49 0.20	2.21 0.13 0.02 0.02 0.03 0.05 0.04 0.01 1APs at Tak 2.13 0.15 0.03	0.311 0.033 0.026	0.06 0.09 0.06 10.67 5.53 2.31 0.06 0.01y), 10, 12	0.05 0.06 0.08 0.06 8.75 5.10 1.42 0.05	323-323-323-323-323-323-323-323-323-323
Idle   App   Clin   Tal	proach mb out ikeoff  (Taxi) proach mediate ikeoff  (Taxi) proach mediate ikeoff  (Taxi) proach mb out ikeoff	30% 85% 100% 4% 31% 68% 100% (this is the comm 7% 30% 70% 100%	3635 10373 12468 978 4645 10408 13905 ercial designation 1388 4184 12345 15362	9.77 23.96 29.41 3.76 15.49 32.72 35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1.95 0.34 0.33 22.70 0.51 0.32 0.32 0.32 23.05 2.49 0.20	0.13 0.02 0.02 0.02 0.03 0.05 0.04 0.01 MAPs at Tak 2.13 0.15 0.03	0.311 0.033 0.026	0.06 0.09 0.06 10.67 5.53 2.31 0.06 only), 10, 12 0.15 0.13	0.06 0.08 0.06 0.06 8.75 5.10 1.42 0.05 e	3234 3234 3234 3234 3234 3234 3234 3234
PW2037 Clin Tal  tes: 3b, 5, 6, 8, 10, 12a    Idle	proach mb out ikeoff  (Taxi) proach mediate ikeoff  (Taxi) proach mediate ikeoff  (Taxi) proach mb out ikeoff	30% 85% 100% 4% 31% 68% 100% (this is the comm 7% 30% 70% 100%	3635 10373 12468 978 4645 10408 13905 ercial designation 1388 4184 12345 15362	9.77 23.96 29.41 3.76 15.49 32.72 35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1.95 0.34 0.33 22.70 0.51 0.32 0.32 0.32 23.05 2.49 0.20	0.13 0.02 0.02 0.02 0.03 0.05 0.04 0.01 MAPs at Tak 2.13 0.15 0.03	0.311 0.033 0.026	0.06 0.09 0.06 10.67 5.53 2.31 0.06 only), 10, 12 0.15 0.13	0.06 0.08 0.06 0.06 8.75 5.10 1.42 0.05 e	323- 323- 323- 323- 323- 323- 323- 323-
PW2037 Clin Tal  otes: 3b, 5, 6, 8, 10, 12a    Idle	proach mb out ikeoff  (Taxi) proach mediate ikeoff  (Taxi) proach mediate ikeoff  (Taxi) proach mb out ikeoff	30% 85% 100% 4% 31% 68% 100% (this is the comm 7% 30% 70% 100%	3635 10373 12468 978 4645 10408 13905 ercial designation 1388 4184 12345 15362	9.77 23.96 29.41 3.76 15.49 32.72 35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1.95 0.34 0.33 22.70 0.51 0.32 0.32 0.32 23.05 2.49 0.20	0.13 0.02 0.02 0.02 0.03 0.05 0.04 0.01 MAPs at Tak 2.13 0.15 0.03	0.311 0.033 0.026	0.06 0.09 0.06 10.67 5.53 2.31 0.06 only), 10, 12 0.15 0.13	0.06 0.08 0.06 0.06 8.75 5.10 1.42 0.05 e	3234 3234 3234 3234 3234 3234 3234 3234
PW2037 Clin Tal    Idle	mb out ikeoff  (Taxi) proach mediate ikeoff  (Haxi) GHG), 3c  (Taxi) proach mb out ikeoff	85% 100%  4% 31% 68% 100%  (this is the comm 7% 30% 70% 100%	978 4645 10408 13905 ercial designation 1388 4184 12345 15362	3.76 15.49 32.72 35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	0.34 0.33 22.70 0.51 0.32 0.32 0.32 23.05 2.49 0.20	0.02 0.02 0.02 0.03 0.05 0.04 0.01 0.01 0.15 0.03	0.311 0.033 0.026	0.09 0.06 10.67 5.53 2.31 0.06 only), 10, 12 0.15 0.13	0.08 0.06 8.75 5.10 1.42 0.05 e	3234 3234 3234 3234 3234 3234 3234
Tal	(Taxi) proach mediate ikeoff  (Haxi) GHG), 3c  (Taxi) proach mb out ikeoff	100%  4% 31% 68% 100%  (this is the comm 7% 30% 70% 100%	978 4645 10408 13905 ercial designation 1388 4184 12345 15362	3.76 15.49 32.72 35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 1.06 1.06 7-PW-100 e	0.33  22.70 0.51 0.32 0.32 0.32  mgine), 4a (F	0.02 0.37 0.05 0.04 0.01 MAPs at Tak 2.13 0.15 0.03	0.311 0.033 0.026 	0.06 10.67 5.53 2.31 0.06 only), 10, 12 0.15 0.13 0.12	0.06  8.75 5.10 1.42 0.05  e  0.14 0.12 0.11	323 323 323 323 323 323 323 323
Idle	proach mediate ikeoff GHG), 3c (Taxi) proach mb out ikeoff	31% 68% 100% (this is the comm 7% 30% 70% 100%	4645 10408 13905 ercial designation 1388 4184 12345 15362	15.49 32.72 35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 7-PW-100 e 1.06 1.06	0.51 0.32 0.32 0.32 engine), 4a (F	0.05 0.04 0.01 HAPs at Tak 2.13 0.15 0.03	0.033 0.026  ceoff setting o	5.53 2.31 0.06 only), 10, 12 0.15 0.13 0.12	5.10 1.42 0.05 e 0.14 0.12 0.11	323 323 323 323 323 323 323
Idle	proach mediate ikeoff GHG), 3c (Taxi) proach mb out ikeoff	31% 68% 100% (this is the comm 7% 30% 70% 100%	4645 10408 13905 ercial designation 1388 4184 12345 15362	15.49 32.72 35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 7-PW-100 e 1.06 1.06	0.51 0.32 0.32 0.32 engine), 4a (F	0.05 0.04 0.01 HAPs at Tak 2.13 0.15 0.03	0.033 0.026  ceoff setting o	5.53 2.31 0.06 only), 10, 12 0.15 0.13 0.12	5.10 1.42 0.05 e 0.14 0.12 0.11	323 323 323 323 323 323 323
PW2040    App   Interr   Tal     tes: 3b (for Takeoff excluding HAPs and 6     Fal   App   PW2041     tes: 3m, 11, 12h     Idle   App   Clin     Tal   Tal     Idle   App   Clin     Tal   Idle   App   Clin     Tal   Idle   App   Clin     Tal   Idle   App   Clin     Tal   Tal   Idle   App     PW4060   Clin   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal   Tal   Tal     Tal	proach mediate ikeoff GHG), 3c (Taxi) proach mb out ikeoff	31% 68% 100% (this is the comm 7% 30% 70% 100%	4645 10408 13905 ercial designation 1388 4184 12345 15362	15.49 32.72 35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 1.06 1.06 7-PW-100 e 1.06 1.06	0.51 0.32 0.32 0.32 engine), 4a (F	0.05 0.04 0.01 HAPs at Tak 2.13 0.15 0.03	0.033 0.026  ceoff setting o	5.53 2.31 0.06 only), 10, 12 0.15 0.13 0.12	5.10 1.42 0.05 e 0.14 0.12 0.11	323 323 323 323 323 323 323
PW2040 Interr Tal  otes: 3b (for Takeoff excluding HAPs and 6  Idle App PW2041 Clim Tal  otes: 3m, 11, 12h  Idle App PW4056 Clim Tal  otes: 3b, 5, 6, 8, 10, 12a  Idle App PW4060 Clim Tal	mediate keoff GHG), 3c (Taxi) proach mb out keoff	68% 100% (this is the comm 7% 30% 70% 100%	10408 13905 hercial designation 1388 4184 12345 15362	32.72 35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 1.06 7-PW-100 e 1.06 1.06	0.51 0.32 0.32 0.32 engine), 4a (F	0.04 0.01 HAPs at Tak 2.13 0.15 0.03	eoff setting o	2.31 0.06 only), 10, 12 0.15 0.13 0.12	1.42 0.05 e 0.14 0.12 0.11	323 323 323 323 323
Tal     Tal     Dies: 3b (for Takeoff excluding HAPs and 6     PW2041   Clim     Tal     Dies: 3m, 11, 12h     Idle     App     PW4056   Clim     Tal     Dies: 3b, 5, 6, 8, 10, 12a     Idle     App     PW4060   Clim     Tal	GHG), 3c (Taxi) proach mb out	100% (this is the comm 7% 30% 70% 100%	13905  ercial designation  1388  4184  12345  15362	35.04 on of theF11 4.49 10.98 28.94 36.92	1.06 7-PW-100 e 1.06 1.06	0.32 Ingine), 4a (F 23.05 2.49 0.20	0.01 HAPs at Tak 2.13 0.15 0.03	eoff setting (	0.06 only), 10, 12 0.15 0.13 0.12	0.05 e 0.14 0.12 0.11	323- 323- 323- 323-
rtes: 3b (for Takeoff excluding HAPs and 0    Idle	GHG), 3c (Taxi) proach mb out	7% 30% 70% 100%	1388 4184 12345 15362	4.49 10.98 28.94 36.92	7-PW-100 e	23.05 2.49 0.20	2.13 0.15 0.03	eoff setting (	0.15 0.13 0.12	e 0.14 0.12 0.11	323 323 323
Idle   App   Clin   Tal	(Taxi) proach mb out keoff	7% 30% 70% 100%	1388 4184 12345 15362	4.49 10.98 28.94 36.92	1.06 1.06 1.06	23.05 2.49 0.20	2.13 0.15 0.03		0.15 0.13 0.12	0.14 0.12 0.11	323 323
Idle   App   Clin   Tal	(Taxi) proach mb out keoff	7% 30% 70% 100%	1388 4184 12345 15362	4.49 10.98 28.94 36.92	1.06 1.06 1.06	23.05 2.49 0.20	2.13 0.15 0.03		0.15 0.13 0.12	0.14 0.12 0.11	323 323
PW2041 Clin Tal  tes: 3m, 11, 12h    Idle App PW4056 Clin Tal  tes: 3b, 5, 6, 8, 10, 12a    Idle App PW4060 Clin Tal	proach mb out ikeoff	30% 70% 100%	4184 12345 15362	10.98 28.94 36.92	1.06 1.06	2.49 0.20	0.15 0.03		0.13 0.12	0.12 0.11	323 323
PW2041 Clin Tal  tes: 3m, 11, 12h    Idle	mb out	70% 100%	12345 15362	28.94 36.92	1.06	0.20	0.03		0.12	0.11	323
Tal  Tal  Tal  Tal  Tal  Idle  App  PW4056  Clim  Tal  Idle  App  PW4060  Clim  App  PW4060  Clim  Tal	keoff	100%	15362	36.92							
tes: 3m, 11, 12h    Idle					1.06	0.20	0.03		0.12	0.11	323
Idle   App   Clin   Tal   tes: 3b, 5, 6, 8, 10, 12a   Idle   App   PW4060   Clin   Tal   Tal   Clin   Tal   Clin   Tal   Clin		7%	1651	4.00							
PW4056 Clin Tal  tes: 3b, 5, 6, 8, 10, 12a    Idle   App   PW4060 Clin   Tal		7%	1651	4.00							
PW4056 Clin Tal  otes: 3b, 5, 6, 8, 10, 12a  Idle App PW4060 Clin Tal	(Torri)				1.06	21.86	2.21		0.07	0.06	323
PW4056 Clin Tal  tes: 3b, 5, 6, 8, 10, 12a    Idle   App     PW4060 Clin     Tal	proach	30%	5222	11.60	1.06	2.00	0.15		0.06	0.05	323
Tal  tes: 3b, 5, 6, 8, 10, 12a    Idle   App     Clim   Tal	mb out	85%	15318	22.90	1.06	0.57	0.01		0.07	0.06	323
PW4060 Clin	keoff	100%	18587	28.10	1.06	0.44	0.07		0.08	0.07	323
PW4060 Clin											
PW4060 Clin											
PW4060 Clin	(Taxi)	7%	1690	4.90	1.06	20.32	1.91		0.07	0.06	323
Tal	proach	30%	5579	12.00	1.06	1.78	0.16		0.06	0.05	323
	mb out	85%	16548	24.70	1.06	0.51	0.03		0.07	0.07	323
tes: 3b, 5, 6, 8, 10, 12a	keoff	100%	21008	32.80	1.06	0.37	0.12		0.08	0.08	323
							l				
Idle	(Taxi)	7%	1667	3.78	1.06	42.61	12.49		0.11	0.10	323
	proach	30%	5698	12.17	1.06	1.93	0.10		0.05	0.10	323
	mb out	85%	16865	25.98	1.06	0.50	0.08		0.07	0.06	323
	keoff	100%	21627	34.36	1.06	0.61	0.09		0.08	0.07	323
2h 5 6 9 10 12										1	
tes: 3b, 5, 6, 8, 10, 12a											
Idle	(Taxi)	7%	1810	4.20	1.06	21.00	3.68		0.06	0.05	323
	(I GAI)	30%	6310	11.00	1.06	0.40	0.23		0.05	0.05	323
11	proach	85%	18794	31.50	1.06	0.10	0.12		0.05	0.05	323
Tal			23008	38.10	1.06	0.10	0.12		0.07	0.07	323
tes: 3b, 5, 6, 8, 10, 12a	proach	100%	23000			1					

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow	Emission Factors (lb/1000 lb fuel)								
Aircrait Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e	
	Idle (Taxi)	7%	2421	3.80	1.06	26.34	3.59		0.06	0.05	3234	
	Approach	30%	6897	11.35	1.06	0.96	0.05		0.04	0.04	3234	
PW4074D	Climb out	85%	19611	32.71	1.06	0.35	0.02		0.05	0.04	3234	
	Takeoff	100%	24143	42.46	1.06	0.30	0.02		0.06	0.05	3234	
otes: 3b, 5, 6, 8, 10, 12a	I.					1						
	Idle (Taxi)	7%	1841	4.20	1.06	20.20	3.45		0.06	0.05	3234	
	Approach	30%	6476	11.30	1.06	0.40	0.23		0.05	0.05	3234	
PW4077	Climb out	85%	19460	32.50	1.06	0.10	0.12		0.06	0.05	3234	
	Takeoff	100%	23960	39.80	1.06	0.10	0.12		0.08	0.07	3234	
otes: 3b, 5, 6, 8, 10, 12a												
	Idle (Taxi)	7%	2460	3.81	1.06	24.80	3.24		0.06	0.05	3234	
	Approach	30%	7079	11.63	1.06	0.86	0.05		0.04	0.04	3234	
PW4077D	Climb out	85%	20333	34.05	1.06	0.34	0.02		0.05	0.04	3234	
	Takeoff	100%	25175	44.68	1.06	0.29	0.02		0.06	0.05	3234	
otes: 3b, 5, 6, 8, 10, 12a								ı				
	Idle (Taxi)	7%	1921	4.40	1.06	18.73	3.11		0.05	0.05	3234	
	Approach	30%	6944	12.00	1.06	0.40	0.23		0.05	0.05	3234	
PW4084	Climb out	85%	21341	35.50	1.06	0.10	0.12		0.07	0.06	3234	
	Takeoff	100%	27072	45.00	1.06	0.10	0.12		0.09	0.09	3234	
otes: 3b, 5, 6, 8, 10, 12a												
	1											
PW4084D	Idle (Taxi)	7%	2556	3.99	1.06	21.12	2.48		0.05	0.05	3234	
	Approach	30%	7571	12.27	1.06	0.66	0.05		0.04	0.04	3234	
	Climb out	85%	22294	37.78	1.06	0.32	0.02		0.05	0.05	3234	
	Takeoff	100%	28230	51.39	1.06	0.28	0.02		0.07	0.06	3234	
otes: 3b, 5, 6, 8, 10, 12a						I						
	Idle (Taxi)	7%	2683	4.48	1.06	11.94	0.79		0.04	0.04	3234	
	Approach	30%	7770	12.74	1.06	0.55	0.05		0.04	0.04	3234	
PW4090	Climb out	85%	23778	41.17	1.06	0.31	0.02		0.06	0.05	3234	
	Takeoff	100%	31159	57.52	1.06	0.27	0.02		0.09	0.08	3234	
otes: 3b, 5, 6, 8, 10, 12a												
								,				
	Idle (Taxi)	7%	2548	7.78	1.06	6.48	0.00		0.04	0.03	3234	
	Approach	30%	8532	14.89	1.06	0.70	0.00		0.05	0.05	3234	
PW4098	Climb out	85%	25754	36.45	1.06	0.21	0.00		0.07	0.07	3234	
	Takeoff	100%	32841	51.29	1.06	0.16	0.00		0.06	0.06	3234	
otes: 3b, 5, 6, 8, 10, 12a	I	I			1	1	l	1		1	1	
	Idle (Taxi)	7%	1405	4.90	1.06	12.76	0.85		0.07	0.07	3234	
	Approach	30%	4706	11.10	1.06	1.09	0.83		0.07	0.07	3234	
PW4152	Climb out	85%	14167	22.70	1.06	0.17	0.17		0.07	0.10	3234	
	Takeoff	100%	17278	26.90	1.06	0.12	0.15		0.11	0.10	3234	
otes: 3b, 5, 6, 8, 10, 12a												

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
Aircrait Engine	Setting T	hrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	1492	5.00	1.06	11.60	0.76		0.08	0.07	3234
	Approach	30%	5135	11.60	1.06	0.90	0.29		0.08	0.07	3234
PW4156	Climb out	70%	15722	24.60	1.06	0.14	0.20		0.12	0.11	3234
	Takeoff	100%	19437	32.50	1.06	0.08	0.13		0.12	0.11	3234
otes: 3b, 5, 6, 8, 10, 12a											
	TH (T) 13	50/	1.005	1.00	1.05	20.00	2.05		0.05	0.05	2224
_	Idle (Taxi)	7%	1675	4.80	1.06	20.99	2.05		0.07	0.06	3234
PW4158	Approach Climb out	30% 85%	5413 15905	11.80 23.70	1.06	1.88 0.54	0.16		0.06	0.05	3234 3234
1 W4136	Takeoff	100%	19691	30.20	1.06	0.34	0.02		0.07	0.07	3234
	Takcon	10070	17071	30.20	1.00	0.40	0.10		0.00	0.07	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1667	4.03	1.06	26.67	5.13		0.07	0.06	3234
	Approach	30%	5984	14.10	1.06	1.86	0.18		0.05	0.04	3234
PW4164	Climb out	85%	17294	31.66	1.06	0.79	0.05		0.05	0.04	3234
	Takeoff	100%	20841	38.57	1.06	0.69	0.03		0.05	0.05	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1929	3.79	1.06	17.13	1.66		0.05	0.04	3234
	Approach	30%	6151	12.10	1.06	1.55	0.07		0.03	0.04	3234
PW4164-1D	Climb out	85%	17770	20.97	1.06	0.17	0.00		0.06	0.05	3234
	Takeoff	100%	21595	26.31	1.06	0.16	0.00		0.06	0.05	3234
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	1984	5.20	1.06	15.90	0.23		0.04	0.04	3234
	Approach	30%	6421	12.10	1.06	2.40	0.23		0.04	0.04	3234
PW4168	Climb out	85%	18754	20.20	1.06	0.20	0.00		0.09	0.08	3234
1 1300	Takeoff	100%	22889	26.90	1.06	0.10	0.00		0.10	0.09	3234
otes: 3b, 5, 6, 8, 10, 12a											
, , , , ,		_						1		1	
_	Idle (Taxi)	7%	1984	5.20	1.06	15.90	0.23		0.04	0.04	3234
PW4168A	Approach	30%	6421	12.10	1.06	2.40	0.00		0.04	0.04	3234
PW4108A	Climb out Takeoff	85% 100%	18754 22889	20.20	1.06	0.20	0.00		0.09	0.08	3234 3234
otes: 3b, 5, 6, 8, 10, 12a											
otes: 36, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	2000	4.08	1.06	14.78	1.09		0.04	0.04	3234
	Approach	30%	6492	12.39	1.06	1.26	0.06		0.04	0.04	3234
PW4168-1D, -4168A-1D	Climb out	85%	19032	22.31	1.06	0.18	0.00		0.06	0.06	3234
	Takeoff	100%	23310	30.15	1.06	0.17	0.00		0.06	0.05	3234
otes: 3b, 5, 6, 8, 10, 12a						1	I	l .		1	
	Idle (Taxi)	7%	2024	4.18	1.06	14.04	0.95		0.04	0.04	3234
	Approach	30%	6611	12.49	1.06	1.17	0.06		0.04	0.04	3234
PW4170	Climb out	85%	19445	22.84	1.06	0.18	0.00		0.06	0.06	3234
	Takeoff	100%	23960	31.40	1.06	0.18	0.00		0.06	0.05	3234
otes: 3b, 5, 6, 8, 10, 12a											
JIES. JU, J, U, O, 1U, 12a											

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factors	s (lb/1000 ll	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	1690	4.90	1.06	20.32	1.91		0.07	0.06	323
	Approach	30%	5579	12.00	1.06	1.78	0.16		0.06	0.05	323
PW4460	Climb out	85%	16548	24.70	1.06	0.51	0.03		0.07	0.07	323
	Takeoff	100%	21008	32.80	1.06	0.37	0.12		0.08	0.08	323
otes: 3b, 5, 6, 8, 10, 12a											
	TH (T)	T 701	0.55	2.00	1.05	24.50	0.01		0.10	0.00	222
	Idle (Taxi)	7%	865	3.08	1.06	24.68	0.01		0.10	0.09	323
PW6122A	Approach Climb out	30% 85%	2413 6825	5.95 13.40	1.06	3.99 0.72	0.00		0.07 0.14	0.07	323 323
r w0122A	Takeoff	100%	8310	17.04	1.06	0.72	0.00		0.14	0.12	323
	1 akeon	100%	6510	17.04	1.00	0.74	0.00		0.13	0.12	323
etes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)	7%	905	3.58	1.06	25.19	0.00		0.09	0.08	323
	Approach	30%	2579	6.88	1.06	3.69	0.00		0.07	0.07	323
PW6124A	Climb out	85%	7452	15.85	1.06	0.81	0.00		0.15	0.13	323
	Takeoff	100%	9278	21.03	1.06	0.68	0.00		0.15	0.13	323
otes: 3b, 5, 6, 8, 10, 12a											
	Idle (Taxi)		89	0.00	1.06	474.16	173.15		60.00( <b>S</b> )	54.00( <b>S</b> )	323
	Approach		323	6.50	1.06	384.83	6.41		47.95( <b>S</b> )	43.16( <b>S</b> )	323
R-1820-82	Climb out		862	2.09	1.06	435.03	55.77		40.00( <b>S</b> )	36.00( <b>S</b> )	323
K 1020 02	Takeoff		1166	1.72	1.06	531.73	108.89		20.00(S)	18.00(S)	323
etes: 3a, 4b (for PM <sub>10</sub> and PM <sub>2</sub>	2.5 at all power settings), 5,	, 12h									
	Idle (Taxi)	7%	2198	2.70	1.06	93.17	75.18		0.47	0.42	323
	Approach	30%	4389	8.05	1.06	26.38	8.89		0.53	0.48	323
RB211-22B	Climb out	85%	12238	25.63	1.06	4.14	0.45		0.13	0.12	323
	Takeoff	100%	14810	34.32	1.06	2.48	0.41		0.15	0.13	323
otes: 3b, 5, 6, 8, 10, 12h											
	III (T. ')	70/	1005	1.20	1.06	12.20	2.24		0.05	0.05	222
	Idle (Taxi)	7% 30%	1905 5000	9.80	1.06	12.39	2.24 0.81		0.05	0.05	323 323
RB211-524B Series	Approach Climb out	85%	14206	38.20	1.06	1.56 0.33	0.81		0.09	0.08	323
RB211-324B Selles	Takeoff	100%	17540	52.30	1.06	0.33	0.30		0.10	0.09	323
otes: 3b, 5, 6, 8, 10, 12h											
tes. 50, 5, 0, 6, 10, 12n											
	Idle (Taxi)	7%	2381	3.37	1.06	81.00	62.33		0.38	0.34	323
	Approach	30%	5873	10.40	1.06	18.90	5.08		0.30	0.27	323
RB211-524C2	Climb out	85%	16032	32.30	1.06	1.63	0.25		0.11	0.10	323
	Takeoff	100%	19683	41.90	1.06	0.66	0.00		0.11	0.10	323
tes: 3b, 5, 6, 8, 10, 12h	ı	1			1		1		-	I	
	Idle (Taxi)	7%	2381	4.11	1.06	73.80	53.43		0.33	0.30	323
	Approach	30%	5873	9.65	1.06	16.90	5.52		0.32	0.29	323
RB211-524D4	Climb out	85%	15952	41.00	1.06	1.18	0.48		0.11	0.10	323
	Takeoff	100%	19921	56.90	1.06	0.51	0.00		0.09	0.08	323
	Takeon	10070	1//21	50.70	1.00	0.51	0.00		0.07	0.00	

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine		Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 lb	fuel)		
Aircraft Engine	Setting Ti	hrust/hp	Rate (lb/hr)	NOx	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub> e
	Idle (Taxi)	7%	2064	4.63	1.06	13.74	1.02		0.05	0.04	3234
	Approach	30%	5556	9.56	1.06	1.01	0.43		0.11	0.10	3234
RB211-524G	Climb out	85%	16508	40.54	1.06	0.43	0.31		0.13	0.12	323
	Takeoff	100%	20794	58.71	1.06	0.59	0.45		0.13	0.12	323
es: 3b, 5, 6, 8, 10, 12h											
	I41- (T:)	7%	2064	4.00	1.06	28.82	4.54		0.08	0.07	3234
	Idle (Taxi) Approach	30%	5873	9.68	1.06	1.17	0.00		0.08	0.07	323
RB211-524G-T	Climb out	85%	16667	21.80	1.06	0.14	0.03		0.15	0.14	323
10211 0210 1	Takeoff	100%	20794	28.43	1.06	0.16	0.00		0.14	0.12	323
es: 3b, 5, 6, 8, 10, 12h											
3. 30, 3, 0, 0, 10, 1211											
	Idle (Taxi)	7%	2064	4.78	1.06	11.75	0.85		0.05	0.04	323
	Approach	30%	5635	10.26	1.06	0.99	0.41		0.11	0.10	323
RB211-524H	Climb out	85%	17222	46.31	1.06	0.38	0.38		0.13	0.12	323
	Takeoff	100%	21667	65.84	1.06	0.87	0.39		0.13	0.11	323
es: 3b, 5, 6, 8, 10, 12h											
	T11 (T) (1)	70/	20.54	115	100	26.15	2.01		0.05	0.05	222
	Idle (Taxi)	7% 30%	2064 6111	4.16 9.91	1.06	26.17 1.05	3.81 0.00		0.07	0.06	323 323
RB211-524H-T	Approach Climb out	85%	17619	23.19	1.06	0.14	0.00		0.09	0.08	323
KB211-32-411-1	Takeoff	100%	22302	31.19	1.06	0.14	0.02		0.13	0.14	323
es: 3b, 5, 6, 8, 10, 12h											
	Idle (Taxi)	7%	1587	3.44	1.06	18.79	1.66		0.06	0.05	323
	Approach	30%	4286	6.37	1.06	0.48	0.51		0.09	0.08	323
RB211-535C	Climb out	85%	11667	24.89	1.06	0.27	0.16		0.08	0.07	323
	Takeoff	100%	14286	33.71	1.06	0.70	0.29		0.10	0.09	323
es: 3b, 5, 6, 8, 10, 12h											
	T11 (T) ()	<b>5</b> 0/	1.120	2.46	1.05	10.01	0.42		0.05	0.05	222
	Idle (Taxi) Approach	7% 30%	1429 4127	3.46 6.78	1.06	13.31	0.43		0.05	0.05	323
RB211-535E4	Climb out	85%	11984	32.06	1.06	0.50	0.03		0.00	0.06	323
RB211 333E4	Takeoff	100%	14762	44.88	1.06	0.77	0.00		0.06	0.06	323
es: 3b, 5, 6, 8, 10, 12h											
.,.,.,.,.,.											
	Idle (Taxi)	7%	1008	3.60	1.06	31.77	4.24		0.16	0.15	323
	Approach	30%	2206	7.20	1.06	2.65	0.21		0.22	0.20	323
Spey Mk511	Climb out	85%	5762	17.30	1.06	0.63	0.14		0.24	0.22	323
	Takeoff	100%	7071	22.70	1.06	0.12	0.10		0.23	0.21	323
s: 3b (this is the commercia	al designation of the F113-RR-	100 engin	e), 5, 6, 8, 10, 12	2h			I	I		1	
	Idle (Taxi)	7%	762	3.70	1.06	29.30	2.14		0.18	0.16	323
	Approach	30%	1754	6.80	1.06	3.70	0.33		0.35	0.32	323
Spey Mk555	Climb out	85%	4698	16.50	1.06	0.70	0.17		0.35	0.31	323
	Takeoff	100%	5833	21.90	1.06	0.30	0.33		0.32	0.28	323
										1	

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 ll	o fuel)		
An Craft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Ground Idle		145	1.58	1.06	31.51	66.80		1.44(S)	1.30(S)	3234
	Flight Idle		222	2.53	1.06	37.79	15.61		2.95(S)	2.66(S)	323
T53-L-11D	Normal Rated		645	6.43	1.06	6.83	0.66		0.31(S)	0.28(S)	323
	Military		685	6.34	1.06	3.34	0.30		0.36(S)	0.32(S)	3234
	Takeoff		690	7.75	1.06	3.85	0.31		0.36( <b>S</b> )	0.32(S)	3234
tes: 3i, 4q (for PM <sub>10</sub> and PM	2.5 for all power settings),	5, 12h									
	Idle (Taxi)	7%	160	1.58	1.06	31.45	64.28		1.44	1.30	3234
	Approach	30%	227	2.52	1.06	37.71	15.02		2.95	2.66	323
T53-L-13	Climb out	70%	694	6.33	1.06	3.59	0.30		0.31	0.28	323
	Takeoff	90%	696	7.73	1.06	3.59	0.30		0.36	0.32	323
tes: 3m, 11, 12h											
	Idle (Taxi)	7%	829	7.33	1.06	5.73	0.86		0.12	0.11	323
	Approach	30%	1036	7.12	1.06	4.70	0.61		0.22	0.20	323
T56 Series I	Intermediate	70%	1824	9.61	1.06	2.84	0.31		0.28	0.25	323
	Military	90%	2059	9.87	1.06	2.82	0.31		0.28	0.25	323
tes: 3m, 11, 12h											
tes. 311, 11, 1211											
	Idle (Taxi)	7%	986	6.05	1.06	6.50	0.90		0.12	0.11	323
	Approach	30%	1262	9.10	1.06	2.79	0.44		0.19	0.17	323
T56 Series III	Intermediate	70%	2210	12.19	1.06	1.47	0.26		0.24	0.22	323
	Military	90%	2476	12.76	1.06	1.47	0.26		0.26	0.23	323
tes: 3m, 11, 12h								1			
						1	1	1	1		
	Idle (Taxi)	5%	724	7.58	1.06	5.06	0.08	0.062	3.64	1.88	323
mac + a	Approach	15%	880	7.54	1.06	3.89 1.94	0.06	0.043	3.85	2.18	323
T56-A-7	Intermediate Military	61% 90%	1742 2262	9.15 12.46	1.06	2.30	0.02	0.013	1.46 1.22	0.56	323 323
	Military	90%	2202	12.40	1.00	2.30	0.01	0.003	1.22	0.33	323
tes: 3c, 10, 12e					l	l	l	l	l		1
		T 50/	70.4	2.00	1.05	22.00	24.15	1	0.00	0.75	222
	Idle	7% 30%	794	3.90 4.40	1.06	32.00	24.15 14.26		0.83	0.75	323 323
T56-A-9	Approach	70%	1423(C)	9.20	1.06	22.20	0.58		0.97	0.87 0.46	323
130-A-9	Intermediate Military	100%	1825 1905	9.20	1.06	2.40	0.38		0.51	0.46	323
	William	10070	1,00	7.50	1.00	2.10	0.10		0.50	0.15	323
tes: 3g, 5, 12d											
	Idle (Taxi)	5%	324	3.72	1.06	30.39	15.85		0.43	0.39	323
	Approach	15%	839	6.79	1.06	3.49	0.92		0.43	0.25	323
T56-A-14	Intermediate	61%	1409	10.30	1.06	1.07	0.04		0.17	0.15	323
	Military	90%	1563	12.05	1.06	0.95	0.04		0.16	0.14	323
tes: 3m, 12h											
	Idle (Taxi)	7%	794	3.90	1.06	32.00	24.15		0.83	0.75	323
	Approach	30%	1423( <b>C</b> )	4.40	1.06	22.20	14.26		0.97	0.87	323
T56-A-15	Intermediate	70%	1825	9.20	1.06	2.40	0.58		0.51	0.46	323
	Military	90%	2302	9.30	1.06	2.10	0.46		0.50	0.45	323

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 ll	fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NOx	SO <sub>x</sub> <sup>1</sup>	СО	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO26
	Ground Idle		756	6.35	1.06	5.65	1.40		0.83( <b>S</b> )	0.75( <b>S</b> )	323
	Flight Idle		836	6.52	1.06	4.54	1.09		0.97(S)	0.87(S)	323
T56-A-16	75%		1996	9.93	1.06	0.42	0.20		0.51(S)	0.46(S)	323
	100%		2136	10.29	1.06	0.68	0.14		0.50(S)	0.45(S)	323
	Military		2219	10.45	1.06	0.65	0.16		0.50(S)	0.45(S)	323
es: 3i, 4r (for PM <sub>10</sub> and PM	I <sub>2.5</sub> for all power settings), 5,	12h									
	Idle		133	1.50	1.06	169.17	111.54		0.75	0.68	323
	Normal Cruise		757	6.34	1.06	7.66	1.82		0.79	0.71	323
T58-GE-5	Intermediate (Military)		821	6.70	1.06	6.82	3.78		0.97	0.88	323
	Power Takeoff		886	7.22	1.06	5.64	0.91		0.90	0.81	323
2 5 101											
es: 3a, 5, 12d											
	Idle		132	1.43	1.06	178.44	149.98		0.75( <b>S</b> )	0.68( <b>S</b> )	323
	Approach		581	4.47	1.06	17.28	1.29		0.79( <b>S</b> )	0.71( <b>S</b> )	323
T58-GE-8F	Cruise		627	4.68	1.06	14.13	0.92		0.79(S)	0.71(S)	323
0.	Max Continuous		685	4.90	1.06	12.96	0.92		0.79(S)	0.71(S)	32
	Takeoff		786	5.47	1.06	9.03	0.46		0.77(S)	0.88(S)	32
es: 3i, 4o (PM <sub>10</sub> and PM <sub>25</sub>	at all power settings), 5, 12h		700	5.17	1.00	7.05	0.10		0.57(0)	0.00(D)	52
, ( 10 2.5	3,,,,										
	Ground Idle		150	3.03	1.06	139.73	47.05		0.75(S)	0.68(S)	32
	60% Normal		656	7.88	1.06	14.56	0.44		0.79(S)	0.71(S)	32
T58-GE-16	75% Normal		779	9.47	1.06	10.89	0.72		0.79(S)	0.71(S)	32
	90% Normal		890	10.07	1.06	9.10	0.96		0.90(S)	0.81(S)	32
	Military		1020	11.60	1.06	7.73	1.52		0.90(S)	0.81(S)	32
es: 3i, 4o (PM <sub>10</sub> and PM <sub>2.5</sub>	at all power settings), 5, 12c	1									
			, ,								
	Ground Idle		61	1.42	1.06	79.15	23.35		0.83( <b>S</b> )	0.75( <b>S</b> )	32:
	Flight Idle		70	1.89	1.06	61.83	12.02		0.83( <b>S</b> )	0.75( <b>S</b> )	32
T63-A-5A	30%		105	2.90	1.06	38.59	3.76		0.97( <b>S</b> )	0.87( <b>S</b> )	32
	60%		157	4.11	1.06	20.79	0.78		0.51(S)	0.46( <b>S</b> )	32
	Military		215	5.07	1.06	7.54	0.09		0.50(S)	0.45(S)	32
es: 3i, 4r (PM <sub>10</sub> and PM <sub>2.5</sub>	at all power settings), 5, 12h										
	***		225	2.05	1.05	10.55	15.01		0.20	0.25	- 22
	Idle		337	3.86	1.06	48.66	15.01		0.30	0.27	32
TCA CIT CD	75% hp		1039	8.95	1.06	4.72	0.89		0.58	0.52	32
T64-GE-6B	Normal Rated		1257	10.42	1.06	2.86	0.82		0.72	0.64	32
	Intermediate (Military)		1390	11.15	1.06	2.30	0.74		0.79	0.71	32
es: 3a, 4t (PM <sub>10</sub> and PM <sub>2.5</sub>	at all power settings), 5, 12h					1				1	
	Ground Idle	2%	298	1.11	1.06	76.46	1.26	0.744	2.36	2.14	32
	75% Normal	34%	941	6.85	1.06	7.85	0.05	0.033	1.97	0.45	32
T64-GE-100	Normal	81%	1698	9.46	1.06	2.21	0.01	0.004	1.61	0.88	32
	Military	90%	1848	11.30	1.06	2.17	0.01	0.007	0.92	0.09	32
ns: 3c 5 12e											<u> </u>
es: 3c, 5, 12e											
	Idle		260	2.62	1.06	51.83	19.87		2.36( <b>S</b> )	2.14(S)	32
	75% hp		1287	8.54	1.06	1.94	0.40		1.97(S)	0.45(S)	32
T64-GE-413	Normal Rated		1511	9.65	1.06	1.20	0.38		1.61(S)	0.43(S) 0.88(S)	32
20.02.12	Intermediate		1661	10.92	1.06	0.67	0.39		1.61(S)	0.88(S)	32
			1721	11.42	1.06	0.49	0.39		1.61(S)	0.88(S)	32
	Maximum										

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow	Emission Factors (lb/1000 lb fuel)								
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e	
	Idle		269	2.12	1.06	74.33	28.00		2.36(S)	2.14(S)	3234	
	75%		1493	8.09	1.06	2.10	0.15		1.61( <b>S</b> )	0.88(S)	3234	
T64-GE-415	Normal Rated		1730	9.29	1.06	1.50	0.09		1.61( <b>S</b> )	0.88( <b>S</b> )	323	
	Military		1916	9.99	1.06	1.29	0.32		0.92(S)	0.09( <b>S</b> )	3234	
	Max. Rated		2005	10.83	1.06	1.47	0.22		0.92(S)	0.09( <b>S</b> )	323	
otes: 3i, 4t (PM <sub>10</sub> and PM <sub>2.5</sub> a	t all power settings), 5, 12h											
	Idle (Taxi)		238	7.40	1.06	23.80	8.51		0.38	0.34	323	
	Approach		476	8.50	1.06	17.20	0.92		0.50	0.45	323	
T76-G-10	Intermediate		794	9.90	1.06	5.90	0.12		0.63	0.57	323	
	Military		873	10.30	1.06	2.30	0.12		0.71	0.64	323	
tes: 3g, 5, 7, 8, 12h												
	Idle (Taxi)		397	7.40	1.06	23.80	8.51		0.38	0.34	323	
	Approach		476	8.50	1.06	17.20	0.92		0.50	0.45	323	
T76-G-12	Intermediate		794	9.90	1.06	5.90	0.12		0.63	0.57	323	
	Military		857(C)	10.30	1.06	2.30	0.12		0.71	0.64	323	
4 2- 5 7 8 125												
tes: 3g, 5, 7, 8, 12h												
	Idle (Taxi)		238	7.40	1.06	23.80	8.51		0.38	0.34	323	
	Approach		476	8.50	1.06	17.20	0.92		0.50	0.45	323	
T76-G-418	Intermediate		794	9.90	1.06	5.90	0.12		0.63	0.57	323	
	Military		873	10.30	1.06	2.30	0.12		0.71	0.64	323	
otes: 3g, 5, 7, 8, 12h												
5, 0, 1, 0, 0												
	Idle (Taxi)		397	7.40	1.06	23.80	8.51		0.38	0.34	323	
	Approach		476	8.50	1.06	17.20	0.92		0.50	0.45	323	
T76-G-419	Intermediate		794	9.90	1.06	5.90	0.12		0.63	0.57	323	
	Military		857(C)	10.30	1.06	2.30	0.12		0.71	0.64	323	
otes: 3g, 5, 7, 8, 12h												
	Ground Idle		136	2.21	1.06	27.94	10.99		0.44	0.40	323	
	Flight Idle		141	2.84	1.06	29.08	8.97		0.41(C)	0.37(C)	323	
T400-CP-400	Cruise		279	4.66	1.06	1.79	0.00		0.36	0.32	323	
	Intermediate (Military)		406	5.91	1.06	0.00	0.00		0.25	0.22	323	
otes: 3a, 4a (for PM <sub>10</sub> and PM	Maximum	ing only) 5 1	1069 2h	11.51	1.06	0.00	0.22		0.28	0.25	323	
nes. 3a, 4a (101 F W <sub>10</sub> and F W	12.5 at 1 right lufe power sett	ing omy), 3, 1	211									
	Idle		362	4.15	1.06	8.35	0.10		1.58	1.42	323	
	Flight Idle		663	6.05	1.06	3.47	0.02		1.58	1.42	323	
T406-AD-400	Intermediate		948	7.87	1.06	1.82	0.02		1.58	1.42	323	
	Max Continuous		2507	18.03	1.06	0.29	0.01		1.58	1.42	323	
tes: 3f (this is the military de	signation of the AE1107C	engine) 8 12	d									
or (and is the minuty de		gc), 0, 12										
	Idle		432	5.36	1.06	10.46	0.54		0.12	0.11	323	
	Approach		348	5.36	1.06	10.46	0.54		0.21	0.19	323	
T700-GE-401, -401C	Climb out		443	5.60	1.06	10.11	0.53		0.46	0.41	323	
	Takeoff		442	5.59	1.06	10.15	0.53		0.53	0.48	323	

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emis	sion Factor	s (lb/1000 ll	b fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Ground Idle	4%	134	3.36	1.06	46.24	0.50	0.334	1.48	0.98	3234
	Flight Idle	56%	469	10.95	1.06	5.12	0.02	0.007	1.26	0.07	3234
T700-GE-700	Flight Max	82%	626	11.87	1.06	3.51	0.01	0.003	2.22	0.93	3234
	Overspeed	100%	725	11.43	1.06	2.81	0.01	0.007	2.61	1.21	3234
otes: 3c, 10, 12e											
, ,											
	Idle (Taxi)	7%	873	2.50	1.06	24.10	3.91		0.16	0.15	3234
	Approach	30%	1825	5.70	1.06	3.90	1.04		0.52	0.47	3234
TAY Mk611-8, -Mk620-15	Climb out	85%	5000	16.80	1.06	0.80	0.35		0.48	0.43	3234
	Takeoff	100%	6032	21.10	1.06	0.70	0.92		0.56	0.50	3234
otes: 3b, 5, 6, 8, 10, 12h											
0168. 30, 3, 0, 8, 10, 1211											
	Idle (Taxi)	7%	944	1.70	1.06	33.77	3.78		0.06	0.06	3234
	Approach	30%	2016	4.55	1.06	6.54	1.01		0.14	0.12	3234
TAY Mk650-15	Climb out	85%	5675	16.47	1.06	2.01	0.47		0.41	0.37	3234
	Takeoff	100%	6937	19.81	1.06	1.74	0.43		0.42	0.38	3234
21 5 5 0 10 121											
otes: 3b, 5, 6, 8, 10, 12h											
	Idle (Taxi)		873	2.30	1.06	72.00	71.30		0.01	0.01	3234
	Approach		2064	4.80	1.06	9.20	2.42		0.05	0.05	3234
TF30-P-3	Intermediate		4921	9.40	1.06	1.30	0.12		0.45	0.41	3234
	Military		6191	12.00	1.06	0.80	0.03		0.40	0.36	3234
	Afterburner		38413	3.10	1.06	4.06	0.01		0.15	0.14	3234
otes: 3g, 5, 7, 8, 12h											
	T	T						I		0.000	
	Idle (Taxi)	<75%	689	1.31	1.06	68.21	21.53		0.02(S)	0.02(S)	3234
	75% Thrust	75%	3550	6.68	1.06	6.31	3.40		0.12(S)	0.11(S)	3234
TF30-P-6B	Normal Rated	75-99%	4700	8.06	1.06	5.55	1.61		0.44(S)	0.40(S)	3234
	Intermediate (Military)	100%	6835	12.04	1.06	3.09	1.16		0.35( <b>S</b> )	0.32(S)	3234
otes: 3a, 4u (for PM <sub>10</sub> and PM <sub>2</sub>	2.5 at all power settings), 5	11 (assumes	100% thrust at	Intermediate	setting), 12	h					
	T		0.52	2.00	1.05	52.00	24.50		0.02	0.02	2224
	Idle (Taxi)		952 2064	3.00	1.06	53.00	34.50 3.68		0.02	0.02	3234 3234
TF30-P-7	Approach		2064 5714	6.10		11.50			0.12		
1 F3U-Y-/	Intermediate Military		7222	14.00 20.00	1.06	1.20	0.23		0.44	0.40	3234 3234
	Afterburner		38413	3.10	1.06	0.80 4.00	0.12		0.35	0.32	3234
otes: 3g, 5, 7, 8, 12h	Atterburier		30413	5.10	1.00	4.00	0.01		0.13	0.14	3234
	Idle (Taxi)		952	3.00	1.06	53.00	34.50		0.02	0.02	3234
	Approach		2064	6.10	1.06	11.50	3.68		0.12	0.11	3234
TF30-P-9	Intermediate		5714	14.00	1.06	1.20	0.23		0.44	0.40	3234
	Military		8730	20.00	1.06	0.80	0.12		0.35	0.32	3234
	Afterburner		54525	3.10	1.06	4.00	0.01		0.15	0.14	3234
otes: 3g, 5, 12h											
	Idle (Taxi)		1260	2.86	1.06	47.62	21.72		26.27	23.64	3234
	Approach		4562(C)	10.95( <b>C</b> )	1.06	1.70(C)	0.41( <b>C</b> )		24.88(C)	22.39( <b>C</b> )	3234
TF30-P-100	Intermediate		6650	20.00	1.06	0.71	0.41(C)		24.00	21.60	3234
			7120	28.01	1.06	0.71	0.12		8.34	7.51	3234
	Military										
	Military Afterburner		42850	4.47	1.06	24.80	2.30		5.36	4.82	3234

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	sion Factor	s (lb/1000 ll	fuel)		
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>
	Idle (Taxi)	<30%	827	4.00	1.06	100.00	88.44		0.51	0.46	323
	30%	30%	2003	7.00	1.06	36.20	12.54		0.82	0.74	32
TF30-P-103	75%	75%	4119	15.10	1.06	5.50	0.36		0.20	0.18	32
	100%	100%	5541	20.10	1.06	2.10	0.10		16.34	14.70	32
	Afterburner-1	>100%	14292	11.20	1.06	77.20	32.20		35.69(C)	31.84(C)	32
30, 4a (PM <sub>10</sub> and PM <sub>2.5</sub>	at afterburner setting only),	5, 6, 8, 10, 12	lc								
	Idle (Taxi)	5%	761	2.93	1.06	48.49	7.44	3.242	1.24	1.11	32
	Approach	23%	1727	6.19	1.06	20.73	2.35	1.279	1.52	1.37	32
TF30-P-109	Intermediate	47%	2921	9.58	1.06	5.17	0.80	0.072	1.64	1.47	32
	Military	99%	6263	23.63	1.06	0.71	0.87	0.023	0.92	0.82	32
	Afterburner-5	>99%	38460	4.89	1.06	6.19	2.50	0.034	0.51	0.46	32
31, 8, 12e											
	Idle (Taxi)		999	2.40	1.06	68.17	44.20		26.53	23.87	32
	75% rpm		1448	3.66	1.06	38.60	11.12		24.03	21.63	32
TF30-P-412A	90% rpm		3597	9.62	1.06	6.34	0.19		15.01	13.51	32
	Intermediate (Military)		7394	16.66	1.06	2.12	0.11		8.34	7.51	32
	Afterburner		40000	6.75	1.06	15.00	1.15		17.33	15.60	32
3a, 5, 12h	_										
	Idle (Taxi)	<30%	846	1.77	1.06	88.53	105.76		5.20	4.68	32
	Approach	30%	3797	7.30	1.06	9.01	4.36		13.98	12.59	32
TF33-P-3, -P-5	Climb out	85%	7323	9.00	1.06	1.80	0.46		14.00	12.60	32
11 33 1 3, 1 3	Takeoff	100%	9979	11.00	1.06	1.30	0.35		8.00	7.20	32
	Tukcon	10070	2217	11.00	1.00	1.50	0.55		0.00	7.20	32
3a, 5, 8, 11, 12h	•	•			•			•			
	Idle (Taxi)	4%	1093	0.78	1.06	134.96	5.32	4.640	6.13	3.80	32
	Approach	45%	4884	7.12	1.06	9.67	0.24	0.190	3.68	1.46	32
TF33-P-7	Intermediate	58%	6356	8.10	1.06	4.16	0.06	0.041	5.28	1.72	32
11001	Military	73%	8264	10.29	1.06	1.49	0.02	0.011	3.58	1.23	32
	,										
3c, 5, 12e											
	Idle (Taxi)		1120	1.39	1.06	95.06	90.91		4.98	4.48	32
	Approach		4140	6.37	1.06	5.24	1.37		3.55	3.20	32
TF33-P-9	Intermediate		8960	7.88	1.06	2.11	1.50		3.15	2.84	32
	Military		9630	12.08	1.06	0.00	0.55		3.67	3.30	32
26.5.0.12:	·										
3f, 5, 8, 12d											
	Idle (Taxi)		1108	1.50	1.06	136.96	131.16		6.13	5.52	32
	Approach		2794	6.22	1.06	14.60	3.62		5.46	4.91	32
TF33-P-100	Intermediate		8069	8.47	1.06	2.96	0.39		5.29	4.76	32
	Military		10856	11.49	1.06	1.19	0.25		2.93	2.64	32
26.0.121											
3f, 8, 12h											
	Idle (Taxi)	5%	1114	1.39	1.06	95.02	3.42	2.610	4.96	4.06	32
	Approach	49%	4737	6.37	1.06	5.24	0.11	0.087	3.55	1.66	32
TF33-P-102	Intermediate	59%	5782	7.88	1.06	2.11	0.06	0.032	3.15	1.42	32
	Military	75%	7561	12.08	1.06	0.00	0.02	0.003	2.52	1.02	32

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power I	Percent	Fuel Flow			Emiss	sion Factors	(lb/1000 ll	fuel)		
Aircraft Engine	Setting TI	hrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	CO	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)	7%	1065	1.80	1.06	117.03	106.96		4.98	4.48	323
	Approach	30%	3912	5.84	1.06	12.37	1.74		3.55	3.20	323
TF33-P-102A	Intermediate	70%	6985	8.74	1.06	2.01	0.95		3.15	2.84	323
	Military	100%	8756	12.39	1.06	0.45	0.53		3.67	3.30	323
es: 3f, 8, 11, 12h											
	TH (T) 3		000	1.00	1.05	05.05	00.01		4.00	4.40	222
	Idle (Taxi)		900	1.39	1.06	95.06	90.91		4.98	4.48	323
TF33-P-103	Approach Intermediate		3800 6240	6.37 7.88	1.06	5.24 2.11	1.37 1.50		3.55 3.15	3.20 2.84	323 323
11-55-1-105	Military		7440	12.08	1.06	0.00	0.55		3.67	3.30	323
	Wilitary		7440	12.06	1.00	0.00	0.55		3.07	3.30	32.
es: 3f, 5, 8, 12d											
	Idle (Taxi)		390	2.10	1.06	106.70	39.45		8.13( <b>S</b> )	3.60( <b>S</b> )	323
	Approach		920	5.70	1.06	16.30	2.19		6.21( <b>S</b> )	2.12( <b>S</b> )	323
TF34-GE-100	Intermediate		460	2.60	1.06	78.00	23.35		8.93( <b>S</b> )	6.95( <b>S</b> )	323
	Military		2710	10.70	1.06	2.20	0.12		2.66( <b>S</b> )	1.68( <b>S</b> )	32
es: 3g. 4v (PM <sub>10</sub> and PM <sub>2</sub> s	at all power settings), 5, 12h										
6, (=10 2)			100			1					
	Idle (Taxi)	7%	498	0.32	1.06	65.62	2.24	2.030	8.13	3.60	32:
TF34-GE-100A	Approach	28% 46%	933	3.09 5.61	1.06	27.92	1.44 0.13	1.340 0.087	6.21 8.93	2.12 6.95	32:
1F34-GE-100A	Intermediate Military	78%	1512 2628	9.11	1.06	8.88 3.94	0.13	0.087	2.66	1.68	32:
	Wilitary	7 0 70	2026	9.11	1.00	3.54	0.07	0.040	2.00	1.00	32.
es: 3c, 10, 12e											
	Idle (Taxi)	10%( <b>C</b> )	458	1.69	1.06	90,98	17.24		8.13( <b>S</b> )	3.60(S)	323
		30%( <b>C</b> )	1201(C)	2.98(C)	1.06	72.08(C)	13.51(C)		6.21( <b>S</b> )	2.12(S)	323
TF34-GE-400	**	70%( <b>C</b> )	2686(C)	5.57(C)	1.06	34.29(C)	6.05(C)		2.66(S)	1.68( <b>S</b> )	323
	Military 1	00%( <b>C</b> )	3800	7.51	1.06	5.95	0.45		2.66(S)	1.68( <b>S</b> )	323
es: 3i, 4v (PM <sub>10</sub> and PM <sub>2.5</sub> a	at all power settings), 5, 12h										
	Idle (Taxi)	7%	1448	3.37	1.06	58.43	3.44	2.590	2.80	2.49	32:
TENO OF 10	Approach	76%	10477	24.91	1.06	0.77	0.03	0.014	1.20	0.44	32:
TF39-GE-1C	Intermediate Military	87% 94%	12541 13862	28.16 32.66	1.06	1.53	0.03	0.010	0.89 1.18	0.37 0.77	32
	Military	9470	13602	32.00	1.00	1.29	0.03	0.014	1.10	0.77	32
es: 3c, 10, 12e											
	Idle (Taxi)		1032	1.50	1.06	119.00	105.80		0.15	0.14	32
	Approach		3492	6.80	1.06	10.20	2.53		0.36	0.32	32
TF41-A-1	Intermediate		5873	12.00	1.06	3.70	0.46		0.52	0.47	32
	Military		8413	21.00	1.06	1.80	0.23		0.67	0.60	32
es: 3g, 5, 12h											
G: - 1						1 .=					
	Idle (Taxi)	<30%	1047	4.00	1.06	176.00	114.54		0.65	0.59	32
	30%	30%	2704	8.90	1.06	45.00	11.62		0.73	0.66	32:
mm44 : -	75%	75%	5810	23.80	1.06	4.70	0.10		16.94	15.25	32
TF41-A-2		1000:	000	22	4 0 -	0.50	0.00			25 - :	
TF41-A-2	100%	100%	8086	32.90	1.06	3.20	0.09		28.60	25.74	32

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power	Percent	Fuel Flow			Emiss	sion Factor	s (lb/1000 ll	fuel)		
Aircraft Engine	Setting	Γhrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	СО	voc	HAP's	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi)		206	3.50	1.06	47.80	8.54		0.13(S)	0.12(S)	3234
	Approach		571	6.90	1.06	15.56	1.41		0.13( <b>S</b> )	0.12(S)	323
TFE731-2, -2A	Intermediate		1476	16.08	1.06	1.62	0.07		0.09(S)	0.08( <b>S</b> )	323
	Military		1786	19.15	1.06	1.13	0.06		0.09(S)	0.08( <b>S</b> )	3234
otes: 3f, 4w (PM <sub>10</sub> and PM <sub>2.5</sub>	at all power settings), 12h							l			
	Idle (Taxi)	7%	190	2.82	1.06	58.60	23.05		0.13( <b>S</b> )	0.12( <b>S</b> )	3234
	Approach	30%	532	5.90	1.06	22.38	4.90		0.09(S)	0.08(S)	323
TFE731-2-2B	Climb out	85%	1373	13.08	1.06	2.03	0.15		0.09( <b>S</b> )	0.08( <b>S</b> )	323
	Takeoff	100%	1627	15.25	1.06	1.39	0.13		0.08(S)	0.08( <b>S</b> )	323
otes: 3b, 4w (PM <sub>10</sub> and PM <sub>2.5</sub>	for all power settings), 5, 6, 8	, 10, 12h									
	T T		***			1 1	10.10	ı		0.45400	
	Idle (Taxi)	7%	206	3.72	1.06	47.70	10.40		0.13(S)	0.12(S)	323
TFE731-3	Approach	30% 85%	571 1476	6.92 16.02	1.06	15.56 1.62	0.08		0.09( <b>S</b> ) 0.09( <b>S</b> )	0.08( <b>S</b> ) 0.08( <b>S</b> )	3234
1FE/31-3	Climb out Takeoff	100%	1476	19.15	1.06	1.62	0.08		0.09( <b>S</b> )	0.08( <b>S</b> )	323
01.4 (01.4 170.4		. 10 121							, ,		
tes: 3b, 4w (PM <sub>10</sub> and PM <sub>2.5</sub>	for all power settings), 5, 6, 8	3, 10, 12h									
	Idle (Taxi)	<40%	25	0.39	1.06	1293.70	78.29		60.00( <b>S</b> )	54.00(S)	323
	Approach	40%	99	1.39	1.06	1261.57	15.39		47.95( <b>S</b> )	43.16( <b>S</b> )	323
TIO-540-J2B2		75-100%	205	0.24	1.06	1470.90	19.12		40.00( <b>S</b> )	36.00( <b>S</b> )	323
	Takeoff	100%	260	0.36	1.06	1442.05	14.21		20.00(S)	18.00( <b>S</b> )	323
otes: 3a, 4b (PM <sub>10</sub> and PM <sub>2.5</sub>	at all power settings), 5, 11, 1	2h									
	Idle (Taxi)	<30%	105	2.57	1.06	64.10	104.92		2.68(S)	2.41(S)	3234
	Approach	30%	220	8.27	1.06	16.59	3.08		2.40(S)	2.16(S)	323
TPE331-2	Climb out	90%	372	9.92	1.06	1.37	0.46		1.47(S)	1.32(S)	323
	Takeoff	100%	405	10.22	1.06	0.94	0.45		1.75(S)	1.57( <b>S</b> )	323
otes: 3a, 4y (PM <sub>10</sub> and PM <sub>2.5</sub>	at all power settings), 5, 11, 1	2h									
	L41- (T:)	<30%	112	2.86	1.00	(1.52	90.97		2.68	2.41	323
	Idle (Taxi) Approach	30%	250	9.92	1.06	61.52 6.96	0.74		2.68	2.41	323
TPE331-3	Climb out	90%	409	11.86	1.06	0.98	0.74		1.47	1.32	323
1112331 3	Takeoff	100%	458	12.36	1.06	0.76	0.17		1.75	1.57	323
otes: 3a, 5, 11, 12h											
								1			
	Idle (Taxi)	7%	1825	5.96	1.06	10.50	0.16		0.04	0.04	323
TF + 552 61	Approach	30%	4762	11.37	1.06	0.66	0.05		0.05	0.05	323
Trent 553-61	Climb out Takeoff	85% 100%	13730 16746	30.98 40.55	1.06	0.44	0.01		0.06	0.05	323 323
	Takeon	100%	10740	40.55	1.00	0.16	0.02		0.00	0.03	323
tes: 3b, 5, 6, 8, 10, 12h			'					•	•		
	Idle (Taxi)	7%	1825	6.09	1.06	9.96	0.15		0.04	0.04	323
	Approach	30%	4921	11.68	1.06	0.54	0.05		0.05	0.05	323
Trent 556-61	Climb out	85%	14524	33.25	1.06	0.38	0.01		0.06	0.05	323
	Takeoff	100%	17778	44.77	1.06	0.17	0.02		0.06	0.05	323
tes: 3b, 5, 6, 8, 10, 12h											
103. 30, 3, 0, 0, 10, 1211											

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power Pe	rcent	Fuel Flow	Emission Factors (lb/1000 lb fuel)								
Aircraft Eligine	Setting Thr	ust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	со	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e	
	Idle (Taxi)	7%	2143	4.52	1.06	20.22	2.17		0.05	0.05	3234	
	**	30%	6429	10.01	1.06	1.02	0.01		0.06	0.05	3234	
Trent 768		35%	19286	24.66	1.06	0.15	0.01		0.08	0.07	323	
	Takeoff 10	00%	26572	31.25	1.06	0.18	0.00		0.07	0.06	3234	
otes: 3b, 5, 6, 8, 10, 12h	1											
	III (T. ')	70/	2222	4.71	1.06	17.04	1.60		0.05	0.05	222	
		7% 30%	2222 6746	4.71 10.30	1.06 1.06	17.94 0.89	1.68 0.01		0.05	0.05	323 323	
Trent 772	**	35%	20476	26.44	1.06	0.89	0.00		0.08	0.03	323	
Tiche 772		00%	25397	34.38	1.06	0.20	0.00		0.07	0.06	323	
	Tukcon	0070	23371	54.50	1.00	0.20	0.00		0.07	0.00	323	
tes: 3b, 5, 6, 8, 10, 12h												
	Idle (Taxi)	7%	2222	4.64	1.06	19.66	2.05		0.05	0.05	323	
		30%	6984	10.43	1.06	0.86	0.00		0.05	0.05	323	
Trent 875		35%	20397	26.55	1.06	0.16	0.00		0.06	0.05	323	
	Takeoff 10	00%	24603	33.32	1.06	0.19	0.00		0.06	0.05	323	
otes: 3b, 5, 6, 8, 10, 12h												
	VII (T)	<b>5</b> 0/	2222	1.77	1.05	10.42	1.50		0.05	0.05	222	
		7%	2222	4.75	1.06	18.42	1.78		0.05	0.05	323	
Trent 877		30% 35%	7143 21111	10.59 27.59	1.06 1.06	0.80	0.00		0.05	0.05	323 323	
TICIL 677		00%	25476	34.76	1.06	0.10	0.00		0.05	0.05	323	
	1 akeon 1	0070	23470	34.70	1.00	0.20	0.00		0.03	0.03	323	
tes: 3b, 5, 6, 8, 10, 12h												
	Idle (Taxi)	7%	2460	5.04	1.06	15.19	1.15		0.05	0.04	323	
	Approach 3	30%	7698	11.07	1.06	0.65	0.00		0.05	0.05	323	
Trent 884	Climb out 8	35%	22937	30.63	1.06	0.18	0.00		0.06	0.05	323	
	Takeoff 1	00%	28254	40.05	1.06	0.24	0.00		0.05	0.05	323	
otes: 3b, 5, 6, 8, 10, 12h												
	T	<b>5</b> 0/	2201		105	12.05	0.01	1	0.05	0.04	222	
		7%	2381 7937	5.33	1.06	13.07	0.81		0.05	0.04	323 323	
Trent 892		30%		11.58 33.30	1.06	0.57	0.00		0.05	0.05	323	
11em 892		35% 00%	24603 31032	45.70	1.06	0.20	0.00		0.06	0.05	323	
tes: 3b, 5, 6, 8, 10, 12h												
	Idle (Taxi)	7%	2619	5.11	1.06	14.71	1.02		0.05	0.04	323	
		30%	8333	11.39	1.06	0.54	0.00		0.05	0.05	323	
Trent 895		35%	25318	34.29	1.06	0.19	0.00		0.06	0.05	323	
	Takeoff 10	00%	31984	47.79	1.06	0.27	0.02		0.05	0.05	323	
tes: 3b, 5, 6, 8, 10, 12h								1				
	Idle (Taxi)	7%	2381	5.10	1.06	15.10	0.23		0.04	0.04	323	
	` '	30%	5556	11.40	1.06	1.40	0.23		0.04	0.04	323	
Trent 970-84	11	35%	17460	29.10	1.06	0.20	0.00		0.05	0.05	323	
110111 770 01		00%	20638	37.20	1.06	0.40	0.00		0.05	0.05	323	
tes: 3b, 5, 6, 8, 10, 12h												

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

Aircraft Engine	Power Perce	ent Fuel Flow			Emis	sion Factor	s (lb/1000 l	b fuel)		
Aircrait Engine	Setting Thrus	t/hp Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	со	VOC	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e
	Idle (Taxi) 7%	2143	5.00	1.06	15.94	0.28		0.04	0.04	3234
	Approach 309	6 5952	11.80	1.06	1.40	0.00		0.05	0.05	3234
Trent 972-84	Climb out 859	6 17699	29.60	1.06	0.30	0.00		0.06	0.05	3234
	Takeoff 100	% 21349	38.80	1.06	0.40	0.00		0.05	0.05	3234
otes: 3b, 5, 6, 8, 10, 12h										
	Idle (Taxi) 7%		5.40	1.06	8.73	0.07		0.04	0.04	3234
T . 1000 A	Approach 309		13.29	1.06	0.77	0.00		0.06	0.05	3234
Trent 1000-A	Climb out 859		35.87	1.06	0.45	0.00		0.05	0.05	323
	Takeoff 100	% 18111	46.67	1.06	0.53	0.00		0.05	0.04	323
otes: 3b, 5, 6, 8, 10, 12h		'		•	•		•			
	Idle (Taxi) 7%	1952	5.66	1.06	7.66	0.05		0.04	0.04	3234
	Approach 309		13.86	1.06	0.68	0.00		0.04	0.04	3234
Trent 1000-C	Climb out 859		40.33	1.06	0.48	0.00		0.05	0.05	3234
	Takeoff 100		53.54	1.06	0.51	0.00		0.05	0.04	3234
otes: 3b, 5, 6, 8, 10, 12h										
					1					
	Idle (Taxi) 7%		5.06	1.06	10.63	0.10		0.04	0.04	323
Trent 1000-E	Approach 309		12.54	1.06	0.92	0.00		0.05	0.05	3234
1 rent 1000-E	Climb out 859 Takeoff 100		30.55 39.17	1.06	0.43	0.00		0.06	0.05	323 323
	Takeon 100	% 13929	39.17	1.06	0.47	0.00		0.05	0.03	323
otes: 3b, 5, 6, 8, 10, 12h					•		•			
	Idle (Taxi) 7%	12	1.91	1.06	592.17	159.00		60.00( <b>S</b> )	54.00( <b>S</b> )	3234
	Approach 309	6 61	3.77	1.06	995.08	13.01		47.95( <b>S</b> )	43.16(S)	3234
TSIO-360-C	Climb out 859	6 100	4.32	1.06	960.80	10.98		40.00(S)	36.00(S)	3234
	Takeoff 100	% 133	2.71	1.06	1081.95	10.55		20.00(S)	18.00( <b>S</b> )	3234
otes: 3a, 4b (PM <sub>10</sub> and PM <sub>2.5</sub>	at all power settings), 5, 10, 12h									
	T. I. (T. )	004	5.01	100	1	0.05		0.12(0)	0.12(0)	222
	Idle (Taxi) 7%		5.91 13.45	1.06	7.76	0.25		0.13(S)	0.12(S)	3234
V2500-A1	Approach 309 Climb out 859		30.82	1.06 1.06	0.77 0.55	0.17		0.20(S) 0.20(S)	0.18( <b>S</b> ) 0.18( <b>S</b> )	3234
V2300-A1	Takeoff 100		37.13	1.06	0.55	0.13		0.20(S) 0.14(S)	0.13(S)	3234
otos: 2h Av (PM and PM	at all power settings), 5, 6, 8, 10, 12	20								
otes: 36, 4x (PM <sub>10</sub> and PM <sub>2.5</sub> )	at an power settings), 5, 6, 8, 10, 12	ia								
	Taxi (Idle) 7%		4.50	1.06	13.42	0.12		0.15	0.13	323
	Approach 309		8.70	1.06	2.60	0.07		0.19	0.17	323
V2522-A5	Climb out 859		20.80	1.06	0.67	0.05		0.24	0.21	323
	Takeoff 100	% 7706	24.50	1.06	0.57	0.05		0.16	0.14	3234
tes: 3b, 5, 6, 8, 10, 12a		l		l .	1		l		<u>I</u>	-
	Idle (Taxi) 7%	976	4.70	1.06	12.64	0.12		0.15	0.13	323
	Approach 309		9.00	1.06	2.37	0.07		0.19	0.18	323
V2524-A5	Climb out 859		22.00	1.06	0.63	0.05		0.22	0.20	323
	Takeoff 100		26.20	1.06	0.54	0.05		0.15	0.14	3234
otes: 3b, 5, 6, 8, 10, 12a										

Table 2-8. Criteria Pollutants, Ozone Precursors, and Total HAPs (cont.)

4. G.E.	Power	Percent	Fuel Flow									
Aircraft Engine	Setting	Thrust/hp	Rate (lb/hr)	NO <sub>X</sub>	SO <sub>X</sub> <sup>1</sup>	со	voc	HAP's	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub> e <sup>2</sup>	
	Taxi (Idle)	7%	1016	4.70	1.06	12.43	0.12		0.15	0.13	3234	
	Approach	30%	2532	8.90	1.06	2.44	0.07		0.20	0.18	3234	
V2525-D5	Climb out	85%	6984	22.30	1.06	0.62	0.05		0.23	0.20	3234	
	Takeoff	100%	8357	26.50	1.06	0.53	0.05		0.15	0.14	3234	
Notes: 3b, 5, 6, 8, 10, 12a											1	
	Idle (Taxi)	7%	1018	4.70	1.06	12.43	0.12		0.15	0.13	3234	
	Approach	30%	2538	8.90	1.06	2.44	0.07		0.20	0.18	3234	
V2527-A5	Climb out	85%	7001	22.30	1.06	0.62	0.05		0.23	0.20	3234	
	Takeoff	100%	8378	26.50	1.06	0.53	0.05		0.15	0.14	3234	
Notes: 3b, 5, 6, 8, 10, 12a												
	Taxi (Idle)	7%	1063	4.90	1.06	11.53	0.12		0.13	0.12	3234	
	Approach	30%	2802	9.60	1.06	2.03	0.07		0.20	0.18	3234	
V2528-D5	Climb out	85%	7905	25.10	1.06	0.56	0.05		0.20	0.18	3234	
	Takeoff	100%	9595	30.50	1.06	0.47	0.05		0.14	0.13	3234	
Notes: 3b, 5, 6, 8, 10, 12a												
	T	50/	1005	. oo	1.05	10.05	0.12		0.10	0.12	2224	
	Idle (Taxi)	7%	1095	5.00	1.06	10.95	0.12		0.13	0.12	3234	
*******	Approach	30%	2992	10.10	1.06	1.81	0.06		0.20	0.18	3234	
V2530-A5	Climb out	85%	8548	27.10	1.06	0.52	0.05		0.19	0.17	3234	
	Takeoff	100%	10564	33.80	1.06	0.45	0.05		0.14	0.13	3234	
Notes: 3b, 5, 6, 8, 10, 12a							I	I		I		
	T = 1.54											
	Taxi (Idle)	7%	1082	5.24	1.06	9.32	0.12		0.13	0.12	3234.00	
	Approach	30%	3096	10.83	1.06	1.65	0.06		0.21	0.19	3234.00	
V2533-A5	Climb out	85%	9085	28.67	1.06	0.52	0.05		0.18	0.17	3234.00	
	Takeoff	100%	11318	36.48	1.06	0.46	0.05		0.13	0.12	3234.00	
Notes: 3b, 5, 6, 8, 10, 12a						1	I			1		

Notes for Table 2-8 on the following page.

#### Notes for Table 2-8:

- 1. The Emission Factors for Sulfur assume JP-8 used as the fuel. The value is a national average for sulfur in JP-8.
- 2. The Greenhouse gas emission factors (CO<sub>2</sub>e) are the total of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O with individual emission factors of 9.75kg/gal, 0.405g/gal, and 0.081 g/gal respectively. CH<sub>4</sub> and N<sub>2</sub>O were converted to equivalent CO<sub>2</sub> (CO<sub>2</sub>e) using a global warming potential (GWP) value of 25 for CH<sub>4</sub> and 298 for N<sub>2</sub>O. These were added to CO<sub>2</sub> and are presented as the CO<sub>2</sub>e emission factors in units of lb/1000 lb fuel. JP-8 with a density of 6.67lb/gal was used for unit conversion.
- 3. The Emission factors were found in the following sources:
  - a. SOURCE: Air Pollutant Emission Factors for Military and Civil Aircraft, EPA-450/3-78-117, October 1978.
  - b. SOURCE: Airport Air Quality Manual, International Civil Aviation Organization, 2011.
  - c. SOURCE: Aircraft Engine and Auxiliary Power Unit Emissions Volumes I-III, March 1999, IERA-RS-BR-TR-1999-0006.
  - d. SOURCE: Aircraft Engine and Auxiliary Power Unit Emissions Testing Final Report Addendum F119-PW-100 June 2002, IERA-RS-BR-SR-2002-0006.
  - e. SOURCE: Engine and Hush House Emissions from a F100-PW-200 Jet Engine Tested at Kelly AFB, TX Final Volume I February 1997.
  - f. SOURCE: Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations January 2002, IERA-RS-BR-SR-2001-0010.
  - g. SOURCE: Aircraft Engine Emissions Estimator, AFESC, September 1985.
  - h. SOURCE: Collection and Assessment of Aircraft Emissions, US EPA, October 1971.
  - i. SOURCE: Summary Tables of Gaseous and Particulate Emissions from Aircraft Engines, Aircraft Environmental Support Office.
  - j. SOURCE: Clean Air Act Emission Testing of the T-38C Aircraft Engines September 2002, IERA-RS-BR-SR-2003-001.
  - k. SOURCE: PT6A-68 Emissions Measurement Program Summary, September 2002, IERA-RS-BR-SR-2003-0003.
  - SOURCE: Engine and Hush House Emissions from a TF30-P-109 Jet Engine Tested at Canon AFB, NM Final Volume I June 1996.
  - m. SOURCE: Air Emissions Factor Guide to Air Force Mobile Sources, December 2009.
  - n. SOURCE: Engine and Hush House Emissions from a F100-PW-100 Jet Tested at Langley Air Force Base, VA, November 1996.
  - o. SOURCE: Aircraft Emissions Characterization: TF41-A2, TF30-P-103, and TF30-P109 Engines, December 1987.
- 4. Surrogate data was used for this engine. The surrogate data was found in the following sources:
  - a. Data was calculated using values provided in the source document.
  - b. IO-360-D
  - c. J85-GE-13
  - d. F100-PW-220
  - e. F101-GE-102
  - f. F103-GE-100
  - g. F110-GE-100
  - h. PW2040
  - i. J52-P-408
  - j. J57-P-19W
  - k. J85-GE-5A
  - l. PT6A-38
  - m. T53-L-13
  - n. T56-A-15
  - o. T58-GE-5
  - p. T64-GE-100
  - *q*. TF30-P-7
  - r. TF34-GE-100A
  - s. LF507-1F
  - 5. Source Document provided emission factors for total hydrocarbons (THC) or non-methane total organic gas (NMTOG). These values converted to volatile organic compounds (VOC's) using the following equations: VOC=1.15\*THC or VOC=NMOG\*0.99 based on the document Recommended Best Practice for Quantifying Speciated Organic Gas Emissions from Aircraft Equipped with Turbofan, Turbojet, and Turboprop Engines.
- 6. PM data calculated using smoke numbers and the ICAO method. The PM calculated was assumed to be PM<sub>10</sub>.

- 7. PM reported in the source document was assumed to be  $PM_{10}$ .
- 8. PM<sub>2.5</sub> calculated at 90% of PM<sub>10</sub>.
- 9. For at least one setting, the emission factors reported are an average of values provided in the source document.
- 10. Emission factors calculated and validated 6/1/2012.
- 11. Percent thrust is an estimate based on tables provided in the source document.
- 12. Fuel used for emissions testing:
  - a. Jet A
  - *b*. Jet A-1
  - *c*. JP-4
  - d. JP-5
  - e. JP-8
  - f. JP-8+100
  - g. Unknown, but probably Jet A
  - h. No data on fuel used in tests
- 13. F404-GE-F1D2 is a non-afterburning version of the F404-GE-400 and has the same emissions (without the afterburning setting) as the F400-GE-400 engine.
- "(S)" Indicates that this emission factor is from a recommended surrogate engine. See note 4 for details.
- "(C)" Indicates this value was calculated using data provided by the source document.
- "---" Indicates No Data Available

# 2.2 ISSUE II: Table 2-9 VOC and HAP Emission Factors for Select Engines contained data suspected of lab contamination during testing.

RESOLUTION: Removed data containing suspected lab contaminants.

CORRECTION: See tables on following pages

Table 2-9. VOC and HAP Emission Factors for Select Engines

# F100-PW-100

	Pov	wer Setting	Idle	Approach	Intermediate	Military	Afterburner-5		
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	1127	2765	7685	10996	54007		
	Percent	Thrust/hp <sup>1</sup>	3%	13%	45%	100%	134%		
Compound Name	CAS Number	HAP	Emission Factors (lb/1000lb fuel burned)						
Acetaldehyde	75-07-0	X	2.35E-01	1.50E-01	1.00E-02	1.00E-02	1.00E-02		
Acrolein	107-02-8	X	1.11E-01	6.00E-02	ND	ND	ND		
Benzaldehyde	100-52-7								
Benzene	71-43-2	X	4.50E-02	2.45E-03	5.25E-04	5.01E-04	2.85E-04		
1,3-Butadiene	106-99-0	X	2.93E-02	ND	ND	ND	ND		
2-Butanone (MEK)	78-93-3		9.00E-03	2.00E-02	0.00E+00	0.00E+00	0.00E+00		
Crotonaldehyde	4170-30-3		3.40E-02	2.00E-02	ND	ND	ND		
Ethylbenzene	100-41-4	X	5.93E-03	4.44E-04	ND	3.99E-04	8.38E-05		
Formaldehyde	50-00-0	X	8.61E-01	6.10E-01	2.00E-02	1.00E-02	1.00E-02		
Hexanal	66-25-1		2.50E-02	3.00E-02	3.00E-02	1.00E-02	0.00E+00		
Naphthalene	91-20-3	X	9.50E-02	7.49E-04	4.91E-04	3.43E-04	5.40E-04		
Phenol	108-95-2	X	3.99E-02	ND	ND	ND	3.38E-03		
Propanal	123-38-6	X	3.90E-02	2.00E-02	1.00E-02	4.00E-02	0.00E+00		
Styrene	100-42-5	X	4.09E-03	ND	ND	ND	ND		
Toluene	108-88-3	X	2.20E-02	1.73E-03	9.55E-04	9.24E-04	2.98E-04		
m,p-Xylene	1330-20-7	X	4.09E-02	6.15E-03	1.61E-03	3.59E-03	7.58E-04		
o-Xylene	95-47-6	X	1.01E-02	1.20E-03	3.09E-04	9.60E-04	1.84E-04		

Notes for F100-PW-100

<sup>1.</sup> Data obtained from Engine and Hush House Emissions from F100-PW-100 Jet Engine Tested at Langley Air Force Base, VA Volumes I-III, November 1996

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

**Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)** 

# F100-PW-200

	Pov	wer Setting	Idle	Approach	Intermediate	Military	Afterburner-5		
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	1006	3251	5651	8888	40123		
	Percent	Thrust/hp <sup>1</sup>	3%	13%	45%	100%	134%		
Compound Name	CAS Number	HAP		Emission Factors (lb/1000lb fuel burned)					
Acetaldehyde	75-07-0	X	2.41E-01	ND	7.00E-03	1.30E-02	1.60E-02		
Acrolein	107-02-8	X	8.40E-02	ND	ND	ND	ND		
Benzaldehyde	100-52-7		ND	ND	ND	ND	ND		
Benzene	71-43-2	X	4.70E-02	3.87E-04	1.89E-04	4.90E-04	1.82E-04		
1,3-Butadiene	106-99-0	X	1.04E-02	ND	ND	ND	ND		
2-Butanone (MEK)	78-93-3		4.00E-02	ND	7.00E-03	6.00E-03	8.00E-03		
Crotonaldehyde	4170-30-3		3.20E-02	ND	ND	ND	ND		
Ethylbenzene	100-41-4	X	2.99E-03	1.93E-04	2.70E-04	3.44E-04	4.01E-05		
Formaldehyde	50-00-0	X	7.77E-01	ND	ND	2.00E-03	2.00E-02		
Hexanal	66-25-1		ND	ND	ND	ND	ND		
Naphthalene	91-20-3	X	3.42E-02	2.13E-04	3.96E-04	4.01E-04	4.12E-04		
Phenol	108-95-2	X	1.35E-02	ND	ND	2.68E-04	1.04E-03		
Propanal	123-38-6	X	4.90E-02	ND	8.00E-03	6.00E-03	7.00E-03		
Styrene	100-42-5	X	5.02E-04	ND	2.78E-04	ND	ND		
Toluene	108-88-3	X	1.65E-02	7.62E-04	4.34E-04	1.08E-03	8.75E-04		
m,p-Xylene	1330-20-7	X	1.47E-02	1.40E-03	1.43E-03	2.11E-03	2.59E-04		
o-Xylene	95-47-6	X	3.61E-03	2.81E-04	3.51E-04	4.73E-04	5.80E-05		

Notes for F100-PW-200 Engine:

<sup>1.</sup> Data obtained from Engine and Hush House Emissions from F100-PW-200 Jet Engine Tested at Kelly Air Force Base, TX Volumes I-III, February 1997

<sup>&</sup>quot;X" Indicates that compound is a HAP

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

F101-GE-102

	Pov	wer Setting	Idle	Approach	Intermediate	Military	Afterburner-1
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	1117	4533	6557	7828	15314
	Percent	Thrust/hp <sup>1</sup>	5%	47%	66%	77%	106%
Compound Name	CAS Number	HAP		<b>Emission Fac</b>	tors (lb/1000ll	b fuel burned)	
Acetaldehyde	75-07-0	X	ND	ND	ND	ND	1.77E-02
Acrolein	107-02-8	X	ND	ND	ND	ND	8.23E-02
Benzaldehyde	100-52-7		ND	ND	ND	1.93E-03	4.98E-02
Benzene	71-43-2	X	1.18E-02	7.89E-04	1.32E-03	5.48E-03	2.28E-01
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		2.18E-03	ND	ND	ND	3.30E-02
Crotonaldehyde	4170-30-3		ND	ND	ND	ND	3.59E-02
Ethylbenzene	100-41-4	X	ND	ND	ND	ND	8.60E-02
Formaldehyde	50-00-0	X	1.04E-01	5.12E-03	4.64E-03	4.43E-03	3.89E-02
Hexanal	66-25-1		ND	ND	ND	ND	1.80E-02
Naphthalene	91-20-3	X	1.79E-03	AA	ND	ND	1.27E-01
Phenol	108-95-2	X	2.29E-03	1.22E-03	ND	ND	2.71E-02
Propanal	123-38-6	X					
Styrene	100-42-5	X	1.08E-03	ND	3.36E-04	ND	1.21E-02
Toluene	108-88-3	X	5.55E-03	1.50E-03	1.69E-03	1.29E-03	1.26E-01
m,p-Xylene	1330-20-7	X	9.22E-04	4.34E-04	6.65E-04	2.45E-03	1.55E-01
o-Xylene	95-47-6	X	ND	ND	ND	ND	6.90E-02

Notes for F101-GE-102 Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

F108-CF-100

	Pov	wer Setting	Idle	Approach	Intermediate	Military		
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	1136	2547	5650	6458		
	Percent	Thrust/hp <sup>1</sup>	9%	30%	70%	78%		
Compound Name	CAS Number	HAP	Emission Factors (lb/1000lb fuel burned)					
Acetaldehyde	75-07-0	X	AA	ND	ND	ND		
Acrolein	107-02-8	X	ND	ND	ND	ND		
Benzaldehyde	100-52-7		ND	ND	ND	4.09E-03		
Benzene	71-43-2	X	1.39E-02	3.39E-03	8.30E-04	5.10E-04		
1,3-Butadiene	106-99-0	X						
2-Butanone (MEK)	78-93-3		5.35E-03	ND	ND	ND		
Crotonaldehyde	4170-30-3		ND	ND	ND	ND		
Ethylbenzene	100-41-4	X	6.84E-04	5.53E-04	ND	ND		
Formaldehyde	50-00-0	X	9.51E-02	1.50E-02	5.58E-03	7.01E-03		
Hexanal	66-25-1		ND	9.66E-03	ND	ND		
Naphthalene	91-20-3	X	2.90E-03	AA	ND	ND		
Phenol	108-95-2	X	ND	ND	ND	ND		
Propanal	123-38-6	X						
Styrene	100-42-5	X	1.48E-03	ND	ND	ND		
Toluene	108-88-3	X	8.97E-03	6.23E-03	1.42E-03	1.11E-03		
m,p-Xylene	1330-20-7	X	1.65E-03	1.61E-03	5.42E-04	3.36E-04		
o-Xylene	95-47-6	X	ND	ND	ND	ND		

Notes for F108-CF-100 Engine

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

#### F110-GE-100

	Pov	wer Setting	Idle	Approach	Intermediate	Military	Afterburner-1		
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	1111	5080	7332	11358	18088		
	Percent	Thrust/hp <sup>1</sup>	3%	44%	66%	100%	113%		
Compound Name	CAS Number	HAP	Emission Factors (lb/1000lb fuel burned)						
Acetaldehyde	75-07-0	X	6.62E-03	ND	1.65E-04	1.44E-04	1.24E-02		
Acrolein	107-02-8	X	ND	ND	ND	ND	3.90E-02		
Benzaldehyde	100-52-7		3.48E-02	ND	4.26E-03	3.06E-03	7.13E-02		
Benzene	71-43-2	X	2.93E-02	1.77E-03	1.59E-03	1.61E-03	1.88E-01		
1,3-Butadiene	106-99-0	X							
2-Butanone (MEK)	78-93-3		2.44E-03	ND	ND	4.55E-04	2.02E-02		
Crotonaldehyde	4170-30-3		ND	ND	ND	ND	6.08E-02		
Ethylbenzene	100-41-4	X	2.00E-03	3.93E-04	3.68E-04	1.69E-04	4.47E-02		
Formaldehyde	50-00-0	X	1.01E-01	1.00E-02	1.94E-02	1.53E-02	1.53E-02		
Hexanal	66-25-1		ND	ND	ND	ND	1.14E-02		
Naphthalene	91-20-3	X	3.31E-03	AA	AA	3.31E-04	9.73E-02		
Phenol	108-95-2	X	2.95E-03	ND	ND	ND	6.63E-02		
Propanal	123-38-6	X							
Styrene	100-42-5	X	3.69E-03	2.98E-04	4.91E-04	2.65E-04	5.71E-03		
Toluene	108-88-3	X	1.10E-02	1.34E-03	1.90E-03	7.41E-04	1.40E-01		
m,p-Xylene	1330-20-7	X	2.84E-03	8.26E-04	9.70E-04	3.38E-04	6.05E-02		
o-Xylene	95-47-6	X	1.38E-03	2.98E-04	ND	1.69E-04	2.84E-02		

Notes for F110-GE-100 Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

F117-PW-100

	Pov	wer Setting	Idle	Approach	Intermediate				
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	978	4645	10408				
	Percent	Thrust/hp <sup>1</sup>	4%	31%	68%				
Compound Name	CAS Number	HAP		Emission Factors (lb/1000lb fuel burned)					
Acetaldehyde	75-07-0	X	1.20E-02	ND	ND				
Acrolein	107-02-8	X	ND	ND	ND				
Benzaldehyde	100-52-7		ND	3.16E-03	3.68E-03				
Benzene	71-43-2	X	2.25E-02	8.90E-04	6.25E-04				
1,3-Butadiene	106-99-0	X							
2-Butanone (MEK)	78-93-3		ND	ND	ND				
Crotonaldehyde	4170-30-3		1.20E-02	ND	ND				
Ethylbenzene	100-41-4	X	2.82E-03	ND	ND				
Formaldehyde	50-00-0	X	2.36E-01	1.65E-02	9.50E-03				
Hexanal	66-25-1		ND	ND	ND				
Naphthalene	91-20-3	X	2.39E-03	ND	ND				
Phenol	108-95-2	X	3.79E-03	ND	ND				
Propanal	123-38-6	X							
Styrene	100-42-5	X	1.55E-03	ND	ND				
Toluene	108-88-3	X	6.68E-03	1.41E-03	1.12E-03				
m,p-Xylene	1330-20-7	X	2.29E-03	6.21E-04	5.47E-04				
o-Xylene	95-47-6	X	9.80E-04	ND	ND				

Notes for F117-PW-100 Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

# F118-GE-100

	Pov	wer Setting	Idle	Approach	Intermediate	Military				
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	1097	3773	6350	10887				
	Percent	Thrust/hp <sup>1</sup>								
Compound Name	CAS Number	HAP		Emission Factors (lb/1000lb fuel burned)						
Acetaldehyde	75-07-0	X	7.86E-03	ND	ND	ND				
Acrolein	107-02-8	X	ND	ND	ND	ND				
Benzaldehyde	100-52-7		6.59E-03	1.59E-03	1.65E-03	1.94E-03				
Benzene	71-43-2	X	2.70E-02	8.58E-04	3.71E-04	3.38E-04				
1,3-Butadiene	106-99-0	X								
2-Butanone (MEK)	78-93-3		3.01E-03	ND	ND	ND				
Crotonaldehyde	4170-30-3		ND	ND	ND	ND				
Ethylbenzene	100-41-4	X	1.23E-03	3.72E-04	ND	ND				
Formaldehyde	50-00-0	X	1.80E-01	1.22E-02	1.17E-02	6.55E-03				
Hexanal	66-25-1		ND	ND	ND	ND				
Naphthalene	91-20-3	X	AA	ND	ND	ND				
Phenol	108-95-2	X	1.20E-03	ND	ND	ND				
Propanal	123-38-6	X								
Styrene	100-42-5	X	2.25E-03	ND	ND	ND				
Toluene	108-88-3	X	9.88E-03	1.35E-03	2.98E-04	3.85E-04				
m,p-Xylene	1330-20-7	X	3.82E-03	1.47E-03	2.87E-04	2.05E-04				
o-Xylene	95-47-6	X	1.43E-03	4.98E-04	ND	ND				

Notes for F118-GE-100 Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

F119-PW-100

	Pov	wer Setting	Idle	Approach	Intermediate	Military	Afterburner
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	1377	2740	10110	18612	50170
	Percent	Thrust/hp <sup>1</sup>	10%	20%	70%	100%	150%
Compound Name	CAS Number	HAP		<b>Emission Fac</b>	tors (lb/1000ll	b fuel burned)	
Acetaldehyde	75-07-0	X	1.11E-01	6.75E-03	2.61E-03	8.33E-04	
Acrolein	107-02-8	X	3.60E-02	ND	ND	ND	
Benzaldehyde	100-52-7		4.15E-02	ND	ND	ND	
Benzene	71-43-2	X	1.06E-01	3.33E-03	6.86E-04	4.88E-04	
1,3-Butadiene	106-99-0	X	4.99E-02	ND	4.27E-04	ND	
2-Butanone (MEK)	78-93-3		3.33E-02	ND	ND	ND	
Crotonaldehyde	4170-30-3		2.66E-02	ND	ND	ND	
Ethylbenzene	100-41-4	X	1.64E-02	2.55E-04	4.99E-04	1.34E-04	
Formaldehyde	50-00-0	X	9.95E-01	3.56E-02	2.44E-02	7.58E-03	
Hexanal	66-25-1		ND	ND	ND	ND	
Naphthalene	91-20-3	X					
Phenol	108-95-2	X					
Propanal	123-38-6	X	1.60E-02	ND	9.78E-04	4.10E-04	
Styrene	100-42-5	X	3.12E-02	2.55E-04	ND	ND	
Toluene	108-88-3	X	6.37E-02	2.68E-04	AA	AA	
m,p-Xylene	1330-20-7	X	3.92E-02	5.60E-04	AA	2.57E-04	
o-Xylene	95-47-6	X	2.79E-02	3.21E-04	4.89E-04	1.20E-04	

Notes for F119-PW-100 Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and Auxiliary Power Unit Emissions Testing Final Report Addendum F119-PW-100 June 2002, IERA-RS-BR-SR-2002-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

F404-GE-400, -F1D2

	Pov	wer Setting	Idle	Approach	Intermediate	Military	Afterburner-3		
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	685	3111	6464	7739	15851		
	Percent	Thrust/hp <sup>1</sup>	6%	38%	79%	91%	114%		
Compound Name	CAS Number	HAP		Emission Factors (lb/1000lb fuel burned)					
Acetaldehyde	75-07-0	X	5.69E-02	ND	ND	ND	3.38E-02		
Acrolein	107-02-8	X	1.71E-01	ND	ND	ND	1.44E-01		
Benzaldehyde	100-52-7		1.31E-01	ND	1.70E-03	ND	1.32E-01		
Benzene	71-43-2	X	5.12E-01	7.56E-04	6.45E-04	7.38E-04	3.70E-01		
1,3-Butadiene	106-99-0	X							
2-Butanone (MEK)	78-93-3		2.31E-02	ND	ND	ND	2.74E-02		
Crotonaldehyde	4170-30-3		9.14E-02	ND	ND	ND	8.45E-02		
Ethylbenzene	100-41-4	X	7.48E-02	4.84E-04	3.53E-04	ND	4.86E-02		
Formaldehyde	50-00-0	X	1.14E+00	1.67E-02	2.17E-02	9.02E-03	3.74E-02		
Hexanal	66-25-1		ND	ND	ND	ND	1.26E-02		
Naphthalene	91-20-3	X	1.31E-01	3.10E-04	7.04E-05	1.03E-04	7.32E-02		
Phenol	108-95-2	X	1.15E-01	ND	ND	ND	6.69E-02		
Propanal	123-38-6	X							
Styrene	100-42-5	X	8.66E-02	ND	ND	ND	4.90E-03		
Toluene	108-88-3	X	2.60E-01	8.73E-04	1.07E-03	6.61E-04	1.78E-01		
m,p-Xylene	1330-20-7	X	1.68E-01	1.76E-03	1.38E-03	7.45E-04	9.29E-02		
o-Xylene	95-47-6	X	8.07E-02	8.75E-04	5.90E-04	2.65E-04	4.86E-02		

Notes for F404-GE-400, -F1D2 Engines:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

The F404-GE-F1D2 is a non-afterburning version of the F404-GE-400 and has the same emissions (without the afterburner setting) as the F404-GE-400.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

# GTCP85-180

	Pov	wer Setting	Constant				
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	270				
Compound Name	CAS Number	HAP		<b>Emission Fac</b>	ctors (lb/1000)	lb fuel burned	)
Acetaldehyde	75-07-0	X	2.09E-03				
Acrolein	107-02-8	X	3.04E-04				
Benzaldehyde	100-52-7		ND				
Benzene	71-43-2	X	1.50E-02				
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		9.96E-04				
Crotonaldehyde	4170-30-3		5.25E-04				
Ethylbenzene	100-41-4	X	1.20E-04				
Formaldehyde	50-00-0	X	2.03E-02				
Hexanal	66-25-1		ND				
Naphthalene	91-20-3	X	AA				
Phenol	108-95-2	X	1.44E-04				
Propanal	123-38-6	X					
Styrene	100-42-5	X	1.91E-04				
Toluene	108-88-3	X	2.94E-03				
m,p-Xylene	1330-20-7	X	2.32E-03				
o-Xylene	95-47-6	X	3.27E-04				

Notes for GTCP85-180 Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

# GTCP165-1

	Pov	wer Setting	Constant				
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	273				
Compound Name	CAS Number	HAP		<b>Emission Fac</b>	ctors (lb/1000)	lb fuel burned	)
Acetaldehyde	75-07-0	X	5.61E-03				
Acrolein	107-02-8	X	1.21E-02				
Benzaldehyde	100-52-7		1.26E-02				
Benzene	71-43-2	X	3.79E-02				
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		2.77E-03				
Crotonaldehyde	4170-30-3		5.83E-03				
Ethylbenzene	100-41-4	X	8.63E-04				
Formaldehyde	50-00-0	X	1.88E-02				
Hexanal	66-25-1		ND				
Naphthalene	91-20-3	X	5.54E-03				
Phenol	108-95-2	X	4.48E-03				
Propanal	123-38-6	X					
Styrene	100-42-5	X	2.24E-03				
Toluene	108-88-3	X	1.87E-02				
m,p-Xylene	1330-20-7	X	4.84E-03				
o-Xylene	95-47-6	X	1.17E-03				

Notes for GTCP165-1 Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

J69-T-25

Power Setting			Idle	Intermediate	Military		
	167	872	1085				
	Percent	Thrust/hp <sup>1</sup>	4%	63%	84%		
Compound Name	CAS Number	HAP		<b>Emission Fac</b>	tors (lb/1000l)	b fuel burned)	
Acetaldehyde	75-07-0	X	9.76E-02	2.12E-03	ND		
Acrolein	107-02-8	X	1.96E-01	ND	ND		
Benzaldehyde	100-52-7		1.04E-01	ND	ND		
Benzene	71-43-2	X	1.89E-01	3.47E-03	1.86E-03		
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		2.41E-02	8.70E-04	8.79E-04		
Crotonaldehyde	4170-30-3		1.22E-01	ND	ND		
Ethylbenzene	100-41-4	X	2.03E-02	ND	ND		
Formaldehyde	50-00-0	X	9.16E-01	2.72E-02	1.16E-02		
Hexanal	66-25-1		ND	ND	ND		
Naphthalene	91-20-3	X	3.54E-02	3.41E-04	2.22E-04		
Phenol	108-95-2	X	2.85E-02	9.86E-04	ND		
Propanal	123-38-6	X					
Styrene	100-42-5	X	2.72E-02	ND	ND		
Toluene	108-88-3	X	1.12E-01	1.56E-03	8.29E-04		
m,p-Xylene	1330-20-7	X	6.45E-02	2.13E-03	4.94E-04		
o-Xylene	95-47-6	X	2.51E-02	6.62E-04	ND		

Notes for J69-T-25 Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

J85-GE-5A

	Idle	Intermediate	Military	Afterburner-1			
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	434	950	2740	8138	
	Percent	Thrust/hp <sup>1</sup>	4%	15%	88%	116%	
Compound Name	CAS Number	HAP		<b>Emission Fac</b>	tors (lb/1000l	b fuel burned)	
Acetaldehyde	75-07-0	X	1.18E-01	ND	ND	ND	
Acrolein	107-02-8	X	2.70E-01	ND	ND	ND	
Benzaldehyde	100-52-7		1.10E-01	ND	ND	ND	
Benzene	71-43-2	X	1.48E-01	1.34E-01	1.14E-02	6.84E-03	
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		2.88E-02	9.09E-03	ND	3.27E-04	
Crotonaldehyde	4170-30-3		1.34E-01	ND	ND	ND	
Ethylbenzene	100-41-4	X	3.06E-02	8.80E-03	3.75E-04	5.24E-04	
Formaldehyde	50-00-0	X	2.26E-01	5.45E-01	7.37E-02	2.40E-02	
Hexanal	66-25-1		ND	ND	ND	ND	
Naphthalene	91-20-3	X	9.65E-02	1.28E-02	1.27E-03	8.16E-04	
Phenol	108-95-2	X	7.17E-02	1.24E-02	1.52E-03	9.39E-04	
Propanal	123-38-6	X					
Styrene	100-42-5	X	4.17E-02	1.29E-02	5.02E-04	2.85E-04	
Toluene	108-88-3	X	1.67E-01	4.91E-02	3.23E-03	1.74E-03	
m,p-Xylene	1330-20-7	X	9.89E-02	2.55E-02	1.29E-03	1.88E-03	
o-Xylene	95-47-6	X	3.85E-02	1.07E-02	4.90E-04	9.04E-04	

Notes for J85-GE-5A Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

#### J85-GE-5M

Power Setting			Idle	Intermediate	Military	Afterburner	
	525	1045	2550	7695			
	Percent	Thrust/hp <sup>1</sup>					
Compound Name	CAS Number	HAP		<b>Emission Fac</b>	tors (lb/1000l)	b fuel burned)	
Acetaldehyde	75-07-0	X	2.44E-01	1.91E-02	1.57E-03		
Acrolein	107-02-8	X	3.14E-01	1.24E-02	1.18E-03		
Benzaldehyde	100-52-7		7.81E-02	1.24E-02	1.18E-03		
Benzene	71-43-2	X	3.05E-02	2.34E-02	2.56E-03		
1,3-Butadiene	106-99-0	X	1.20E-02	6.02E-03	ND		
2-Butanone (MEK)	78-93-3		3.94E-02	6.77E-03	9.29E-04		
Crotonaldehyde	4170-30-3		1.18E-01	1.24E-02	1.18E-03		
Ethylbenzene	100-41-4	X	7.36E-03	2.38E-03	8.21E-05		
Formaldehyde	50-00-0	X	2.27E+00	3.48E-01	2.39E-02		
Hexanal	66-25-1		7.81E-02	1.24E-02	1.18E-03		
Naphthalene	91-20-3	X	8.29E-02	ND	ND		
Phenol	108-95-2	X					
Propanal	123-38-6	X	7.81E-02	1.24E-02	1.18E-03		
Styrene	100-42-5	X	7.88E-03	2.44E-03	1.08E-04		
Toluene	108-88-3	X	2.76E-02	1.14E-02	9.14E-04		
m,p-Xylene	1330-20-7	X	2.44E-02	7.63E-03	4.33E-04		
o-Xylene	95-47-6	X	1.59E-02	4.83E-03	2.33E-04		

Notes for J85-GE-5M Engine:

<sup>1.</sup> Data obtained from Clean Air Act Emissions Testing of the T-38C Aircraft Engines September 2002, IERA-RS-BR-SR-2003-0001

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

#### PT6A-68

Power Setting			Ground Idle	Flight Idle	Descend	Approach	Max. Continuous
	156	180	328	449	612		
	Percent	Thrust/hp <sup>1</sup>	2%	3%	19%	46%	88%
Compound Name	CAS Number	HAP		<b>Emission Fac</b>	ctors (lb/1000)	lb fuel burned	)
Acetaldehyde	75-07-0	X	2.99E-01	3.47E-01	8.78E-02	1.04E-02	2.17E-03
Acrolein	107-02-8	X	7.16E-01	6.00E-01	5.06E-02	ND	ND
Benzaldehyde	100-52-7		2.34E-02	1.73E-01	4.45E-02	8.01E-03	ND
Benzene	71-43-2	X	1.67E-01	5.22E-01	8.49E-02	1.04E-02	8.63E-04
1,3-Butadiene	106-99-0	X	1.49E-01	2.67E-01	1.10E-02	ND	ND
2-Butanone (MEK)	78-93-3		1.32E-02	ND	2.65E-03	ND	ND
Crotonaldehyde	4170-30-3		2.08E-01	1.73E-01	ND	ND	ND
Ethylbenzene	100-41-4	X	4.76E-02	4.94E-02	2.52E-03	2.09E-04	1.07E-04
Formaldehyde	50-00-0	X	4.81E+00	5.27E+00	2.93E+00	6.73E-01	2.21E-02
Hexanal	66-25-1		1.56E-01	ND	ND	ND	ND
Naphthalene	91-20-3	X	ND	1.16E-02	ND	ND	7.68E-02
Phenol	108-95-2	X					
Propanal	123-38-6	X					
Styrene	100-42-5	X	4.68E-02	3.80E-02	8.05E-03	ND	ND
Toluene	108-88-3	X	1.65E-01	2.42E-01	2.46E-02	2.37E-03	5.18E-04
m,p-Xylene	1330-20-7	X	1.13E-01	1.31E-01	6.03E-03	6.01E-04	1.29E-03
o-Xylene	95-47-6	X	5.98E-02	6.60E-02	2.92E-03	2.59E-04	1.54E-04

Notes for PT6A-68 Engine:

<sup>1.</sup> Data obtained from PT6A-68 Emissions Measurement Program Summary September 2002, IERA-RS-BR-SR-2003-0003

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

T56-A-7

	Idle	Approach	Intermediate	Military			
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	724	880	1742	2262	
	Percent	Thrust/hp <sup>1</sup>	5%	15%	61%	90%	
Compound Name	CAS Number	HAP		Emission Fac	ctors (lb/1000)	lb fuel burned	)
Acetaldehyde	75-07-0	X	1.04E-02	AA	5.43E-04	1.64E-04	
Acrolein	107-02-8	X	ND	ND	ND	ND	
Benzaldehyde	100-52-7		1.13E-03	8.76E-04	4.67E-04	ND	
Benzene	71-43-2	X	4.77E-03	4.45E-03	1.34E-03	7.84E-04	
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		4.63E-04	3.62E-04	ND	1.75E-04	
Crotonaldehyde	4170-30-3		ND	ND	ND	ND	
Ethylbenzene	100-41-4	X	ND	4.06E-04	2.07E-04	1.80E-04	
Formaldehyde	50-00-0	X	4.10E-02	3.34E-02	9.30E-03	3.81E-04	
Hexanal	66-25-1		ND	ND	ND	ND	
Naphthalene	91-20-3	X	1.16E-03	1.03E-03	1.77E-04	1.34E-04	
Phenol	108-95-2	X	ND	ND	ND	ND	
Propanal	123-38-6	X					
Styrene	100-42-5	X	7.09E-04	3.67E-04	ND	ND	
Toluene	108-88-3	X	2.71E-03	2.29E-03	9.61E-04	2.53E-05	
m,p-Xylene	1330-20-7	X	6.70E-04	7.31E-04	4.14E-04	6.26E-04	
o-Xylene	95-47-6	X	6.56E-04	3.23E-04	1.68E-04	2.48E-04	

Notes for T56-A-7 Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

T64-GE-100

Power Setting			Ground Idle	75% Normal	Normal	Military	
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	298	941	1698	1848	
	Percent	Thrust/hp <sup>1</sup>	2%	34%	81%	90%	
Compound Name	CAS Number	HAP		Emission Fac	ctors (lb/1000)	b fuel burned	)
Acetaldehyde	75-07-0	X	5.07E-02	1.20E-03	ND	ND	
Acrolein	107-02-8	X	1.14E-01	1.37E-03	ND	ND	
Benzaldehyde	100-52-7		5.91E-02	1.86E-03	ND	ND	
Benzene	71-43-2	X	2.16E-01	1.26E-02	4.00E-03	3.88E-03	
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		2.96E-02	2.33E-04	ND	ND	
Crotonaldehyde	4170-30-3		5.07E-02	1.01E-03	ND	ND	
Ethylbenzene	100-41-4	X	2.24E-02	3.07E-04	ND	ND	
Formaldehyde	50-00-0	X	7.15E-02	1.17E-02	3.18E-04	1.83E-04	
Hexanal	66-25-1		1.81E-02	3.83E-05	ND	ND	
Naphthalene	91-20-3	X	5.44E-02	1.52E-03	4.96E-06	2.50E-03	
Phenol	108-95-2	X	8.26E-03	ND	ND	ND	
Propanal	123-38-6	X					
Styrene	100-42-5	X	4.11E-02	5.12E-04	ND	ND	
Toluene	108-88-3	X	1.02E-01	2.88E-03	1.33E-04	1.27E-04	
m,p-Xylene	1330-20-7	X	4.38E-02	6.83E-04	ND	ND	
o-Xylene	95-47-6	X	2.07E-02	2.85E-04	ND	ND	

Notes for T64-GE-100 Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

T700-GE-700

1700-GE-700									
	Ground Idle	Flight Idle	Flight Max	Overspeed					
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	134	469	626	725			
	Percent	Thrust/hp <sup>1</sup>	4%	56%	82%	100%			
Compound Name	CAS Number	HAP		<b>Emission Fac</b>	ctors (lb/1000)	lb fuel burned	)		
Acetaldehyde	75-07-0	X	1.81E-02	3.03E-04	2.00E-04	ND			
Acrolein	107-02-8	X	7.23E-03	9.68E-05	1.10E-05	ND			
Benzaldehyde	100-52-7		ND	9.00E-04	4.15E-04	ND			
Benzene	71-43-2	X	4.87E-02	2.97E-04	3.12E-04	3.00E-04			
1,3-Butadiene	106-99-0	X							
2-Butanone (MEK)	78-93-3		2.00E-03	3.26E-04	ND	ND			
Crotonaldehyde	4170-30-3		9.93E-03	ND	ND	ND			
Ethylbenzene	100-41-4	X	2.25E-03	2.57E-04	ND	1.99E-04			
Formaldehyde	50-00-0	X	2.19E-01	4.09E-03	2.09E-03	4.81E-03			
Hexanal	66-25-1		ND	ND	ND	ND			
Naphthalene	91-20-3	X	7.33E-03	1.56E-04	6.73E-05	2.91E-05			
Phenol	108-95-2	X	6.24E-03	ND	ND	ND			
Propanal	123-38-6	X							
Styrene	100-42-5	X	5.16E-03	ND	ND	ND			
Toluene	108-88-3	X	1.28E-02	1.24E-03	AA	2.92E-04			
m,p-Xylene	1330-20-7	X	4.35E-03	3.17E-04	3.23E-04	8.36E-04			
o-Xylene	95-47-6	X	2.80E-03	2.52E-04	1.85E-04	4.05E-04			

Notes for T700-GE-700 Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;—" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

TF30-P-109

	Idle	Approach	Intermediate	Military	Afterburner		
	761	1727	2921	6263	38460		
	Percent	Thrust/hp <sup>1</sup>	5%	23%	47%	99%	
Compound Name	CAS Number	HAP		<b>Emission Fac</b>	tors (lb/1000ll	o fuel burned)	
Acetaldehyde	75-07-0	X	4.45E-01	2.45E-01	9.59E-03	1.53E-02	6.73E-03
Acrolein	107-02-8	X	3.42E-02	2.26E-02	ND	ND	ND
Benzaldehyde	100-52-7		1.84E-02	6.95E-03	ND	ND	ND
Benzene	71-43-2	X	1.94E-01	5.47E-02	4.38E-03	3.75E-04	6.84E-04
1,3-Butadiene	106-99-0	X	8.34E-02	3.02E-02	ND	ND	ND
2-Butanone (MEK)	78-93-3		1.97E-02	6.95E-03	1.16E-02	4.15E-03	2.44E-03
Crotonaldehyde	4170-30-3		6.18E-02	3.53E-02	ND	ND	ND
Ethylbenzene	100-41-4	X	4.38E-02	5.32E-03	5.61E-04	3.64E-04	6.29E-05
Formaldehyde	50-00-0	X	1.81E+00	7.96E-01	4.72E-02	3.35E-03	2.44E-02
Hexanal	66-25-1		8.02E-02	2.00E-01	2.08E-01	1.16E-01	4.46E-02
Naphthalene	91-20-3	X	1.13E-01	2.36E-02	3.59E-03	8.99E-04	8.48E-04
Phenol	108-95-2	X	7.12E-02	1.82E-02	1.68E-03	9.01E-05	7.44E-04
Propanal	123-38-6	X	5.52E-02	2.61E-02	ND	ND	ND
Styrene	100-42-5	X	2.96E-02	1.33E-02	3.94E-04	ND	ND
Toluene	108-88-3	X	1.62E-01	2.60E-02	2.11E-03	8.64E-04	2.76E-04
m,p-Xylene	1330-20-7	X	1.60E-01	1.52E-02	2.15E-03	1.46E-03	2.17E-04
o-Xylene	95-47-6	X	3.50E-02	3.77E-03	4.69E-04	3.07E-04	5.10E-05

Notes for TF30-P-109 Engine:

<sup>1.</sup> Data obtained from Engine and Hush House Emissions from a TF30-P109 Jet Engine Tested at Cannon Air Force Base, NM

<sup>&</sup>quot;—" Indicates No Data Available

<sup>&</sup>quot;X" Indicates that compound is a HAP

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit.

AA - Compound detected was less than the Ambient Air concentration resulting in a negative emission factor when the Ambient Air Concentration was removed.

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

TF33-P-7/7A

	Idle	Approach	Intermediate	Military			
	1093	4884	6356	8264			
	Percent	Thrust/hp <sup>1</sup>	4%	45%	58%	73%	
Compound Name	CAS Number	HAP		<b>Emission Fac</b>	ctors (lb/1000)	lb fuel burned	)
Acetaldehyde	75-07-0	X	ND	8.72E-03	ND	ND	
Acrolein	107-02-8	X	ND	ND	ND	ND	
Benzaldehyde	100-52-7		ND	ND	ND	ND	
Benzene	71-43-2	X	5.23E-01	2.84E-02	6.49E-03	1.47E-03	
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		1.89E-02	7.11E-03	ND	ND	
Crotonaldehyde	4170-30-3		ND	ND	ND	ND	
Ethylbenzene	100-41-4	X	2.00E-01	2.04E-03	5.11E-04	3.88E-04	
Formaldehyde	50-00-0	X	2.31E+00	1.26E-01	2.80E-02	5.28E-03	
Hexanal	66-25-1		ND	ND	ND	ND	
Naphthalene	91-20-3	X	3.71E-01	3.13E-03	3.54E-04	AA	
Phenol	108-95-2	X	1.67E-01	3.54E-03	1.28E-03	ND	
Propanal	123-38-6	X					
Styrene	100-42-5	X	2.42E-01	3.43E-03	7.46E-04	ND	
Toluene	108-88-3	X	3.73E-01	1.01E-02	2.54E-03	2.27E-03	
m,p-Xylene	1330-20-7	X	3.35E-01	3.40E-03	1.04E-03	1.21E-03	
o-Xylene	95-47-6	X	1.27E-01	1.42E-03	3.05E-04	4.31E-04	

Notes for TF33-P-7/7A Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

TF33-P-102

	Pov	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	1114	4737	5782	7561	
	Percent	Thrust/hp <sup>1</sup>	5%	49%	59%	75%	
Compound Name	CAS Number	HAP		Emission Fac	ctors (lb/1000)	b fuel burned	)
Acetaldehyde	75-07-0	X	ND	ND	ND	ND	
Acrolein	107-02-8	X	ND	ND	ND	ND	
Benzaldehyde	100-52-7		ND	ND	ND	ND	
Benzene	71-43-2	X	7.09E-01	1.14E-02	4.05E-03	9.53E-04	
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		3.64E-02	1.59E-03	7.45E-04	ND	
Crotonaldehyde	4170-30-3		ND	ND	ND	ND	
Ethylbenzene	100-41-4	X	8.63E-02	8.23E-04	4.79E-04	ND	
Formaldehyde	50-00-0	X	9.43E-01	6.65E-02	2.27E-02	ND	
Hexanal	66-25-1		ND	ND	ND	ND	
Naphthalene	91-20-3	X	2.15E-01	1.10E-03	7.35E-04	1.30E-04	
Phenol	108-95-2	X	8.41E-02	1.76E-03	ND	ND	
Propanal	123-38-6	X					
Styrene	100-42-5	X	1.09E-01	1.18E-03	4.38E-04	ND	
Toluene	108-88-3	X	2.65E-01	2.28E-03	2.65E-03	9.50E-04	
m,p-Xylene	1330-20-7	X	1.37E-01	2.40E-03	1.04E-03	8.35E-04	
o-Xylene	95-47-6	X	6.09E-02	AA	ND	2.46E-04	

Notes for TF33-P-102 Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

#### TF34-GE-100A

	Pov	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	498	933	1512	2628	
	Percent	Thrust/hp <sup>1</sup>	7%	28%	46%	78%	
Compound Name	CAS Number	HAP		Emission Fac	ctors (lb/1000)	lb fuel burned	)
Acetaldehyde	75-07-0	X	1.27E-01	3.08E-02	ND	ND	
Acrolein	107-02-8	X	6.10E-02	1.36E-02	5.42E-03	2.96E-03	
Benzaldehyde	100-52-7		5.10E-02	2.03E-02	7.80E-03	5.94E-03	
Benzene	71-43-2	X	2.81E-01	6.37E-02	9.57E-03	4.27E-03	
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		1.50E-02	5.94E-03	ND	ND	
Crotonaldehyde	4170-30-3		5.10E-02	ND	ND	ND	
Ethylbenzene	100-41-4	X	2.62E-02	3.50E-03	ND	6.82E-04	
Formaldehyde	50-00-0	X	1.22E+00	5.31E-01	6.61E-02	2.82E-02	
Hexanal	66-25-1		ND	ND	ND	ND	
Naphthalene	91-20-3	X	4.48E-02	8.51E-03	1.59E-03	3.20E-05	
Phenol	108-95-2	X	2.73E-02	6.61E-01	ND	ND	
Propanal	123-38-6	X					
Styrene	100-42-5	X	4.41E-02	6.72E-03	ND	ND	
Toluene	108-88-3	X	1.12E-01	1.40E-02	3.21E-03	1.34E-04	
m,p-Xylene	1330-20-7	X	5.50E-02	7.95E-03	1.52E-03	2.41E-03	
o-Xylene	95-47-6	X	2.67E-02	3.65E-03	ND	7.35E-04	

Notes for TF34-GE-100A Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

Table 2-9. VOC and HAP Emission Factors for Select Engines (cont.)

TF39-GE-1C

				JE-IC			
	Pov	wer Setting	Idle	Approach	Intermediate	Military	
	Fuel Flowr	ate (lb/hr) <sup>1</sup>	1448	10477	12541	13862	
	Percent	Thrust/hp <sup>1</sup>	7%	76%	87%	94%	
Compound Name	CAS Number	HAP		Emission Fa	ctors (lb/1000)	lb fuel burned	)
Acetaldehyde	75-07-0	X	2.12E-01	3.16E-03	2.61E-04	6.17E-04	
Acrolein	107-02-8	X	2.06E-01	ND	ND	ND	
Benzaldehyde	100-52-7		1.42E-01	1.15E-03	1.88E-03	1.70E-03	
Benzene	71-43-2	X	3.58E-01	1.56E-03	1.41E-03	2.16E-03	
1,3-Butadiene	106-99-0	X					
2-Butanone (MEK)	78-93-3		2.59E-02	ND	1.16E-03	2.46E-04	
Crotonaldehyde	4170-30-3		8.77E-02	ND	ND	ND	
Ethylbenzene	100-41-4	X	2.01E-02	ND	4.99E-04	AA	
Formaldehyde	50-00-0	X	1.42E+00	8.15E-03	4.90E-03	1.05E-02	
Hexanal	66-25-1		ND	ND	ND	ND	
Naphthalene	91-20-3	X	9.74E-02	AA	AA	AA	
Phenol	108-95-2	X	4.38E-02	ND	ND	ND	
Propanal	123-38-6	X					
Styrene	100-42-5	X	4.49E-02	ND	ND	6.94E-04	
Toluene	108-88-3	X	1.28E-01	AA	AA	AA	
m,p-Xylene	1330-20-7	X	3.81E-02	AA	1.90E-03	AA	
o-Xylene	95-47-6	X	2.00E-02	9.26E-04	6.83E-04	AA	

Notes for TF39-GE-1C Engine:

<sup>1.</sup> Data obtained from Aircraft Engine and APU Emissions Testing Volumes I-III March 1999, IERA-RS-BR-TR-1999-0006

<sup>&</sup>quot;X" Indicates that compound is a HAP

<sup>&</sup>quot;---" Indicates No Data Available

ND - Compound not detected at the detection limit. Compound may be present at a value less than the detection limit

AA - Compound detected was less than the ambient air concentration resulting in a negative emission factor when the ambient air concentration was removed

# 3 CHAPTER 3 - FLIGHTLINE GROUND SUPPORT EQUIPMENT (AGE) CHANGES

## 3.1 ISSUE: Redundant engine references present throughout Table 3-3

RESOLUTION: Shortened table by referencing engines using the same GSE models

CORRECTION: See tables on the following pages

Table 3-3. Military Aircraft and GSE Assignments

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie or LTO (hr)
A-3A, -3B		See Generic 2	
A-4, -4C, -4E, -4F, -4L, -4M		See Generic 2	
A-6A, -6B, -6C, -6E, -6F		See Generic 2	
A-7A, -7B, -7C, -7D, -7E, -7K		See Generic 2	
	Generator Set	A/M32A-86D	1.00
	Start Cart	A/M32A-60A	1.00
	Start Cart	A/M32A-95	1.00
	Heater	1H1	2.00
A-10, -10A, -10C	Hydraulic Test Stand	MJ-2A	2.00
71 10, 1071, 100	Light Cart	FL-1D ( <b>S</b> )	2.00
	Light Cart	NF-2	2.00
	Air Compressor	MC-1A	2.00
	All Compressor	MC-2A (S)	1.00
	Bomb Lift	MJ-1B <sup>(1)</sup>	1.00 - 8.00
A-37		See Generic 2	
AC-130A, -130H, -130U, -130W		See C-130A	
AH-1G, -1J		See Generic 4	
AH-64A		See Generic 4	
AT-38B		See T-38	
AU-24		See Generic 2	
	Generator Set	A/M32A-86D	2.20
	Start Cart	A/M32A-95	0.50
	Heater/Air Conditioner	B-1B Heater/Air Conditioner	2.40
B-1A, -1B	Heater	H1	4.00
	T.1. G	FL-1D ( <b>S</b> )	0.50
	Light Cart	NF-2	0.50
	Bomb Lift	MJ-40	2.50
	Generator Set	A/M32A-86D	3.00
		A/M32A-60A	2.00
	Start Cart	A/M32A-95	2.00
		Ace 401	12.00
	Air Conditioner	PD501	12.00
	Heater	H1	2.00
		MJ-2/TTU-228	1.00
B-2A	Hydraulic Test Stand	MJ-2/TTU-229	1.50
		A/M27T-13	4.00
		NF-2	4.00
	Light Cart	FL-1D ( <b>S</b> )	4.00
		MC-1A	1.50
	Air Compressor	MC-6 ( <b>S</b> )	5.00
		MC-7	1.50
	Bomb Lift	MJ-40	2.00
	Generator Set	A/M32A-86D	4.00
	Start Cart	A/M32A-95	1.00
	Air Conditioner	MA-3D	1.00
B-52D, -52G, -52H	Light Cart	NF-2	1.00
	Air Compressor	MC-1A	1.00
	Bomb Lift	MJ-1B	2.00
C-1, -1A	Domo Dit	See Generic 1	2.00
C-1, -1A C-2, -2A		See Generic 4	

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie or LTO (hr)
	Generator Set	A/M32A-86D	13.00
	Start Cart	A/M32A-95	2.00
	Air Conditioner	MA-3D	3.00 - 12.00
	Heater	H1	9.00
	Ticater	BT400-46	10.00
		MJ-1-1 <sup>(1)</sup>	1.00
C-5A, -5B, -5C, -5M	Hydraulic Test Stand	M32T1 (S)	1.00
		MJ-2A	1.00
	Light Cart	NF-2	16.00
		MC-2A (S)	16.00
	Air Compressor	MC-1A	7.00
		MC-7	2.00
	Pumping Unit	AF/M27M-1 <sup>(1)</sup>	3.00
	Generator Set	A/M32A-86D	6.00
	Start Cart	A/M32A-95	0.50
	Air Conditioner	MA-3D	6.00
C-9, -9A, -9B, -9C	Heater	H1	6.00
	Light Cart	NF-2	12.00
		MC-2A (S)	2.00
	Air Compressor	MC-1A	0.50
		MC-7	2.00
C-11A		See Generic 1	
C-12, -12A, -12C, -12D, -12F, -12J, -12L, -12R, -12S, -12T, -12U	Generator Set	A/M32A-86D	0.75
	Generator Set	A/M32A-86D	2.00
	Start Cart	A/M32A-95	2.00
	Air Conditioner	MA-3D	1.50
	Heater	BT400-46	1.50
	Heater	H1	1.50
C-17A	Light Cart	NF-2	1.50
		MC-1A	0.66
	Air Compressor	MC-2A (S)	0.66
		MC-7	0.66
	Pumping Unit	AF/M27M-1	0.50
	Bomb Lift	MJ-1B	1.50
C-18B		See Generic 1	
	Generator Set	A/M32A-86D	5.50
	Air Conditioner	Ace 802-329S <sup>(1)</sup>	1.00
	711 Conditionor	MA-3D	1.00
C-20A, -20B, -20C, -20D, -20E,	Heater	1H1	3.00
-20F, -20G, -20H, -20J	Light Cart	FL-1D ( <b>S</b> )	6.00
202, 200, 2011, 200		MC-2A (S)	0.50
	Air Compressor	MC-5	0.50
		MC-7	2.00
		MC-8	3.00
C-21A		See Generic 1	
	Generator Set	A/M32A-86D	1.50
	Start Cart	A/M32A-60A <sup>(1)</sup>	0.25
	Heater	H1	0.25
C-22A, -22B	Light Cart	NF-2	0.25
	Air Compressor	MC-1A	0.25
	-	MC-7	0.25
	Pumping Unit	AF/M27M-1	0.25
C-23A, -23B, -23C		See Generic 1	
C-26A, -26B, -26C		See Generic 1	

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie or LTO (hr)		
С-27Ј		See Generic 1			
C-28A		See Generic 1			
C-32A	Generator Set	A/M32A-86D	6.00		
C-37A		See Generic 1			
C-38		See Generic 1			
C-40A, -40B, -40C		See Generic 1			
C-123K		See Generic 1			
	Generator Set	A/M32A-86D Trielectron D200T 400	4.00 - 11.00 3.00		
	Start Cart	MA-1A ( <b>S</b> ) A/M32A-60A A/M32A-95	0.25 0.25 0.25		
C-130A, -130B, -130D, -130E, -130F, -130H, -130J, -130T	Air Conditioner	Ace 802-993 (S) MA-3D	1.00 1.00		
, , ,	Heater	H1	1.00		
	Hydraulic Test Stand	MJ-2A <sup>(1)</sup>	3.00		
	Light Cart	NF-2	2.00 - 10.00		
		MC-1A	0.50 - 10.00		
	Air Compressor	MC-2A (S)	0.50 - 10.00		
	Generator Set	A/M32A-86D	10.00		
		A/M32A-60A	1.00		
	Start Cart	A/M32A-95	0.10		
		Ace 802-993 (S)	10.00		
C-135A, -135B, -135C, -135E	Air Conditioner	MA-3C ( <b>S</b> )	2.00		
C 13311, 133B, 133C, 133E	Heater	H1	4.00		
		1H1	5.00		
	Light Cart	NF-2	2.00		
	Air Compressor	MC-1A	0.33		
C-137B, -137C	711 Compressor	See Generic 1	0.55		
C-140A, -140B		See Generic 1			
C 11011, 110B	Generator Set	A/M32A-86D	0.50		
		MD-3 ( <b>S</b> )	0.10		
	Start Cart	A/M32A-60A	0.50		
	Heater	H1	0.40		
C-141, -141A, -141B, -141C		TTU-228E ( <b>S</b> )	0.10		
0 111, 1111, 1112, 1110	Hydraulic Test Stand	M32T1 (S)	0.10		
	Light Cart	NF-2	0.50		
	000000000000000000000000000000000000000	MC-1A	0.10		
	Air Compressor	MC-2A (S)	0.10		
CH-3B, -3E	<del> </del>	See Generic 4			
CH-46, -46A, -46E		See Generic 4			
CH-53A, -53D		See Generic 4			
CT-1B		See Generic 1			
CT-39A, -39E, -39G		See Generic 1			
CT-43A		See T-43A			
CT-49A		See Generic 1			
CV-22, -22A		See Generic 1			
DC-130A		See C-130A			
E-1B		See Generic 1			
E-2, -2B, -2C, -2D		See Generic 1			
E-3A, -3B, -3C	See Generic 1 See Generic 1				
E-4A, -4B		See Generic 1			
L 1/1, ¬TD					
E-6B	See Generic 1				
E-6B E-8C		See Generic 1			

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie or LTO (hr)
EA-4F		See Generic 1	
EA-6A, -6B		See Generic 1	
EA-7L		See Generic 1	
EB-57B		See Generic 1	
EC-18B, -18D		See Generic 1	
EC-24A		See Generic 1	
EC-130E, -130H, -130J, -130SJ, -130V		See C-130A	
EC-135A, -135B, -135C, -135E, -135G, -135H, -135J, -135K, -135L, -135N, -135P, -135Y		See C-135A	
EC-137D		See Generic 1	
EF-4J		See Generic 2	
EF-111A		See Generic 2	
EH-1H, -1X		See Generic 4	
EH-60A		See Generic 4	
EKA-3B		See Generic 1	
EP-3B, -3J		See Generic 1	
ERA-3B		See Generic 2	
ES-2D		See Generic 1	
F-4, -4B, -4C, -4D, -4E, -4G, -4J, -4N, -4S		See Generic 2	
F-5A, -5B, -5E, -5F		See Generic 2	
F-8, -8J		See Generic 2	
F-14A, -14B, -14C, -14D		See Generic 2	
	Generator Set	A/M32A-86D	0.33
	Start Cart	A/M32A-60A	0.33
	Start Cart	A/M32A-95	0.33
	Heater	H1	0.50
	Hydraulic Test Stand	MJ-1-1	0.50
F-15A, -15B, -15C, -15D, -15E	Trydraune Test Band	MJ-2/TTU-228	0.50
	Light Cart	NF-2	1.00 - 8.00
		MC-1A	0.33
	Air Compressor	MC-2A (S)	0.25
		MC-11	2.00
	Bomb Lift	MJ-1B	1.00
	Generator Set	A/M32A-86D	0.33
	Start Cart	A/M32A-60A	0.33
		A/M32A-95	0.33
	Heater	H1	0.50
	Hydraulic Test Stand	MJ-1-1	0.50
F-16, -16A, -16B, -16C, -16D, -16N	-	MJ-2/TTU-228	0.50
	Light Cart	NF-2	1.00 - 8.00
		MC-1A	0.33
	Air Compressor	MC-2A (S)	0.25
		MC-11	2.00
	Bomb Lift	MJ-1B	1.00
F-22A, -22B	See Generic 2		
F-35A, -35B, -35C		See Generic 2	
F-100		See Generic 2	
F-106A, -106B		See Generic 2	
F-111, -111A, -111D, -111E, -111F		See Generic 2	

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie or LTO (hr)
	Generator Set	A/M32A-86D	2.00
	Start Cart	A/M32A-60A	2.00
F-117A	Start Cart	A/M32A-95	0.50
	Air Conditioner	Ace 802-329S <sup>(1)</sup>	2.00
	Heater	H1	1.00
F-11/A	Hydraulic Test Stand	MJ-1-1	1.00
	Light Cart	NF-2	1.00
	Air Compressor	MC-1A	0.33
	Air Compressor	MC-2A (S)	0.33
	Bomb Lift	MJ-1B	1.00 <sup>(2)</sup>
F/A-18A, -18B, -18C, -18D, -18E, -18F		See Generic 2	
FA-22A		See Generic 2	
FB-22A		See Generic 2	
FB-111A		See Generic 2	
HC-130H, -130J, -130N, -130P		See C-130A	
	Generator Set	A/M32A-86D	1.00 - 16.00
	Start Cart	M24A-9 ( <b>S</b> )	0.25
	Heater	H1	8.00
	Hydraulic Test Stand	MJ-2/TTU-229	1.00
HH-1H, -1K, -1N		NF-2D ( <b>S</b> )	2.00
	Light Cart	TF-1	2.00
		MC-1A	1.00
	Air Compressor	MC-2A (S)	1.00
HH-2D		See Generic 4	1.00
HH-3A, -3E, -3F		See Generic 4	
HH-43		See Generic 4	
HH-46A		See Generic 4	
HH-52, -52A		See Generic 4	
HH-53		See Generic 4	
HH-60G		See Generic 4	
HV-22A, -22B		See Generic 1	
JA-6A		See Generic 2	
KA-3B		See Generic 2	
		See Generic 2	
KA-6D			12.00
	Generator Set	A/M32A-86D	
		90CU24P5 (S)	12.00
KC-10, -10A	Hydraulic Test Stand	9780-0023D (S)	2.00
	Communication I is 1 c C at	05-7056-3600 ( <b>S</b> )	2.00
	Generator Light Cart	Generator Light Cart	6.00
77.7.1.1	Air Compressor	MODP160WJDACJF (S)	6.00
KC-46A		See Generic 1	
KC-130F, -130R, -130T		See C-130A	
KC-135, -135A, -135D, -135E, -135Q, - 135R, -135T		See C-135A	
KC-767A		See Generic 1	
LC-130F, -130H, -130R		See C-130A	
MC-12W		See C-12	
MC-130E, -130H, -130J, -130P, -130W		See C-130A	
	Generator Set	A/M32A-86D	3.00
	Heater	H1	8.00
MU 521 52M	Hydraulic Test Stand	MJ-2/TTU-228	2.00
MH-53J, -53M	Trydradic Test Stand		
		NF-2D (S)	2.00
	Light Cart	NF-2D (S) FL-1D (S)	2.00

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie or LTO (hr)
MV-22A, -22B		See Generic 1	
NA-3B		See Generic 2	
NA-4E, -4F, -4M		See Generic 2	
NA-6A, -6E		See Generic 2	
NA-7A, -7C, -7E		See Generic 2	
NB-52B		See B-52D	
NC-12B		See C-12	
NC-21A		See Generic 1	
NC-130A, -130B, -130E, -130H		See C-130A	
NC-135A, -135W		See C-135A	
NC-141A		See C-141	
NCH-46A		See Generic 4	
NF-4D		See Generic 2	
NF-16A, -16D		See F-16	
NF-106B		See Generic 2	
NF/A-18A, -18B, -18C		See Generic 2	
NKC-135A, -135E		See C-135A	
NPC-3C, -3D		See Generic 1	
NRA-3B		See Generic 2	
NRH-53D		See Generic 4	
NSH-3A		See Generic 4	
NT-33A		See Generic 1	
NT-39A		See Generic 1	
NTA-4F, -4J		See Generic 1	
NUH-1E, -1N		See Generic 4	
NUP-3A		See Generic 1	
NVH-3A		See Generic 4	
0-1		See Generic 1	
O-2A, -2B		See Generic 1	
OA-4M		See Generic 2	
OA-10A		See A-10	
OA-37B		See Generic 2	
OC-135B		See C-135A	
OH-6A		See Generic 4	
OH-58A		See Generic 4	
OT-47B		See Generic 1	
OV-10A		See Generic 1	
P-3B, -3C		See Generic 1	
QF-4B, -4E, -4G		See Generic 2	
QF-106A, -106B			
QRF-4C		See Generic 2 See Generic 2	
-			
QT-33A		See Generic 1	
RA-3B		See Generic 2	
RA-5C		See Generic 2	
RC-12D, -12G, -12H		See C-12	
RC-135M, -135S, -135T, -135U,		See C-135A	
-135V, -135W, -135X			
RF-4B, -4C		See Generic 2	
RF-8G		See Generic 2	
RF/A-18A		See Generic 2	
RH-53D		See Generic 4	

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie or LTO (hr)			
RP-3D		See Generic 1	-			
	Generator Set	805 ( <b>S</b> )	24.00			
	Generator Set	806 ( <b>S</b> )	24.00			
RQ-4, -4A, -4B (4)	Air Conditioner	MA-3D	2.00			
	Heater	H1	4.00			
	Light Cart	FL-1D ( <b>S</b> )	6.00			
RU-21J		See Generic 1				
S-2, -2D, -2E, -2G		See Generic 1				
S-3A		See Generic 2				
SH-2D, -2F		See Generic 4				
SH-3A, -3G		See Generic 4				
SH-60		See Generic 4				
SV-22A	G . G .	See Generic 1	0.22			
T-1A	Generator Set	Jetex (S)	0.33			
T. 2	Hydraulic Test Stand	Airton (S)	0.10			
T-2	Generator Set	See Generic 3  Jettex-40 (S)	0.50			
	Generator Set		0.50 0.50			
	Start Cart	Jet Series 703D (S)	0.50			
T-6A	Air Conditioner	MA-1A (S) MA-3D	0.75			
1-0A						
	Hydraulic Test Stand	6X620-RDF ( <b>S</b> ) FL-2D ( <b>S</b> )	1.00			
	Light Cart		0.33			
T-28	Tug	(See "Tug" in Table 3-4 and select appropriate size)  See Generic 3	0.33			
T-23A		See Generic 3				
T-34, -34C		See Generic 3				
1-3-, -3	Generator Set	A/M32A-86D <sup>(1)</sup>	0.17			
	Heater	H1	0.17			
	Hydraulic Test Stand	MJ-1-1	0.50			
T-37, -37B	Light Cart	TL-1D (S)	1.00			
	***************************************	MC-1A	0.50			
	Air Compressor	MC-2A ( <b>S</b> )	0.50			
	Tug	(See "Tug" in Table 3-4 and select appropriate size)	0.33			
	Generator Set	A/M32A-86D	0.25			
T-38, -38A, -38C, -38N	II 1 1 T . C . 1	MK1 (S)	0.75			
	Hydraulic Test Stand	MK3A ( <b>S</b> )	0.75			
T-39A, -39B, -39D		See Generic 3				
T-41, -41B, -41C, -41D		See Generic 3				
	Generator Set	A/M32A-86D	2.00			
	Ocherator Set	Essex B8098 (S)	2.00			
T-43A	Air Conditioner	MA-3D	12.00			
1-43A	Hydraulic Test Stand	HPE-45 ( <b>S</b> )	2.00			
	Light Cart	FL-1D ( <b>S</b> )	2.00			
	Air Compressor	MC-1A	1.00			
T-44		See Generic 3				
T-47A		See Generic 3				
TA-3B		See Generic 2				
TA-4B, -4F	See Generic 2					
TA-7C	See Generic 2					
TC-18E, -18F	See Generic 1					
TC-130H		See C-130A				
TC-135S, -135W		See C-135A				
TE-2A, -2C		See Generic 1				
TE-8A		See Generic 1				
TF-16N		See F-16				

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie or LTO (hr)		
TF-18A		See Generic 2	·		
TF/A-18A		See Generic 2			
TH-1L		See Generic 4			
TH-53A		See Generic 4			
TS-2A	See Generic 2				
TU-2S		See Generic 2			
U-2S		See Generic 2			
U-21, -21J		See Generic 1			
U-28A		See Generic 1			
UA-3B		See Generic 2			
UC-12B		See C-12			
UC-35A, -35C		See Generic 1			
UC-123K		See Generic 1			
UH-1E, -1H, -1L, -1N, -1V		See Generic 4			
UH-2C		See Generic 4			
UH-3A		See Generic 4			
UH-46A		See Generic 4			
	Generator Set	A/M32A-86D	1.00 - 5.00		
	Start Cart	A/M32A-95	0.50		
	Air Conditioner	MA-3D	2.00		
	Heater	H1 <sup>(1)</sup>	2.00		
UH-60A, -60C, -60Q	Hydraulic Test Stand	MJ-1-1	2.50		
	Trydraume Test Stand	MJ-2/TTU-228	1.00		
	Light Cart	FL-1D (S)	0.50 - 4.00		
	Air Compressor	MC-1A	1.00		
	7th Compressor	MC-2A ( <b>S</b> )	2.50		
UP-3B		See Generic 1			
US-2A, -2B, -2C, -2D		See Generic 1			
UV-18B		See Generic 1			
UV-20A		See Generic 1			
VC-25A		See C-5A			
VC-137B, -137C		See Generic 1			
VC-140B		See Generic 1			
WC-130E, -130H, -130J		See C-130A			
WC-135B, -135C, -135W		See C-135A			
X-29A		See Generic 2			
X-31A		See Generic 2			
X-44A		See Generic 2			
YA-7D		See Generic 2			
YC-14A		See Generic 1			
YE-2C	See Generic 1				
YF-4J	See Generic 2				
YF-15A, -15B	See F-15A				
YF-16A, -16B		See F-16			
YOV-10D		See Generic 2			
YP-3C		See Generic 1			
YS-2G		See Generic 2			
YSH-2E		See Generic 4			

Table 3-3. Military Aircraft and GSE Assignments (continued)

Aircraft	GSE Type	GSE Model	Operating Time Per Sortie or LTO (hr)
	Commenter Set	A/M32A-86D	4.00 - 11.00
	Generator Set	Trielectron D200T 400	3.00
	***************************************	MA-1A (S)	0.25
	Start Cart	A/M32A-60A	0.25
		A/M32A-95	0.25
Generic 1	Air Conditioner	Ace 802-993 (S)	1.00
Cargo/Bomber (C-130)	Air Conditioner	MA-3D	1.00
	Heater	H1	1.00
	Hydraulic Test Stand	MJ-2A <sup>(1)</sup>	3.00
	Light Cart	NF-2	2.00 - 10.00
	Air Compressor	MC-1A	0.50 - 10.00
	Air Compressor	MC-2A (S)	0.50 - 10.00
	Generator Set	A/M32A-86D	0.33
	Start Cart	A/M32A-60A	0.33
	Start Cart	A/M32A-95	0.33
	Heater	H1	0.50
	H-1	MJ-1-1	0.50
Generic 2	Hydraulic Test Stand	MJ-2/TTU-228	0.50
Fighter/Fighter Bomber (F-15)	Light Cart	NF-2	1.00 - 8.00
	000000000000000000000000000000000000000	MC-1A	0.33
	Air Compressor	MC-2A ( <b>S</b> )	0.25
		MC-11	2.00
	Bomb Lift	MJ-1B	1.00
	Generator Set	A/M32A-86D(1)	0.17
	Heater	H1	0.17
Generic 3	Hydraulic Test Stand	MJ-1-1	0.50
	Light Cart	TL-1D ( <b>S</b> )	1.00
Small Trainers (T-37, -37B)	A : C	MC-1A	0.50
	Air Compressor	MC-2A ( <b>S</b> )	0.50
	Tug	(See "Tug" in Table 3-4 and select appropriate size)	0.33
	Generator Set	A/M32A-86D	1.00 - 5.00
	Start Cart	A/M32A-95	0.50
	Air Conditioner	MA-3D	2.00
Generic 4	Heater	H1	2.00
Helicopter (UH-60A)	Hydraulic Test Stand	MJ-1-1	2.50
Helicopiei (OH-00A)	riyuraunc Test Stand	MJ-2/TTU-228	1.00
	Light Cart	FL-1D ( <b>S</b> )	0.50 - 4.00
	Air Compressor	MC-1A	1.00
	•	MC-2A ( <b>S</b> )	2.50
	Aircraft Tug	(See "Tug" in Table 3-4 and select appropriate size)	0.10
	Package Tug	(See "Tug" in Table 3-4 and select appropriate size)	1.30
Generic (Not otherwise specified)	Cargo Loader	Cargo Loader	1.50
	Fuel Truck	Fuel Truck	0.60
	Deicer Truck <sup>3</sup>	Deicer Truck	0.15

Notes for Table 3-3 are provided on the following page.

Notes for Table 3-3:

- SOURCE (unless otherwise noted): data obtained from USAF, IERA-RS-BR-SR-2005-0001, Flightline Emission Factors Aircraft/Auxiliary Power Units/Aerospace Ground Support Equipment December 2004. Data provided by USAF flight squadrons and associated AGE shops. When calculating GSE emissions, use the data available at the installation. These aircraft/GSE combinations should be used only in the absence of current, more accurate, data.
  - 1. Operating time estimated based on operating time of GSE on similar aircraft.
- 2. GSE model changed from what was stated in the source document because of suspected error in source.
- 3. Cold weather months and cold weather bases only.
- 4. Uses GSE assignments for similar, surrogate engine provided in source document.
- "(S)" Indicates that emission factors for this GSE are not found in this document. In the absence of available data, it is recommended that a similar GSE and its associated emission factors are used as a surrogate.

## 4 CHAPTER 4 - NON-ROAD ENGINES AND EQUIPMENT (NRDE) CHANGES

## 4.1 ISSUE: No Major Changes

**RESOLUTION:** No Major Changes

**CORRECTION:** No Major Changes

NOTE: The emission factors in Table 4-1 take engine degradation into account, a fact that was not mentioned in the previous guide.

## 5 CHAPTER 5 – ON-ROAD VEHICLES (VEHE) CHANGES

## 5.1 ISSUE: Several tables in need of updates; MOVES software data out of date; EMFAC data not present

RESOLUTION: Major revisions in all sections of Chapter 5; Tables include Table 5-2, Table 5-3, Table 5-4, Table 5-5, Table 5-11 through Table 5-31, Table 5-32 through Table 5-52

CORRECTION: See the following pages below

### 5 ON-ROAD VEHICLES (VEHE)

\*Air Force policy considers the dispensing of fuel into on-road vehicles a mobile source of emissions. However, if the regulator insists this category be included as a stationary source, subtract those emissions from the Mobile AEI and add them to the stationary AEI to avoid duplicate reporting. This is accomplished by manually calculating emissions generated from on-road vehicle refueling using the procedures given in the "Fuel Dispensing" section of this document, then subtracting those values from the emissions generated by on-road vehicles described in this section\*

#### 5.1 Introduction

On-road vehicles encompass the full range of passenger cars, light duty trucks, heavy duty trucks, buses, and motorcycles that are specifically designed to operate on highways and other road systems. On-road vehicles in use on Air Force installations are *classified* either as Government Owned Vehicles (GOVs) or Privately Owned Vehicles (POVs). GOVs include all on-road vehicles that are owned or leased and operated by government organizations on the base (e.g., Air Force, Guard, Reserve, etc.). Such vehicles are typically referred to as "fleet vehicles", and range from small passenger cars to large vehicles such as refueling or fire trucks. This classification also includes Tactical Vehicles, defined as any motor vehicle designed to military specifications or a commercially designed motor vehicle modified to military specifications to meet direct transportation support of combat, tactical or relief operations, or for training of personnel for such purposes. POVs are those on-road vehicles that travel on an Air Force installation, but are owned or leased and operated by base employees, and visitors. Both GOVs and POVs typically operate on conventional gasoline and diesel motor fuels, but may also operate on alternative, non-petroleum based fuels.

The emissions of concern from the operation of on-road vehicles include the criteria pollutants: NOx, VOC, CO, SO<sub>2</sub>, PM<sub>2.5</sub> and PM<sub>10</sub>, as well as HAPs such as 1,3-butadiene, benzene, acetaldehyde, formaldehyde, acrolein and Methyl tert-butyl ether (MTBE). Some of these direct pollutant emissions also participate in atmospheric reactions that contribute to the formation of ground level ozone and fine particulate matter pollution. Factors which impact the volume of pollutants emitted include the vehicle make and model, the Vehicle Miles Traveled (VMT), the average operating speed, vehicle age, climate, altitude, fuel type and quality, and maintenance procedures. To control vehicle emissions, the EPA has adopted an integrated approach to controlling on-road vehicle emissions. This approach has resulted in the establishment of regulatory standards that give full consideration to changes in vehicle and engine design, advanced emission controls, and the mandated use of reformulated and cleaner burning fuels.

Emissions from the operation of on-road vehicles are designated as exhaust, evaporative, or fugitive in nature. Exhaust emissions result from the combustion (sometimes incomplete) of the motor fuel while evaporative emissions result from the volatilization of the fuel in engine components during the different stages of a vehicle's operating cycle. Additionally, fugitive particulate emissions, in the form of road dust, brake wear dust, and tire wear dust, can be attributed to the operation of on-road vehicles.

The EPA is currently proposing to regulate greenhouse gases (GHGs) for both mobile and stationary sources. As a matter of AF policy, GHG emissions are to be reported as part of the mobile air emission inventory. Specifically, carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>) emissions should be estimated for all mobile sources where emission factors are available. Additionally, although not currently regulated under the Clean Air Act, many regulatory agencies may request installations to include GHG emissions from motor vehicles in mobile source emissions inventories. Specific requests to calculate and provide CO<sub>2</sub> and/or CH<sub>4</sub> emissions data to regulatory agencies as part of the air emission inventory process should be reported through the appropriate Air Force Civil Engineer Center (AFCEC) channels, and coordinated through the chain-of-command. Such coordination should be accomplished prior to responding to the request in order to ensure a consistent Air Force response.

Since 1978, the U.S. Environmental Protection Agency (EPA) has used computer models to estimate emissions from cars, trucks and other mobile sources. The EPA's initial on-road vehicle emissions modeling software, known as the MOBILE model, was expanded many times over the years to incorporate new data on vehicle emissions, new vehicle emission standards and to better address new policy questions, while keeping the basic structure of the model. MOBILE uses average gram per mile emission rates and a series of correction factors to estimate emissions over a wide range of driving conditions. MOBILE6.2, finalized in 2004, was the EPA's official model for highway vehicle emissions. A number of analysts have critiqued the MOBILE series of models and suggested that the EPA develop a modeling "toolkit" that would better serve the range of uses for highway vehicle modeling, including consistent modeling at the aggregate scale, mesoscale, and microscale analysis.

In response to these and other concerns, the EPA developed the Motor Vehicle Emissions Simulator (MOVES) model. MOVES incorporates extensive new data and advanced algorithms to estimate highway vehicle emissions of greenhouse gases, criteria pollutants and selected air toxics at the national, regional and project level. In July of 2014, the EPA released MOVES2014 which included Tier 3 rule benefits, considerations for new EPA rules released since the last version of MOVES, as well as new emissions data and new user-requested features. MOVES2014 is used for EPA internal policy analyses and is required for use (outside California) in the evaluation of State Implementation Plans (SIPs) and transportation conformity determinations. On the official EPA website, use of other models, such as the MOBILE model and previous versions

of MOVES, is being discouraged as they contain outdated or otherwise inaccurate data. On October 7, 2014, the EPA published a Federal Register approving the MOVES2014 model for official use (outside of California), marking a two-year grace period for switching to MOVES2014 for SIP and transportation conformity analyses. As such, all on-road emission factor values and calculations (except for California) in this chapter were derived from the MOVES2014 (October release) model.

The EPA has historically classified on-road vehicles into eight broad *categories* based on the motor fuel type and Gross Vehicle Weight (GVW). MOBILE6 incorporated a new vehicle categorization system that more accurately reflects the way vehicles are categorized for emissions standards. MOVES expanded these vehicle groups to 28 specific vehicle categories. MOVES was designed to reflect the general fleet distribution or fleet characterization (i.e., fractional vehicle category distribution by year) for a specific location and can estimate emission rates (e.g., grams/mile, grams/vehicle) or input VMT and vehicle populations to output total emissions for any year from 1990 and 1999-2050. The MOVES model incorporates emissions from on-road vehicle refueling, therefore, these emissions are <u>not</u> addressed in the "Fuel Dispensing" section of this document since they are already integrated in the emission factors presented in this section.

Both MOVES and MOBILE6 emission models are better at showing relative changes in emissions over several years rather than obtaining "snapshot" accuracy for a given year. The EPA's April 2007 Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM<sub>2.5</sub>, and Regional Haze; Section 1.3.1 on Page 3 (USEPA 2007), "First, we recommend using models in a relative sense in concert with observed air quality data…" Therefore, MOVES or MOBILE6 should <u>not</u> be used to create a Mobile Air Emission Inventory (AEI).

#### 5.1.1 Vehicle Categories

The 28 vehicle *categories* from MOVES have been grouped into seven major aggregate *categories* based on vehicle type and Gross Vehicle Weight Rating (GVWR). Table 5-1 provides the seven major aggregate *categories*. These *categories* were chosen based upon available MOBILE6 emission factor outputs and readily identifiable general vehicle groupings. The seven aggregate vehicle *categories* are:

- Light-Duty Gasoline Vehicles (LDGV) All gasoline-powered passenger cars
- Light-Duty Diesel Vehicles (LDDV) All diesel-powered passenger cars
- *Light-Duty Gasoline Trucks (LDGT)* All smaller gasoline-powered trucks (0 to 8,500 lbs. GVWR)

- *Light-Duty Diesel Trucks (LDDT)* All smaller diesel-powered trucks (0 to 8,500 lbs. GVWR)
- *Heavy-Duty Gasoline Vehicles (HDGV)* All larger gasoline-powered vehicles (8,501to >60,000 lbs. GVWR)
- *Heavy-Duty Diesel Vehicles (HDDV)* All larger diesel-powered vehicles (10,001to >60,000 lbs. GVWR)
- *Motorcycles (MC)* All motorcycles (assumed to be gasoline powered)

#### 5.1.2 Vehicle Fleet Characterization

Based upon a review of recent Air Force mobile source emission inventories, the vehicle categories that are most representative of the types of GOVs and POVs expected to be encountered on a typical Air Force base were identified. The seven Air Force vehicle categories provide the most readily identifiable and discernible vehicle classes for vehicle mix identification and characterization. It is recognized that some vehicles encountered may not fit within the specific weight parameters of the categories chosen. In such instances, personnel conducting the air emissions inventory should use professional judgment to assign the vehicles to the listed category which most closely approximates (in terms of fuel type and vehicle weight) the vehicles in question. Table 5-2 provides a breakdown of the fleet characterization for the typical POV and GOV vehicle mix at an Air Force base. The vehicle mix provided in this table is to be used for estimating vehicle emissions unless specific vehicle mix data is available from a recent traffic study.

#### 5.1.3 Tactical Vehicles

A tactical vehicle is defined as any motor vehicle designed to military specifications or a commercially designed motor vehicle modified to military specification to meet direct transportation support of combat, tactical or relief operations, or for training of personnel for such purposes. Tactical vehicles are a subset of GOVs and Table 5-3 provides vehicle mix percentages for Tactical Vehicles as well as Non-Tactical Vehicles out of the total GOV Vehicle Mix. This supplemental information is provided if the need to calculate emissions specific to tactical or non-tactical vehicles arises.

Table 5-1. Air Force On-Road Vehicle Categories

CATEGORY								
Air Force	MOVES	VEHICLE CLASS DECRIPTION						
	Gas/Diesel							
LDGV	LDGV	Light-Duty Gasoline Vehicles (Passenger Cars)						
LDDV	LDDV	Light-Duty Diesel Vehicles (Passenger Cars)						
	LDGT1	Light-Duty Gasoline Trucks 1 (0-6,000 lbs. GVWR, 0-3,750 lbs. LVW)						
LDGT	LDGT2	Light-Duty Gasoline Trucks 2 (0-6,000 lbs. GVWR, 3,751-5,750 lbs. LVW)						
LDGI	LDGT3	Light-Duty Gasoline Trucks 3 (6,001-8,500 lbs. GVWR, 0-5,750 lbs. ALVW)						
	LDGT4	Light-Duty Gasoline Trucks 4 (6,001-8,500 lbs. GVWR, greater than 5,751 lbs. ALVW)						
LDDT	LDDT1/2	Light-Duty Diesel Trucks 1 and 2 (0-6,000 lbs. GVWR)						
LDD1	LDDT3/4	Light-Duty Diesel Trucks 3 and 4 (6,001-8,500 lbs. GVWR)						
	HDGV2a	Class 2b Heavy-Duty Gasoline Vehicles (8,501-10,000 lbs. GVWR)						
	HDDV2b	Class 2b Heavy-Duty Diesel Vehicles (8,501-10,000 lbs. GVWR)						
	HDGV3	Class 3 Heavy-Duty Gasoline Vehicles (10,001-14,000 lbs. GVWR)						
	HDGV4	Class 4 Heavy-Duty Gasoline Vehicles (14,001-16,000 lbs. GVWR)						
HDGV	HDGV5	Class 5 Heavy-Duty Gasoline Vehicles (16,001-19,500 lbs. GVWR)						
HDGV	HDGV6	Class 6 Heavy-Duty Gasoline Vehicles (19,501-26,000 lbs. GVWR)						
	HDGV7	Class 7 Heavy-Duty Gasoline Vehicles (26,001-33,000 lbs. GVWR)						
	HDGV8a	Class 8a Heavy-Duty Gasoline Vehicles (33,001-60,000 lbs. GVWR)						
	HDGV8b	Class 8b Heavy-Duty Gasoline Vehicles (>60,000 lbs. GVWR)						
	HDGB	Gasoline Buses (School, Transit and Urban)						
	HDDV3	Class 3 Heavy-Duty Diesel Vehicles (10,001-14,000 lbs. GVWR)						
	HDDV4	Class 4 Heavy-Duty Diesel Vehicles (14,001-16,000 lbs. GVWR)						
	HDDV5	Class 5 Heavy-Duty Diesel Vehicles (16,001-19,500 lbs. GVWR)						
	HDDV6	Class 6 Heavy-Duty Diesel Vehicles (19,501-26,000 lbs. GVWR)						
HDDV	HDDV7	Class 7 Heavy-Duty Diesel Vehicles (26,001-33,000 lbs. GVWR)						
	HDDV8a	Class 8a Heavy-Duty Diesel Vehicles (33,001-60,000 lbs. GVWR)						
	HDDV8b	Class 8b Heavy-Duty Diesel Vehicles (>60,000 lbs. GVWR)						
	HDDBT	Diesel Transit and Urban Buses						
	HDDBS	Diesel School Buses						
MC	MC	Motorcycles (Gasoline)						
		HYBRID						
LDGV (H)								
LDGT (H)								
	CNG							
LDGV (C)								
LDGT (C)								
HDGV (C)								

Table 5-2. Typical Air Force POV & GOV Mix

CATEGORY		2012 to 2	2020 Avg.	POV	GOV			
Air Force	MOVES		ehicle Mix	Vehicle Mix	Vehicle Mix			
			Oiesel	(%) <sup>1</sup>	(%) <sup>2</sup>			
LDGV	LDGV	34.86	34.86	56.17	5.41			
LDDV	LDDV	0.03	0.03	0.88	1.12			
LDDV	LDGT1	9.57	0.03	0.66	1.12			
	LDGT1	31.86	56.00					
LDGT	LDGT3	9.98		34.62	46.36			
	LDGT3	4.59						
	LDDT1/2	0.00						
LDDT	LDDT3/4	0.19	0.19	1.00	16.17			
	HDGV2a	0.17						
	HDGV2b	2.88						
	HDGV3	0.10						
	HDGV4	0.03		0.62	8.19			
	HDGV5	0.11						
HDGV	HDGV6	0.24	3.46					
	HDGV7	0.10						
	HDGV8a	0.00						
	HDGV8b	0.00						
	HDGB	0.00						
	HDGV2a	0.70		0.22	22.39			
	HDDV2b	0.72						
	HDDV3	0.22						
	HDDV4	0.21						
	HDDV5	0.10						
HDDV	HDDV6	0.41	3.70					
	HDDV7	0.59						
	HDDV8a	0.35						
	HDDV8b	0.82						
	HDDBT	0.03						
	HDDBS	0.25						
MC	MC	1.76	1.76	4.49	0.00			
	HYBRID							
LDGV (H)				1.70	0.06			
LDGT (H)				0.24	0.30			
		CN	NG					
LDGV (C)				0.06	0.00			
LDGT (C)				0.00	0.00			
HDGV (C)				0.00	0.00			

<sup>1.</sup> SOURCE: POV vehicle mix was based on available Employee-Certification and Reporting System (ECARS) data collected on 3/7/14.

<sup>2.</sup> SOURCE: GOV vehicle mix was based on information provided by the Air Force Vehicle and Equipment Management Office (VEMSO).

<sup>&</sup>quot;---" Indicates No Data Available

Table 5-3 GOV Tactical and Non-Tactical Vehicle Mix

CATEGORY		GOV	GOV Non-			
Air Force	MOVES	Tactical Vehicle Mix	Tactical Vehicle Mix			
	Coal	(%) Diesel	(%)			
LDCV			5.41			
LDGV	LDGV	0.00	5.41			
LDDV	LDDV	0.00	1.12			
	LDGT1					
LDGT	LDGT2	0.12	46.23			
	LDGT3					
	LDGT4					
LDDT	LDDT1/2	0.30	15.87			
	LDDT3/4					
	HDGV2a HDGV2b					
	HDGV20					
	HDGV3		8.18			
	HDGV4					
HDGV	HDGV5	0.01				
	HDGV7					
	HDGV8a					
	HDGV8b					
	HDGB					
	HDGV2a					
	HDDV2b					
	HDDV3					
	HDDV4					
	HDDV5					
HDDV	HDDV6	5.42	16.98			
	HDDV7					
	HDDV8a					
	HDDV8b					
	HDDBT					
	HDDBS					
MC	MC	0.00	0.00			
	HYBRID					
LDGV (H)		0.00	0.06			
LDGT (H)		0.00	0.30			
	Cì	NG				
LDGV (C)		0.00	0.00			
LDGT (C)		0.00	0.00			
HDGV (C)		0.00	0.00			

#### 5.2 Emission Factors

Emissions from on-road vehicle use include exhaust emissions, which occurs both when the vehicle is in motion and while idling, as well as fugitive particulate emissions from road dust. The methodology for estimating emissions from each of these contributing sources is described in the following sections.

#### 5.2.1 Vehicle Exhaust Emissions

The operation of on-road vehicles results in the generation of vehicle exhaust which emits criteria pollutants, HAPs, and CO<sub>2</sub>. Vehicle exhaust emissions estimates are made more challenging based on the fact that the amount of pollutants emitted is different for a vehicle in normal operation versus when the vehicle is idling. The total emissions from vehicle exhaust is quantified by taking the sum of both the idling and normal operating exhaust emissions. **MOVES accounts for idling in proportion to normal driving, therefore calculation of idling emissions is not required for an AEI.** Particulate emissions estimation is made more complex by the fact that particulate is emitted from vehicle exhaust – from both idle and non-idle use – as well as from the suspension of road dust. CO<sub>2</sub> equivalent, or CO<sub>2</sub>e, is also calculated by MOVES yielding the same value as CO<sub>2</sub> and is therefore not listed in the following emissions tables. The emission factors for each contributing source are described in more detail below.

#### 5.2.1.1 Vehicle Exhaust Emissions - Normal Vehicle Operation

Emission factors for the Air Force vehicle categories were obtained directly from MOVES2014. The MOVES2014 model was used to generate estimations of on-road vehicle emissions for each state (except California), the District of Columbia as well as relevant US territories. This model requires various inputs such as population and Vehicle Miles Traveled (VMT) by vehicle type, age distribution and average speed distribution, ambient meteorological conditions, and elevation among other inputs. The "default" input database for MOVES2014 was used for all calculations and derivations. The MOVES2014 model was run for each state using the national estimates contained within the default database for all vehicle types listed in Table 5-1. Model runs were completed for each state and relevant territories for calendar years 2014 through 2020. The vehicle types selected for the run were all gasoline and diesel vehicles available in the MOVES database. The vehicle model years used for each run include a 30-year span from the calendar year of the run to 30 years prior. The output emission rates were then averaged using an activity (mileage) weighted average over all vehicle model years for each calendar year to obtain the final emission factors for each pollutant for each vehicle type. The resultant emission factors are provided in a gram/mile format. Table 5-11 through Table 5-24 are Air Force/State/Territory composite emission factors while category specific emission factors are provided in Table 5-25 through Table 5-31. The composite tables are further subdivided into emission factors for POVs and GOVs. Several of the key inputs and model default values used to generate the emission factors are presented in Table 5-4.

Table 5-4. MOVES2014 Inputs Used to Generate On-Road Vehicle Emission Factors

Model Input	Input Value		
Scale	National		
Calculation Type	Inventory		
Model Years	30 yr range from calendar yr back		
Years	2014-2020		
Months	All		
Days	Weekend and Weekdays		
Hours	All		
Geographic Bounds	State/Territory Specific		
Fuels	Diesel Fuel and Gasoline		
Source Use Types	All		
Road Types	All		
Pollutants And Processes	NO <sub>x</sub> , SO <sub>x</sub> , CO, VOC, PM <sub>10</sub> , PM <sub>2.5</sub> , CO <sub>2</sub> ,		
Fonutains And Flocesses	NH <sub>3</sub> , and all required additional processes		
Activity	Distance Traveled, Populations, Starts		

There is not a universally accepted set of emission factors based for installations located outside of the continental United States (OCONUS). Additionally, determining the vehicle mix or classifying vehicles may be more difficult in a foreign country. Calculating emissions for on-road vehicles at OCONUS facilities can be approximated by calculating the average of all state-specific composite emission factors. The emission factors for vehicle emissions at OCONUS installations are provided in Table 5-53 and Table 5-54 and are to be used with the same methodology as calculating on-road vehicle emissions within the United States.

The state of California uses its own emissions model called EMFAC from which it derives all of its emission factors. To this end, an additional set of county-specific tables and data have been provided specifically for California using the EMFAC emissions model. Similar to the MOVES2014 model, EMFAC2014 calculates emissions for all motor vehicles in the state using data stored in its default database. A summary of the inputs used for these runs is included in Table 5-5. Table 5-32 through Table 5-45 contain the county-specific composite emission factors and Table 5-46 through Table 5-52 contain category-specific emission factors.

Table 5-5. EMFAC2014 Inputs Used to Generate On-Road Vehicle Emission Factors

Model Input	Input Value
Run Mode	Emissions
Run Type	Default Activity
Area	County Specific
Years	2014-2020
Season	Annual
Aggregation Level	Day
Vehicle Class	ALL
Model Year	30 yr range from calendar yr back
Fuel	By Fuel
Speed	Aggregated
Pollutants And Processes	NO <sub>x</sub> , SO <sub>x</sub> , CO, ROG, PM <sub>10</sub> , PM <sub>2.5</sub> , CO <sub>2</sub> , CH <sub>4</sub>
Activities	VMT, Population

#### 5.2.1.2 Vehicle Exhaust Emissions – Idling

An idling vehicle wastes fuel, increases the cost of maintenance, and creates air pollution. Several states have adopted anti-idling restrictions with some including these restrictions in their SIPs. Emission factors for emissions from idling vehicles were developed and are provided in a **gram/hour format** since, by definition, an idling vehicle is not in motion and emissions may not be calculated on miles driven but rather time in the idle mode. For this reason, the total amount of time that a vehicle spends in idle mode must be known or closely approximated. **Note that MOVES emission factors already include vehicle idling in proportion to normal driving. For this reason, the emission factors given here are presented for the purpose of calculating theoretical emissions for NEPA or for intersection modeling.** 

Idling emissions will vary depending on the temperature, so the emission factors were developed based on summer and winter conditions which are characterized by temperatures of 75°F and 30°F respectively. Table 5-6 and Table 5-7 provide these emission factors based on summer and winter conditions respectively while Table 5-8 provides an average of the two seasons.

Table 5-6. Idling Emission Factors for On-Road Vehicles during Summer Conditions

Vahiala Catagomy	Emission Factors (g/hr)						
Vehicle Category	CO	NOx	VOC	$PM_{10}^{(1)}$	PM <sub>2.5</sub> <sup>(2)</sup>		
LDGV (Passenger Cars)	229	4.72	16.1				
LDGT (0-8,500 lb GVWR)	339	5.71	24.1				
HDGV (>8,500 lb GVWR)	738	10.2	35.8				
LDDV (Passenger Cars)	9.97	6.50	3.53				
LDDT (Light-Duty Trucks)	11.2	6.67	4.63				
HDDV (>8,500 lb GVWR)	94.0	55.0	12.5	2.58	2.37		
MC (Motorcycles)	435	1.69	19.4				

SOURCE: EPA420-F-98-014, *Emission Facts: Idling Vehicle Emissions*, April 1998. Summer conditions are based on a temperature of 75°F and 9.0 psi RVP gasoline.

Table 5-7. Idling Emission Factors for On-Road Vehicles during Winter Conditions

Vehicle Category	Emission Factors (g/hr)					
venicle Category	CO	NOx	VOC	$PM_{10}^{(1)}$	$PM_{2.5}^{(2)}$	
LDGV (Passenger Cars)	371	6.16	21.1			
LDGT (0-8,500 lb GVWR)	487	7.47	30.7			
HDGV (>8,500 lb GVWR)	682	11.8	44.6			
LDDV (Passenger Cars)	10.1	6.66	3.63			
LDDT(Light-Duty Trucks)	11.5	6.89	4.79			
HDDV (>8,500 lb GVWR)	94.6	56.7	12.6	2.58	2.37	
MC (Motorcycles)	388	2.51	20.1			

SOURCE: EPA420-F-98-014, *Emission Facts: Idling Vehicle Emissions*, April 1998. Winter conditions are based on a temperature of 30°F and 13.0 psi RVP gasoline.

Table 5-8. Average Idling Emission Factors for On-Road Vehicles

Vehicle Category	Emission Factors (g/hr)					
venicle Category	CO	NOx	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	
LDGV (Passenger Cars)	300	5.40	18.6			
LDGT (0-8,500 lb GVWR)	413	6.60	27.4			
HDGV (>8,500 lb GVWR)	710	11.0	40.2			
LDDV (Passenger Cars)	10.0	6.60	3.60			
LDDT(Light-Duty Trucks)	11.4	6.80	4.70			
HDDV (>8,500 lb GVWR)	94.3	55.9	12.6	2.58	2.37	
MC (Motorcycles)	412	2.10	19.8			

SOURCE: Data represent average of summer and winter values listed in above tables.

<sup>1.</sup> PM<sub>10</sub> is an average of HDDV particulate emissions.

<sup>2.</sup> PM<sub>2.5</sub> value is assumed to be 92% of the PM<sub>10</sub> value per *Air Emissions Factor Guide to Air Force Mobile Sources*, December 2009.

<sup>&</sup>quot;---" Indicates No Data Available.

<sup>1.</sup> PM<sub>10</sub> is an average of HDDV particulate emissions.

<sup>2.</sup> PM<sub>2.5</sub> value is assumed to be 92% of the PM<sub>10</sub> value per *Air Emissions Factor Guide to Air Force Mobile Sources*, December 2009.

<sup>&</sup>quot;---" Indicates No Data Available

<sup>&</sup>quot;---" Indicates No Data Available.

#### **5.2.1.3** Alternative Fuel Emission Reduction Factors

Progressively stringent requirements resulting from the Energy Policy Act (EP Act), Presidential Executive Orders, and DoD and Air Force pollution prevention and energy conservation initiatives will result in an increasing number of GOVs and POVs powered by alternative fuels such as E85 (a fuel blend consisting of 85% ethanol and 15% gasoline), Compressed Natural Gas (CNG), or B20 (a fuel blend consisting of 20% biodiesel and 80% petroleum diesel), and advanced hybrid electric vehicles (HEVs). Regardless of fuel type, all vehicles operating on alternative fuels are currently required to meet existing EPA emission standards established for gasoline and/or diesel powered vehicles. However, some fuels offer potential emission reductions beyond those standards.

Relative to conventional gasoline, the higher octane value and oxygen content of E85 fuel should lead to reduced vehicle emissions. The EPA's Office of Transportation Air Quality (OTAQ) notes that while potential reductions will vary with engine design, E85 fuel should lead to reductions in VOCs, CO, PM, and NO<sub>x</sub> relative to conventional gasoline (USEPA 2002a). The case with HAP emissions is not as clear since some data indicates a reduction in benzene and fewer total toxics, but an increase in ethanol and acetaldehyde emissions (USEPA 2006a). Adding to the complexity, some studies have shown that with the use of a catalytic converter, there is virtually no difference in exhaust emissions from on-road vehicles powered by gasoline. Due to these inconsistencies and the lack of clear data trends, at this point in time the application of E85 emission reduction factors is not recommended.

CNG is recognized as one of the cleanest burning alternative fuels available and offers a number of advantages over gasoline (USDoE 2002). There is limited data for emissions reductions that compressed natural gas offers over conventional gasoline, especially since emissions will vary with engine design and performance. However, the EPA suggests that, relative to conventional gasoline-powered vehicle applications, emissions from CNG-powered vehicles are estimated to be substantially lower for CO, PM, NO<sub>X</sub>, and non-methane hydrocarbons.

There have been a few studies on the impact of B20 fuel on vehicle emissions. In October 2002, the EPA issued a draft technical report on biodiesel emissions (USEPA 2002b) which used the results from 39 studies to compare the difference in emissions between vehicles using B20 versus diesel fuel. Relative to low sulfur diesel (sulfur content of 500 ppm), B20 use resulted in notable reduction of NOx, PM, HC, and CO emissions. Since the publication of the study, Ultra-Low Sulfur Diesel (ULSD) regulations that limit the sulfur content of on-highway diesel fuel to 15 ppm have been enacted and are in place across the country. Another study conducted under the auspices of the DoD Environmental Security Technology Certification Program (ESTCP) sought to measure the impact of B20 on emissions from engines used in on-road and portable power generation applications (DoD 2006). Whereas the EPA study used a B20/low sulfur diesel blend, the ESTCP study used a B20 biodiesel/ULSD blend to reflect the fact that conventional low sulfur diesel is no longer available for use in on-road vehicles. The ESTCP study concluded there were no statistically significant

differences in criteria pollutant emissions between the B20 biodiesel blended with ULSD and the ULSD by itself. Likewise, no consistent trend was observed with regard to HAP emissions.

Hybrid Electric Vehicles (HEV) produce fewer criteria pollutant, HAP, and CO<sub>2</sub> emissions than comparable dedicated gasoline-powered vehicles because they utilize an electric motor in conjunction with a traditional, and often smaller, internal combustion engine. The electric motor decreases the frequency in which the combustion engine is used which reduces fuel consumption and, therefore, emissions. Overall emissions will vary depending on a number of factors including the vehicle's electrical storage capacity and how long it can operate in "electric-only" mode, how advanced the engine controls are, which emission standards the vehicles have been produced to meet, vehicle size, model year, etc. For these reasons, the emission profile of HEVs must be judged individually based on the miles traveled under each power mode, complicating attempts to estimate vehicle emission reductions. To estimate the potential emission reduction benefits from the use of HEVs, vehicle family application and emission certification data contained in the EPA OTAQ Certification and Fuel Economy Information System and the California Air Resources Board (CARB) On-Road Vehicle and Engine Certification website were utilized. The assessment of representative certification data indicated NO<sub>X</sub>, CO, HC (assumed to be equal to VOCs), and CO<sub>2</sub> were substantially reduced on average (U.S. Environmental Protection Agency, Office of Transportation Air Quality, Certification and Fuel Economy Information System).

Based upon this data, reduction factors for alternative fuels were calculated for on-road vehicles and are provided in Table 5-9. To estimate potential emission reductions from the use of these alternative fuels and advanced vehicle technologies, calculate vehicle emissions using the MOBILE6 gasoline or diesel fuel emission factors provided and apply an appropriate percent impact based upon the values listed in the table.

Alternative Fuel		Fuel Reduction Emission Factor (%)					
(Original fuel type)	Vehicle Category	CO	NO <sub>X</sub>	VOC1	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>
CNG (Gasoline) <sup>1</sup>	LDGV, LDGT, HDGV	90	35	50	90 <sup>(3)</sup>	90 <sup>(3)</sup>	25
B20 (Diesel) <sup>4</sup>	LDDV, LDDT, HDDV	0	0	0	0	0	0
HEVs (Gasoline) <sup>5</sup>	LDGV, LDGT	50	75	35			30

**Table 5-9. Alternative Fuel Emission Reduction Factors (FERFs)** 

- 1. Source provided emission factors for hydrocarbons or non-methane hydrocarbons which are assumed to be equivalent to VOC emissions reduction.
- SOURCE: "Clean Alternative Fuels: Compressed Natural Gas (EPA 420- F-00-033)," U.S. Environmental Protection Agency, March 2002.
- 3. SOURCE: Arkansas Gas Association, Natural Gas Vehicles
- 4. Based on emission factors using MOBILE6 default of 15 ppm ULSD for diesel, and results of Department of Defense ESCTP study, *Effect of Biodiesel on Diesel Engine Nitrogen Oxide and Other Regulated Emissions*, Project number WP-0308, May 2006, indicating no statistically significant difference in B20/ULSD vs. ULSD emissions.

 Factors represent the difference in CO<sub>2</sub> emissions associated with the combustion of one gallon of gasoline and one gasoline equivalent of CNG. Source: California Climate Action Registry, General Reporting Protocol Version 2.2, Table C-3, March 2007.

#### 5.2.2 Fugitive Particulate Matter (PM) Emissions

Though roads are themselves stationary, the generation of airborne road dust is the result of the turbulent wake created by on-road vehicles, which are mobile sources. Thus, road dust emissions are provided in this section of the Mobile Guide. Note that this section does not describe emissions from asphalt paving since those operations are considered transitory and are addressed in the Transitory Guide. Since fugitive PM emissions are the result of road dust suspended as the vehicle moves across a road surface, the extent of the emitted PM is dependent on whether the road surface is paved or unpaved. These surfaces are subjected to strong air currents from the turbulent wake that follows behind a vehicle as it passes. The currents disturb the loose material pulverized under the weight of the vehicle and PM is cast into the air. PM emissions will fluctuate for several reasons including construction activities in the area, road degradation due to vehicular traffic, and the application of granular materials for snow and ice control. Typically, the most important factors regarding road PM emissions are the number and weight of the vehicles which travel that road, and the VMT. Paved and unpaved road emission factors are already derived and may be found in Table 5-10.

 Table 5-10. Fugitive PM Emission Factors

	PC	)V	GOV		
_	PM <sub>10</sub> (g/mi)	PM <sub>2.5</sub> (g/mi)	PM <sub>10</sub> (g/mi) PM <sub>2.5</sub> (g/		
Paved Road	0.058	0.014	0.069	0.017	
Unpaved Road	466.206	46.621	505.981	50.598	

The emission factors for suspension of loose material on paved and unpaved road surfaces due to vehicle travel were derived from the following empirical equations from AP-42 Chapter 13.2 (Jan 2011):

$$EF(Pol)_P = k(Pol) \times (sL)^{0.91} \times W^{1.02}$$
 AP-42 Chapter 13.2.1.3

Where,

EF(Pol)<sub>P</sub> = Particulate emission factor for paved roads (g/mi)

k(Pol) = Particle size multiplier (g/mi).  $PM_{2.5} = 0.25$  and  $PM_{10} = 1.00$ 

<sup>&</sup>quot;---" Indicates No Data Available.

sL = Road surface silt loading (g/m²). **AP-42 Chapter 13.2.1 recommends a default** value of 0.015 for limited access roadways (such as Air Force roads)

W = Average weight of the vehicles traveling the road (tons). POVs = 2.581 and GOVs = 3.096

$$EF(Pol)_U = k(Pol) \times \left(\frac{s}{12}\right)^a \times \left(\frac{W}{3}\right)^b \times 453.6$$
 AP-42 Chapter 13.2.2.2

Where,

 $EF(Pol)_U = Particulate emission factor for unpaved roads (g/mi)$ 

k(Pol) = Particle size multiplier (lb/mi).  $PM_{2.5} = 0.15$  and  $PM_{10} = 1.5$ 

s = Surface material silt content (%). **AP-42 Chapter 13.2.2 value for construction** site road value of 8.5

a, b = Empirical constants for industrial roads from AP-42 Table 13.2.2-2. **a=0.9** and **b=0.45** 

453.6 = Factor converting lb to grams (g/lb)

\*Note: the equation above calls for the average weight of all vehicles traveling the road and is <u>not</u> intended to be used to calculate a separate emission factor for each vehicle weight class. Rather, one emission factor should be calculated to represent the "fleet" average weight of all vehicles.

### **5.2.2.1 Corrected Emission Factors Accounting for Precipitation**

Average fugitive PM emissions are inversely proportional to the frequency of measurable precipitation (>0.01 inch). The total fugitive PM emissions are calculated using the appropriate emission factor listed above, the total vehicle miles traveled, and a precipitation correction term. When accounting for precipitation, the fugitive PM emission factors must be corrected. The corrected emission factors for both paved and unpaved roads are calculated as follows:

$$EF(Pol)_{CP} = EF(Pol)_P \times \left(1 - \frac{P}{4N}\right)$$

**Equation 5-1** 

$$EF(Pol)_{CU} = EF(Pol)_{U} \times \left(1 - \frac{P}{N}\right)$$

**Equation 5-2** 

Where,

**EF(Pol)**<sub>CP/CU</sub> = Corrected emission factor for paved or unpaved roads (g/mi)

P = Number of days in the inventory period in which at least 0.01 inches of precipitation was measured (days). See Figure 5-1 to determine this value based on the installation's geographic location.

N = Number of days in the inventory period (days). 1 year = 365 Days

\*Note – the paved road precipitation factor differs from the unpaved precipitation factor since it incorporates a factor of "4" in the denominator to account for the fact that paved roads dry more quickly than unpaved roads.

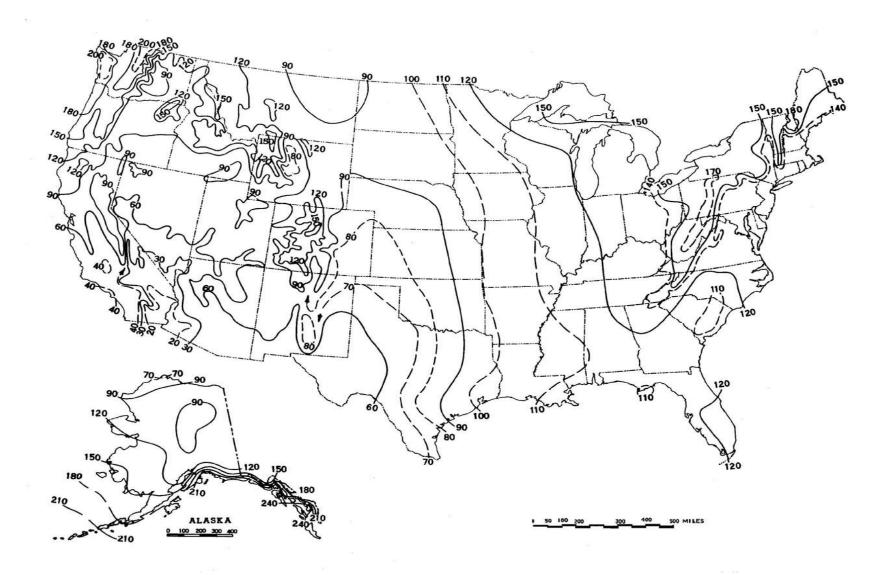


Figure 5-1. Mean Number of Days in the Year with Precipitation of 0.01 Inches or More

#### **5.3** Emissions Calculation

Both MOVES and MOBILE6 emission models are better at showing relative changes in emissions over several years rather than obtaining "snapshot" accuracy for a given year. The EPA's April 2007 Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM<sub>2.5</sub>, and Regional Haze; Section 1.3.1 on Page 3 (USEPA 2007), "First, we recommend using models in a relative sense in concert with observed air quality data…" Therefore, MOVES or MOBILE6 should <u>not</u> be used to create a Mobile Air Emission Inventory (AEI).

The total emissions from the operation of on-road vehicles are the sum of the emissions from the vehicle exhaust and fugitive PM from road dust. There are three accepted methods for estimating vehicle emissions. Method 1 uses the typical Air Force POV and GOV fleet mix from Table 5-2, while method 2 uses POV and GOV fleet mix from recent traffic studies. Method 3, which is the simplest and preferred method, uses Air Force/State/Territory composite emission factors. No matter the method used for estimation, **POV and GOV emissions are calculated independently.** 

#### 5.3.1 Vehicle Exhaust Emissions - Typical Vehicle Operation

Calculating emissions from vehicle exhaust is dependent on the VMT and appropriate emission factor. Vehicle exhaust emissions are directly dependent on the vehicle mix at the installation. There are two circumstances that determine the method for calculating vehicle exhaust emissions – when the specific vehicle mix is known or when it is unknown. If the vehicle mix is known, that data may be used for emissions calculations, whereas if unknown, the mix from Table 5-2 may be assumed. Calculating these emissions is performed as follows:

## 5.3.1.1 Using Air Force/State/Territory Composite Emission Factors (Preferred Method)

This is the preferred method for emissions estimates because it is the simplest method to use. The emission factors used for this method are selected based on: (1) the emission inventory year, (2) the vehicle *classification* (POV versus GOV), and (3) the state/territory in which the installation is located. The Air Force/State/Territory composite emission factors (EF(Pol)<sub>ST</sub>) were derived using the assumed vehicle mix as given in Table 5-2 and are given in Table 5-11 through Table 5-24 for most states, Table 5-32 through Table 5-45 for California, or Table 5-53 and Table 5-54 for OCONUS installations. However, these emission factors **must be adjusted** to reflect the reduction in emissions as a result of vehicles that operate on alternative fuels. Emissions calculation using the adjusted emission factors is estimated as follows:

$$E(Pol)_{Total} = VMT_{Total} \times EF(Pol)_{Total} \times 0.002205$$

**Equation 5-3** 

Where,

0.002205

E(Pol)<sub>Total</sub> = Total annual emissions of specific pollutant from vehicle exhaust (lb/yr)
 VMT<sub>Total</sub> = Total annual vehicle miles traveled for all POV or GOV (mi/yr). This should be available for GOVs, and estimated for POVs using Equation 5-7.

Note that this includes both paved and unpaved roads, if applicable.

**EF(Pol)**<sub>Total</sub> = Total <u>adjusted</u> AF/State/Territory composite emission factor for specific pollutant (g/mi). This is calculated using Equation 5-5 and Equation 5-6

= Factor for converting grams to pounds (lb/g)

The total adjusted Air Force/State/Territory composite emission factor (EF(Pol)<sub>Total</sub>) is the sum of the adjusted emission factors for gas and diesel, hybrid, and CNG fuel vehicles. The adjusted emission factors account for the mix of vehicles that use alternative fuels with their respective reduction in emissions as shown:

$$EF(Pol)_{Total} = \sum EF(Pol)_{Fuel} = \sum \left\{ EF(Pol)_{ST} \times \frac{MIX_{Fuel}}{100} \times \left[ 1 - \frac{FERF(Pol)_{Fuel}}{100} \right] \right\}$$
Equation 5-4

Where,

 $\mathbf{EF}(\mathbf{Pol})_{\mathbf{Fuel}}$  = Adjusted emission factor for specific pollutant based on fuel and vehicle

mix (g/mi)

**EF(Pol)**<sub>ST</sub> = State/Territory composite emission factor for specific pollutant (g/mi).

These are provided in Table 5-11 through Table 5-24 for most states, Table 5-32 through Table 5-45 for California, or Table 5-53 and Table 5-54 for

OCONUS.

MIX<sub>Fuel</sub> = Percent of gas and diesel, hybrid, or CNG vehicles in total vehicle

population (%)

**FERF(Pol)**<sub>Fuel</sub> = Pollutant fuel emission reduction factor, from Table 5-9 (%). Use "0" if

no alternative fuel is used, otherwise refer to Table 5-9

= Factor converting percent to a fraction (%)

The vehicle mix is significantly different between POV and GOV vehicles and separate calculations must be made for both types. Using the vehicle mix data from Table 5-2 and the FERF values from Table 5-9, an equation for the calculation for total state/territory composite emission factor for both POVs and GOVs may be written as shown:

$$\begin{split} EF(Pol)_{Total-POV} &= EF(Pol)_{ST} \\ &\times \left\{ 0.98 + \left[ 0.006 \times \left( 1 - \frac{FERF(Pol)_{CNG}}{100} \right) \right] + \left[ 0.0194 \times \left( 1 - \frac{FERF(Pol)_{Hyb}}{100} \right) \right] \right\} \end{split}$$
 Equation 5-5

$$EF(Pol)_{Total-GOV} = EF(Pol)_{ST} \times \left\{ 0.9983 + \left[ 0.0017 \times \left( 1 - \frac{FERF(Pol)_{Hyb}}{100} \right) \right] \right\}$$
Equation 5-6

Where,

**EF(Pol)**<sub>Total-POV</sub> = Total annual emissions of specific pollutant for POVs (g/yr) **EF(Pol)**<sub>Total-GOV</sub> = Total annual emissions of specific pollutant for GOVs (g/yr)

**FERF(Pol)**<sub>Hyb</sub> = Pollutant-specific fuel emission reduction factor for hybrid vehicles (%) **FERF(Pol)**<sub>CNG</sub> = Pollutant-specific fuel emission reduction factor for CNG vehicles (%)

The total vehicle miles traveled (VMT<sub>Total</sub>) for GOVs is the sum of all the miles put on GOVs during the inventory period. These values should be available through records kept by the base transportation organization or directly from the organizations that operate and/or maintain the vehicles (or may be estimated using Equation 5-13). Estimating the total vehicle miles traveled for POVs, however, is more challenging. The suggested method for estimating VMT<sub>Total</sub> for POVs is to assume that each POV in operation on base travels twice the distance from the main base gate to the population centroid of the base. Not every person on base will operate their vehicle every day of the year. Rather, it is assumed that the majority of POVs will be driven during the workweek. Additionally, a statistical analysis of available ECARS data revealed that typically only 70% of the base population actually operates their vehicles on base during the week. Using this information, the VMT<sub>Total</sub> for POVs is estimated as follows:

$$VMT_{Total-POV} = AVM \times N_{POV} = D \times 520 \times 0.7 \times P$$

**Equation 5-7** 

Where,

**AVM** = Average annual vehicle miles traveled on base (mi/yr)

 $N_{POV}$  = Total number of POV vehicles

**D** = One-way distance from the main gate to the population centroid of the base (miles/trip)

520 = Factor for converting the number of miles per trip to miles per year (trips/year)

**0.7** = Fraction of the base population that operate their vehicle during the week

**P** = Base population

In Equation 5-7, the "520" conversion factor was derived as follows:

$$2\frac{trips}{day} \times 5\frac{days}{week} \times 52\frac{weeks}{yr} = 520\frac{trips}{yr}$$

Emissions are calculated by first solving the emission factors for POVs and GOVs using Equation 5-5 and Equation 5-6 with the Air Force/State/Territory-specific Total Composite Emission Factor for all vehicle categories which can be found in Table 5-11 through Table 5-24 for most states, Table 5-32 through Table 5-45 for California, or Table 5-53 and Table 5-54 for OCONUS installations. The adjusted emission factors are then used in Equation 5-3 for the total emissions of each pollutant. These steps must be completed independently for each pollutant of concern. Note GOVs and POVs should not be combined; GOV and POV emissions must be calculated independently. Due to the complexity of calculating on-road vehicle emissions, the following steps are recommended for use as a guideline for data collection and emissions calculations:

<u>Step 1</u> – Gather fleet data. If the on-base vehicle mix is unknown, the first step is to determine the number of POVs (N<sub>POV</sub>) and GOVs (N<sub>GOV</sub>) operating on base. Also, the total vehicle miles traveled (VMT<sub>Total</sub>) or average vehicle miles traveled (AVM) for GOVs should be recorded. This data often can be provided or estimated by the Security Forces Squadron (from the Pass & Registration section) and/or the Military Personnel Flight (MPF). With this information collected, the VMT<sub>Total</sub> may be calculated. For POVs, VMT<sub>Total</sub> is calculated using Equation 5-7 while Equation 5-13 may be used, if necessary, to calculate VMT<sub>Total</sub> for GOVs.

<u>Step 2</u> – Select emission factors. These are provided in Table 5-11 through Table 5-24 for all states but California, Table 5-32 through Table 5-45 for California, or Table 5-53 and Table 5-54 for OCONUS installations. After the emission factors have been selected, they may be adjusted to reflect emissions reductions from the use of alternative fuels. Calculation of the adjusted composite emission factor (EF(Pol)Total-POV or EF(Pol)Total-GOV) is accomplished using either Equation 5-5 or Equation 5-6.

<u>Step 3</u> – Calculate emissions. Emissions of each pollutant (and *classification*) are calculated *independently* using Equation 5-3.

# 5.3.1.2 Using Specific Vehicle Mix Data

If necessary, emissions may be calculated using a specific vehicle mix different from the one provided in Table 5-2. Though this method is more intensive than the preferred method given above, it may be desirable if a recent traffic study conflicts with the typical vehicle mix provided, or if emissions from each vehicle category are required. The emission factors used for this method are selected based on: (1) the emission inventory year, (2) the state in which the installation is located, and (3) the vehicle category (LDGV, LDDV, etc.). The emission factors used for this

method (EF(Pol)<sub>i</sub>) are provided in Table 5-25 through Table 5-31 for most states or Table 5-46 through Table 5-52 for California. Emissions are estimated using the vehicle miles traveled for each vehicle category and summed as follows:

$$E(Pol)_{Total} = \sum_{i=1}^{7} \left\{ VMT_i \times EF(Pol)_i \times \left[ 1 - \frac{FERF(Pol)}{100} \right] \times 0.002205 \right\}$$

**Equation 5-8** 

Where,

VMT<sub>i</sub> = Annual vehicle miles traveled by each vehicle category (mi/yr). Includes miles traveled both on paved and unpaved roads, if applicable.

**EF(Pol)**<sub>i</sub> = Emission factor for specific pollutant from vehicle exhaust (g/mi)

i = Specific vehicle category of seven Air Force categories (i.e., LDGV, LDDV, LGDT, LDDT, HDGV, HDDV, and MC)

If the annual VMT for each vehicle category is not known, the following equation may be used to approximate VMT for each specific vehicle category (VMT<sub>i</sub>):

$$VMT_i = AVM_i \times n_i = AVM_i \times N \times \frac{MIX_i}{100}$$

**Equation 5-9** 

Where,

 $AVM_i$  = Average annual vehicle miles traveled by each vehicle category (mi/yr)

**n**<sub>i</sub> = Number of vehicles in a specific vehicle category

N = Total number of vehicles, POV or GOV

 $MIX_i$  = Vehicle mix for a specific vehicle category

Emissions from GOVs or POVs are calculated using the general formula provided in Equation 5-8 and Equation 5-9. These steps must be completed independently for each pollutant of concern. Note GOVs and POVs should not be combined; GOV and POV emissions must be calculated independently. Due to the complexity of calculating on-road vehicle emissions, the following steps are recommended for use as a guideline for data collection and emissions calculations:

<u>Step 1</u> – Gather fleet data. Data required to calculate vehicle emissions typically includes vehicle category, model year, and vehicle miles traveled (VMT<sub>i</sub>) during the course of the year in question.

**a. GOV Fleet MIX Data:** If a GOV is driven both on and off base during the course of the inventory year, an estimate must be made to apportion the number of miles driven between off base miles and on base miles. Figure 5-2 provides a sample form that can be used to collect and organize GOV data by vehicle category for use in emission calculations. The

best way to collect GOV information is to provide blank forms for each vehicle category to the base organization(s) responsible for managing GOVs.

**b. POV Fleet MIX Data:** Prior to conducting an air emissions inventory that includes POVs, it is recommended that the individual responsible for preparing the mobile source emission inventory contacts the Base Development and/or Community Planning sections of the Civil Engineering Squadron to determine if a traffic survey has been conducted recently at the base which may contain information that will be useful in calculating POV emissions.

If a recent traffic survey for the base is not available, and resources do not allow the conduct of a new traffic survey, data provided by the Security Forces Squadron (from the Pass & Registration section) and/or the Military Personnel Flight (MPF) can be used to estimate POV fleet data. Types of data which can usually be obtained from the Security Forces Squadron and/or MPF include: 1) The estimated average number of registered POVs at the installation during the applicable inventory year; 2) the estimated percentage of registered vehicles which fall under the seven vehicle categories; 3) the estimated distance (in miles) of the average POV travels on the installation during a typical weekday and weekend day; and 4) the estimated number of non-registered vehicles which travel on the installation during a typical weekday and weekend day. Figure 5-3 provides a sample form that can be used to collect and organize POV data for use in emission calculations.

An alternative approach to obtaining vehicle registration information may be available at some installations. Rather than requesting the Security Forces Squadron and/or the MPF to generate estimates on the number and types of vehicles registered on base, some installations may be able to provide a listing of the vehicles contained in their databases.

<u>Step 2</u> – Group vehicle categories. Upon gathering fleet data, group together all vehicles based on the Air Force vehicle categories (i.e., LDGV, LDDV, LGDT, LDDT, HDGV, HDDV, and MC). Record the number of vehicles (n<sub>i</sub>) and total annual miles traveled (VMT<sub>i</sub>) for each vehicle category.

**a.** If **VMT**<sub>i</sub> is unknown, it may be estimated using Equation 5-9.

$$VMT_i = AVM_i \times n_i$$

**b.** If there is insufficient fleet data to provide the number of vehicles (n<sub>i</sub>) for each vehicle category yet the total number of vehicles and the relative vehicle mix (MIX<sub>i</sub>) for each specific vehicle category is known, use Equation 5-9 to approximate n<sub>i</sub>:

$$n_i = N \times \frac{MIX_i}{100}$$

<u>Step 3</u> – **Select emission factors.** The appropriate emission factors are selected based on the season, vehicle category, the calendar year you are performing the emissions calculation, and the

installation's location. Vehicle exhaust emission factors (EF(Pol)<sub>i</sub>) are selected from Table 5-25 through Table 5-31 for most states or Table 5-46 through Table 5-52 for California.

<u>Step 4</u> – Calculate emissions. For vehicle exhaust emissions, calculate the emissions for each individual vehicle category (EP(Pol)<sub>i</sub>) and sum these values for the total vehicle emissions for that pollutant. Pollutant emissions for each vehicle category are calculated using Equation 5-8.

# 5.3.1.3 Using Air Force Typical Vehicle Mix Data

Another method for calculating on-road vehicle emissions is to calculate the emissions from each vehicle category using the typical Air Force vehicle mix. The method of calculation is similar to that of calculating emissions using specific vehicle mix data. The emission factors used for this method are selected based on: (1) the emission inventory year, (2) the state in which the installation is located, and (3) the vehicle category (LDGV, LDDV, etc.). The emission factors used for this method (EF(Pol)<sub>i</sub>) are provided in Table 5-25 through Table 5-31 for most states or Table 5-46 through Table 5-52 for California. Emissions are estimated via this method using a slightly modified Equation 5-3 by substituting the correct emission factor as shown:

$$E(Pol)_{Total} = VMT_{Total} \times EF(Pol)_{Total} \times 0.002205$$

**Equation 5-10** 

Where,

 $\mathbf{EF(Pol)_{Total}}$  = Total adjusted on-road vehicle exhaust emission (lb/yr). This is calculated using Equation 5-11.

The total adjusted on-road vehicle emission factor takes into account any reduction in emissions as a result of alternative fuel use. This is calculated as follows:

$$EF(Pol)_{Total} = \sum_{i=1}^{7} \left\{ EF(Pol)_i \times \frac{MIX_i}{100} \times \left[ 1 - \frac{FERF(Pol)}{100} \right] \right\}$$

**Equation 5-11** 

The total vehicle miles traveled (VMT $_{Total}$ ) is the sum of the average miles traveled for all vehicle categories as shown:

$$VMT_{Total} = \sum_{i=1}^{7} \left( AVM_i \times N \times \frac{MIX_i}{100} \right)$$

**Equation 5-12** 

Equation 5-12 may be simplified if it is assumed that each vehicle category traveled the same distance per year, as shown below:

$$VMT_{Total} = AVM \times N$$

**Equation 5-13** 

Emissions from vehicles are calculated by applying the general formulas provided in Equation 5-10 (further simplified with Equation 5-11, Equation 5-12, and Equation 5-13) and using the typical POV or GOV vehicle mix data from Table 5-2. These steps must be completed independently for each pollutant of concern. Note GOVs and POVs should not be combined; GOV and POV emissions must be calculated independently. Due to the complexity of calculating on-road vehicle emissions, the following steps are recommended for use as a guideline for data collection and emissions calculations:

Step 1- Gather fleet data. In this case fleet data or a traffic survey for the base is not available. Therefore, obtain the total number (N) of vehicles (POV or GOV) driving on base and the overall average annual vehicle miles traveled (AVM) for all vehicle categories. The data can often be provided or estimated by the Security Forces Squadron (from the Pass & Registration section) and/or the Military Personnel Flight (MPF) can be used to estimate POV fleet data. Types of data that can usually be obtained from the Security Forces Squadron and/or MPF include: 1) The estimated average number of registered POVs and/or GOVs at the installation during the applicable inventory year; 2) the estimated distance (in miles) of the average POV travels on the installation during a typical weekday and weekend day; and 3) the estimated number of non-registered vehicles that travel on the installation during a typical weekday and weekend day.

An alternative approach to obtaining vehicle registration information may be available at some installations. Rather than requesting the Security Forces Squadron and/or the MPF to generate estimates on the number and types of vehicles registered on base, some installations may be able to provide a listing (preferably in both electronic and hardcopy format) of the vehicles contained in their databases. At a minimum, the listing should provide the number of registered vehicles.

<u>Step 2</u> - Group vehicle categories. When the actual fleet mix data is unavailable, the typical fleet mix data from Table 5-2 may be applied. Upon gathering fleet data on the total number (N) of vehicles (POV or GOV) driving on base and overall average annual vehicle miles traveled (AVM), obtain and record the typical vehicle mix values (MIX<sub>i</sub>) from Table 5-2 for each vehicle category. Then, assuming all vehicle categories traveled the same distance per year, calculate the total annual vehicle miles traveled (VMT<sub>Total</sub>) for all vehicle categories combined with Equation 5-13.

<u>Step 3</u> - Select emission factors. Selection of the appropriate emission factor is based on the vehicle category, the calendar year you are performing the emissions calculation, and the installation's location. The emission factors are selected from Table 5-25 through Table 5-31 for most states or Table 5-46 through Table 5-52 for California. Once the appropriate pollutant-specific emission

factors (EF(Pol)<sub>i</sub>) for each vehicle category are obtained, calculate the total composite emission factor using Equation 5-11.

<u>Step 4</u> - Calculate emissions. The total pollutant emissions from all vehicle categories (EP(Pol)<sub>Total</sub>) for on-road emissions are each calculated using Equation 5-10.

# 5.3.2 Vehicle Exhaust Emissions (Idling)

Calculating idling emissions is similar to the calculation of on-road vehicle emissions provided above with slight modifications to the equations supplied. The primary difference is that the emission factors for idling vehicles are presented in a g/hr format which means the time spent in idle mode must be known (or estimated). Idling emissions from typical on-road vehicle operation are already addressed in the previous section above. This section describes the calculation of theoretical emissions from idling vehicles for NEPA and intersection modeling, not for a mobile AEI.

## 5.3.2.1 Using Specific Vehicle Mix Data

If necessary, emissions may be calculated using a specific vehicle mix different from the one provided in Table 5-2. This method may be desirable if a recent traffic study conflicts with the typical vehicle mix provided. The emission factors used for this method are selected based on: (1) the vehicle category (LDGV, LDDV, etc.) and (2) the season in which the emissions are being calculated (summer, winter, or average). The emission factors used for this method (EF(Pol)<sub>i</sub>) are provided in Table 5-6 through Table 5-8. Idling emissions are estimated as follows:

$$E(Pol)_{Total} = \sum_{i=1}^{7} \left\{ VIT_i \times EF(Pol)_i \times \left[ 1 - \frac{FERF(Pol)}{100} \right] \times 0.002205 \right\}$$

**Equation 5-14** 

Where,

 $\mathbf{E}$  (Pol)<sub>Total</sub> = Total theoretical emissions of specific pollutant from vehicle idling (lb/yr)

 $VIT_i$  = Annual vehicle idling time (hr/yr)

**EF(Pol)**<sub>i</sub> = Idling emission factor for a specific pollutant (g/hr). This is provided in

Table 5-6, Table 5-7, and Table 5-7.

The vehicle idling time is the most difficult parameter to determine. Depending on the proposed action, idling times of varying lengths may be recommended for each vehicle *category* and/or *classification*. The idling time for each vehicle category may be estimated using an average idling time as shown:

$$VIT_i = AVIT_i \times n_i = AVIT_i \times N \times \frac{MIX_i}{100}$$

**Equation 5-15** 

Where,

**AVIT**<sub>i</sub> = Average annual vehicle idling time (hr/yr)

## 5.3.2.2 Using Air Force Typical Vehicle Mix Data

If the specific vehicle mix data is not available from a recent traffic study, the typical vehicle mix from Table 5-2 may be assumed. The emission factors used for this method are selected based on: (1) the vehicle category (LDGV, LDDV, etc.) and (2) the season in which the emissions are being calculated (summer, winter, or average). The emission factors used for this method  $(EF_{Idle}(Pol)_i)$  are provided in Table 5-6 through Table 5-8. Theoretical emissions from vehicle idling is estimated as follows:

$$E(Pol)_{Total} = VIT_{Total} \times EF(Pol)_{Total} \times 0.002205$$

**Equation 5-16** 

Where,

**VIT**<sub>Total</sub> = Total annual vehicle idling time for all POV or GOV (hr/yr)

 $\mathbf{EF(Pol)_{Total}}$  = Total adjusted idling emission factor (g/hr). This is calculated by Equation 5-17.

The total adjusted idling emission factor takes into account any reduction in emissions as a result of alternative fuel use. This is calculated as shown:

$$EF(Pol)_{Total} = \sum_{i=1}^{7} \left\{ EF(Pol)_{i} \times \frac{MIX_{i}}{100} \times \left[ 1 - \frac{FERF(Pol)}{100} \right] \right\}$$

**Equation 5-17** 

The total vehicle idling time (VIT $_{Total}$ ) is the sum of the average idling time for all vehicle categories as shown:

$$VIT_{Total} = \sum_{i=1}^{7} \left( AVIT_i \times N \times \frac{MIX_i}{100} \right)$$

**Equation 5-18** 

Equation 5-18 may be simplified if it is assumed that each vehicle category will idle for the same amount of time per year, as shown below:

$$VIT_{Total} = AVIT \times N$$

**Equation 5-19** 

In the absence of average vehicle idling time (AVIT) data, contact base Civil Engineering for assistance in estimating this value.

# **5.3.3 Fugitive PM Emissions**

Particulate emissions are generated from vehicle exhaust and are described in the previous sections. Fugitive particulate emissions, however, are generated from the operation of on-road vehicles across a paved or unpaved road surfaces. The amount of particulate generated is a function of the road surface (paved or unpaved) and the total vehicle miles traveled (VMT<sub>Total</sub>). The emission factors are selected from Table 5-10 based on (1) the road surface (paved or unpaved and (2) vehicle classification (POV or GOV). The selected emission factors must be corrected based on the amount of days in the year with precipitation of 0.01 inches or more using the appropriate equation (either Equation 5-1 or Equation 5-2) based on the road surface. Using the corrected emission factor for paved (EF(Pol)<sub>CP</sub>) and unpaved (EF(Pol)<sub>CU</sub>) roads, fugitive PM emissions are calculated as follows:

$$E(Pol)_{Total} = VMT_{Total} \times \left\{ \left[ \frac{\%VMT_P}{100} \times EF(Pol)_{CP} \right] + \left[ \frac{\%VMT_U}{100} \times EF(Pol)_{CU} \right] \right\} \times 0.002205$$
 Equation 5-20

Where,

 $E(Pol)_{Total}$  = Total annual emissions of fugitive PM from on-road vehicles (lb/yr)

%VMT<sub>P</sub> = Percent of total miles driven on paved roads (%) %VMT<sub>U</sub> = Percent of total miles driven on unpaved roads (%)

# **5.3.4 VOC Speciation**

On-road vehicles have the potential to produce a significant amount of air pollutants released to the atmosphere. The amount of pollution is a function of the amount of on-road vehicles, the average number of miles driven, the time of year, the content of the fuel used, and even the average idling time. The large number of variables impacting air emissions from on-road vehicles increases the complexity of quantifying their emissions. However, measurements are continually being taken to develop more accurate air emission estimates. Individual VOCs may be estimated using the weight fractions of each chemical to the total emitted VOC.

The weight fractions provided in this document were determined using test data from a variety of sources including the EPA's *SPECIATE* database. The emission profiles used to determine the VOC weight percent are assumed to be representative of the vehicle category's emissions.

However, this information should only be used when no alternative emission profiles are available. The average weight percent of individual pollutants were calculated as follows:

$$P_{Pol} = \frac{A_{Pol}}{AVOC_{Total}}$$

**Equation 5-21** 

Where,

P<sub>Pol</sub> = Weight percent of a given pollutant (%) A<sub>Pol</sub> = Individual pollutant emission factor (mg/mi)

**AVOC**<sub>Total</sub> = Total VOC emission factor (mg/mi)

Speciated VOCs are calculated by taking the product of the total VOCs and the weighted percentage of the individual VOC as follows:

$$E_{Pol} = E_{VOC} \times \frac{P_{Pol}}{100}$$

**Equation 5-22** 

Where,

 $\mathbf{E}_{Pol}$  = Emissions of speciated VOC (lb/yr)

**100** = Factor for converting percent to a fraction (%)

**Evoc** -= Emissions of total VOC (lb/yr)

The percentages of each VOC to total VOC are provided in Table 5-55. Note that the light duty gas vehicles, trucks, and heavy duty gas vehicles (LDGV, LDGT, and HDGV) are not further subdivided into hybrid and CNG fueled vehicles. To calculate the emissions specific to these vehicles, apply the vehicle mix (use the default values if no onsite data is available).

#### 5.4 Information Resources

Information required for calculating emissions from GOVs can usually be obtained from the base transportation organization as it typically maintains records on most, if not all, GOVs assigned to the installation. At some installations it may also be necessary to obtain information directly from the organizations that use and/or maintain the vehicles. For example, the Fire Department may need to be contacted to obtain information specific to fire trucks and rescue vehicles.

In some cases, it may be necessary to obtain and review data contained in the base's vehicle maintenance index file (VMIF), on-line vehicle interactive management system (OLVIMS) report, or equivalent vehicle information management system to verify vehicle class/type as some installations do not use the same classification system used by EPA. Some facilities may have a cross-reference tool with management codes that will assist in interpreting how vehicle usage is being tracked (e.g., miles, hours, and kilometers).

Most information required to calculate POV emissions may be obtained from the Security Forces Squadron. The Pass & Registration section of the base Security Forces Squadron usually maintains computer records on all POVs registered at the installation. Some installations perform vehicle registration at MPF. The office that handles vehicle registrations (Pass & Registration or MPF) is also in a good position to survey base personnel on their vehicle usage. Since the Security Forces Squadron is responsible for staffing the base gates, they are usually the best source of information on non-registered vehicles.

If the POV information needed to calculate vehicle emissions cannot be obtained from the Security Forces Squadron, it might be necessary to survey a representative number of base personnel to obtain the required information. It is also highly recommended that personnel conducting the air emissions inventory check with the Base Development and/or Community Planning sections of the Civil Engineering Squadron to determine whether any recent traffic surveys have been conducted at the base.

For purposes of estimating the length of typical on-base POV trips, consider the trip length in terms of the mileage from the main gate to a common on-base destination and back. For instance, if most POVs are believed to be traveling to the Base Exchange, the Commissary, or the Medical Clinic, estimate the distance from the main gate to those locations. In such instances, it may be assumed that a median round trip distance of 3-4 miles is appropriate for use. However, it may also be necessary to estimate vehicle travel distances for individuals who travel on and off base more than once per day, such as personnel who leave the base during lunchtime. In the absence of base-specific survey data, it can be conservatively assumed that 5% of base personnel will travel off base during lunchtime. Since this is a second trip through the gate, you should assume the daily on-base mileage is doubled for those individuals. If base organizations are unable to provide required data, it may be possible to obtain trip length and driver behavior data that can be extrapolated to on-base conditions from the local metropolitan planning office (MPO).

# 5.5 Example Problems

# 5.5.1 Problem 1 - Calculating POV and GOV Emissions - Air Force/State/Territory Composite Emission Factor Method

Anytown AFB is inventorying its calendar year 2014 CO emissions for their POVs and GOVs operated by the facility during the year. Data indicates that there are a total of 422 POVs and 38 GOVs and all vehicles traveled an average of 4,563 miles each. Calculate CO emissions for CY2014 if Anytown AFB is located in Alabama.

<u>Step 1</u> – Gather fleet data. The data required to calculate emissions is provided in the problem statement. This information includes the number of POVs ( $N_{POV} = 422$ ), the number of GOVs ( $N_{GOV} = 38$ ), and the average miles traveled for each vehicle (AVM = 4,563 miles/yr).

Next, calculate total vehicle miles traveled (VMT<sub>Total</sub>). Using the number of POVs and GOVs, the average vehicle miles traveled (AVM) and Equation 5-7, the VMT<sub>Total</sub> is calculated as follows:

$$VMT_{Total} = AVM \times N$$

For POVs:

$$VMT_{Total-POV} = 4,563 \frac{miles}{yr} \times 422 = 1,925,586 \frac{miles}{yr}$$

For GOVs:

$$VMT_{Total-GOV} = 4,563 \frac{miles}{yr} \times 38 = 173,394 \frac{miles}{yr}$$

<u>Step 2</u> – Select emission factors. According to Table 5-11, for CY2014 in Alabama, the CO emission factor (EF(CO)<sub>Alabama</sub>) for POVs is **6.767 g/mi**. Similarly, the CO emission factor (EF(CO)<sub>Alabama</sub>) for GOVs, according to Table 5-18, is **7.370 g/mi**.

Next, calculate the adjusted emission factors. To adjust the emission factor (EF(CO)<sub>Alabama</sub>) for vehicles that operate on alternative fuels, the emission factors recorded in Step 3 are adjusted using Equation 5-5 and Equation 5-6 for POVs and GOVs, respectively. The FERF for CO, according to Table 5-9, is 90% and 50% for CNG and hybrid vehicles respectively.

### For POVs:

$$EF(Pol)_{Total-POV} = EF(Pol)_{State} \times \left\{ 0.98 + \left[ 0.006 \times \left( 1 - \frac{FERF(Pol)_{CNG}}{100} \right) \right] + \left[ 0.0194 \times \left( 1 - \frac{FERF(Pol)_{Hyb}}{100} \right) \right] \right\}$$

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$$EF(CO)_{Total-POV} = 6.767 \frac{g}{mi} \times \left\{ 0.98 + \left[ 0.006 \times \left( 1 - \frac{90\%}{100\%} \right) \right] + \left[ 0.0194 \times \left( 1 - \frac{50\%}{100\%} \right) \right] \right\}$$

$$EF(CO)_{Total-POV} = 6.767 \frac{g}{mi} \times \left\{ 0.98 + \left[ 0.006 \times (0.10) \right] + \left[ 0.0194 \times (0.50) \right] \right\}$$

$$EF(CO)_{Total-POV} = 6.767 \frac{g}{mi} \times 0.9903 = 6.701 \frac{g}{mi}$$

### For GOVs:

$$EF(Pol)_{Total-GOV} = EF(Pol)_{State} \times \left\{ 0.9983 + \left[ 0.0017 \times \left( 1 - \frac{FERF(Pol)_{Hyb}}{100} \right) \right] \right\}$$

$$EF(CO)_{Total-GOV} = 7.370 \frac{g}{mi} \times \left\{ 0.9983 + \left[ 0.0017 \times \left( 1 - \frac{50\%}{100\%} \right) \right] \right\}$$

$$EF(CO)_{Total-GOV} = 7.370 \frac{g}{mi} \times (0.99915) = 7.364 \frac{g}{mi}$$

<u>Step 3</u> – Calculate emissions. Emissions are calculated using the adjusted emission factors from Step 4, the VMT<sub>Total</sub> calculated from Step 2, and Equation 5-3 as shown:

$$E(Pol)_{Total} = VMT_{Total} \times EF(Pol)_{Total} \times 0.002205$$

For POVs:

$$E(CO)_{Total} = 1,925,586 \frac{miles}{yr} \times 6.701 \frac{g}{mi} \times 0.002205 \frac{lb}{g}$$

$$E(CO)_{Total} = 28,451.89 \frac{lb}{yr}$$

### For GOVs:

$$E(CO)_{Total} = 173,394 \frac{miles}{yr} \times 7.364 \frac{g}{mi} \times 0.002205 \frac{lb}{g}$$

$$E(CO)_{Total} = 2,815.51 \frac{lb}{yr}$$

# 5.5.2 Problem 2 - Calculating GOV Emissions - Using Specific Vehicle Mix Data

Anytown AFB is inventorying its CY2014 CO emissions for their 15 GOVs operated by the facility during the year. The AFB is located in Alabama. For this example, vehicle data was collected and organized by vehicle category using the form shown in Figure 5-2.

<u>Step 1</u> – Gather fleet data and <u>Step 2</u> – Group vehicle categories. Since the data was available from the Environmental manager, Steps 1 and 2 are combined using the form from Figure 5-2.

Installation Name: Anytown AFB		]	nventory Year	: 2013
Responsible Organization (Name and Off	fice Symbol):			
POC (Name, Phone #, and email):				
Vehicle Category:				
Vehicle Identification Number (VIN)	Vehicle Description	Bldg. Number	Model Year	Miles Driven (mi/yr)
	LDGV		•	
Vehicle #1	Sedan	Bldg. 45-2	1999	4,900
Vehicle #10	Sedan	Bldg. 45-2	1999	5,670
Vehicle #11	Sedan	Bldg. 15-1	2004	4,368
Vehicle #15	Sedan	Bldg. 23-6	2002	6,670
Vehicle #8	Sedan	Bldg. 15	1998	2,700
Vehicle #3	Sedan	Bldg. 1	2004	7,400
Vehicle #5	Sedan	Bldg. 10	1997	1,730
Vehicle #9	Sedan	Bldg. 10	1997	1,450
		Average	2000	4,361
		Total		34,888
	LDGT			
Vehicle #6	Pickup	Bldg. 15	2000	4,600
Vehicle #7	Pickup	Bldg. 15	2000	5,200
Vehicle #13	Van	Bldg. 15	1999	6,500
Vehicle #14	SUV	Bldg. 15	2003	3,200
		Average	2000	4,875
		Total		19,500
	HDGV			
Vehicle #2	Flatbed	Bldg. 15	1998	4,450
		Average	1998	4,450
		Total		4,450
	LDDT			
Vehicle #4	Pickup	Bldg. 1	2004	4,300
		Average	2004	4,300
		Total		4,300
	HDDV		1	
Vehicle #12	Fire Truck	Bldg. 45-2	2002	5,300
		Average	2002	5,300
		Total		5,300

<u>Step 3</u> – **Select emission factors:** For vehicles in CY 2014 in Alabama, the CO emission factors for each vehicle category are given in Table 5-25. The emission factors are provided in the table below.

Vehicle Category	CO Emission Factor (g/mi)
LDGV	5.110
LDGT	8.387
HDGV	25.156
LDDV	3.666
LDDT	7.422
HDDV	2.762
MC	14.943

<u>Step 4</u> – Calculate emissions. No information was provided regarding whether or not any of the vehicles operated on alternative fuel. Using the vehicle miles traveled for each vehicle category  $(VMT_i)$  from the fleet data, the emission factors recorded in Step 3, and Equation 5-8, the emissions are first calculated for each vehicle category as follows:

$$E(Pol)_{Total} = \sum_{i=1}^{7} \left\{ VMT_{i} \times EF(Pol)_{i} \times \left[ 1 - \frac{FERF(Pol)}{100} \right] \times 0.002205 \right\}$$

$$E(CO)_{LDGV} = 34,888 \frac{mi}{yr} \times 5.110 \frac{g}{mi} \times \left[ 1 - \frac{0\%}{100\%} \right] \times 0.002205 \frac{lb}{g} = 393.1 \frac{lb}{yr}$$

$$E(CO)_{LDGT} = 19,500 \frac{mi}{yr} \times 8.387 \frac{g}{mi} \times \left[ 1 - \frac{0\%}{100\%} \right] \times 0.002205 \frac{lb}{g} = 360.6 \frac{lb}{yr}$$

$$E(CO)_{HDGV} = 4,450 \frac{mi}{yr} \times 25.156 \frac{g}{mi} \times \left[ 1 - \frac{100\%}{100\%} \right] \times 0.002205 \frac{lb}{g} = 246.8 \frac{lb}{yr}$$

$$E(CO)_{LDDV} = 0 \frac{mi}{yr} \times 3.666 \frac{g}{mi} \times \left[ 1 - \frac{0\%}{100\%} \right] \times 0.002205 \frac{lb}{g} = 0.0 \frac{lb}{yr}$$

$$E(CO)_{LDDT} = 4,300 \frac{mi}{yr} \times 7.422 \frac{g}{mi} \times \left[ 1 - \frac{0\%}{100\%} \right] \times 0.002205 \frac{lb}{g} = 70.4 \frac{lb}{yr}$$

$$E(CO)_{HDDV} = 5,300 \frac{mi}{yr} \times 2.762 \frac{g}{mi} \times \left[ 1 - \frac{0\%}{100\%} \right] \times 0.002205 \frac{lb}{g} = 32.3 \frac{lb}{yr}$$

$$E(CO)_{MC} = 0 \frac{mi}{yr} \times 14.943 \frac{g}{mi} \times \left[1 - \frac{0\%}{100\%}\right] \times 0.002205 \frac{lb}{g} = 0.0 \frac{lb}{yr}$$

Finally, the total CO emissions are calculated by summing the contributing CO emissions from each vehicle category.

$$E(Pol)_{Total} = \sum_{i=1}^{7} E(Pol)_{i}$$

$$E(CO)_{TOTAL} = (393.1 + 360.6 + 246.8 + 0 + 70.4 + 32.3 + 0) \frac{lb}{yr}$$

$$E(CO)_{TOTAL} = 1103.2 \frac{lb}{yr}$$

### 5.5.3 Problem 3 - Calculating POV Emissions - Using Specific Vehicle Mix Data

Anytown AFB (located in Alabama) is conducting an emissions inventory to quantify calendar year 2014 emissions attributable to the operation of POVs. Using the information provided by the Security Forces Squadron, the following data was used to calculate the CY2014 emissions of CO from the operation of POVs. The collected POV data was organized by vehicle category using the form shown in Figure 5-3.

**Step 1 – Gather fleet data.** Fleet data information is provided in the figure following Step 2.

<u>Step 2</u> – **Group vehicle categories.** The first step in grouping the vehicle categories is to calculate the estimated total number of vehicles (N) driving on base. Using the data provided in the form referenced in Step 1, the total number of POVs is estimated as follows:

$$N = Registered + Unregistered$$

$$N = 1,675 + 125 = 1,800 vehicles$$

weekday?

category)

Installation Name: Anytown AFB Invento	ry Year: 2013
Responsible Organization (Name and Office Symbol): 58 CES/CD	
POC (Name, Phone #, and email): SSgt John Jones, DSN 234-5678	
Question	Response
Can you provide the listing of all registered vehicles on base? (Y/N)?	N
If so, be sure to include all specific information (make/model year, etc.) about the vehicle	les.
What is the estimated average number of registered POVs at the installation during	g the
inventory period?	1,675
What is the estimated percentage of <u>registered</u> vehicles which actually travel on the install	ation 75
during a typical weekday (Monday-Friday)?	73
What is the estimated percentage of registered vehicles which actually travel on the install	ation 50
during a typical weekend day (Saturday and Sunday)?	30
What is the estimated distance the average POV travels on base during a typical weekda	y? 6 mi/day
What is the estimated distance the average POV travels on base during a typical weekend	day? 4 mi/day
What is the estimated number of non-registered POVs which travel on base during a ty	rpical 125

Using registration information, provide an estimate of the percentage of <u>registered</u> POVs which fall under each of the 7 vehicle categories listed below.

What is the estimated average model year of all POVs driven on base during the inventory year? (NOTE: This is not required if the average model years are listed below for each vehicle

Vehicle Category	Category Description	Estimated % of Registered Vehicles
LDGV	Light-Duty Gasoline Vehicles – All gasoline-powered passenger cars	36
LDDV	Light-Duty Diesel Vehicles – All diesel-powered passenger cars	1
LDGT	Light-Duty Gasoline Trucks – All smaller gasoline-powered trucks (0 to 8,500 lbs. GVWR)	54
LDDT	Light-Duty Diesel Trucks (LDDT) – All smaller diesel-powered trucks (0 to 8,500 lbs. GVWR)	1
HDGV	Heavy-Duty Gasoline Vehicles (HDGV) – All larger gasoline-powered vehicles (8,501to >60,000 lbs. GVWR)	4
HDDV	Heavy-Duty Diesel Vehicles – All larger diesel-powered vehicles (10,001to >60,000 lbs. GVWR)	3
MC	Motorcycles (MC) – All motorcycles (assumed to be gasoline powered)	1

Next, the number of vehicles which fall under each vehicle category are calculated under the assumption that the fleet mix for the unregistered vehicles is the same as for the registered vehicles.

By slightly modifying Equation 5-9, the number of vehicles for each category (n<sub>i</sub>) may be derived from the total number of vehicles (N) and vehicle category mix (MIX<sub>i</sub>).

$$n_{i} = N \times \frac{MIX_{i}}{100}$$
 $n_{LDGV} = 1,800 \times \frac{36\%}{100\%} = 648 \ Vehicles$ 
 $n_{LDDV} = 1,800 \times \frac{1\%}{100\%} = 18 \ Vehicles$ 
 $n_{LDGT} = 1,800 \times \frac{54\%}{100\%} = 972 \ Vehicles$ 
 $n_{LDDT} = 1,800 \times \frac{1\%}{100\%} = 18 \ Vehicles$ 
 $n_{HDGV} = 1,800 \times \frac{4\%}{100\%} = 72 \ Vehicles$ 
 $n_{HDDV} = 1,800 \times \frac{3\%}{100\%} = 54 \ Vehicles$ 
 $n_{MC} = 1,800 \times \frac{1\%}{100\%} = 18 \ Vehicles$ 

Next, the average annual vehicle miles traveled (AVM<sub>i</sub>) is calculated. Using the data provided in the form above, the average vehicle miles traveled is calculated as follows:

$$AVM_{i} = \frac{52 \text{ weeks}}{yr} \times \left[ \left( \frac{75\%}{100\%} \times 6 \frac{mi}{day} \times 5 \frac{day}{week} \right) + \left( \frac{50\%}{100\%} \times 4 \frac{mi}{day} \times 2 \frac{day}{week} \right) \right]$$

$$AVM_{i} = \frac{52 \text{ weeks}}{yr} \times \left[ \left( 0.75 \times 6 \frac{mi}{day} \times 5 \frac{day}{week} \right) + \left( 0.5 \times 4 \frac{mi}{day} \times 2 \frac{day}{week} \right) \right]$$

$$AVM_{i} = \frac{52 \text{ weeks}}{yr} \times \left[ \left( 22.5 \frac{mi}{week} \right) + \left( 4 \frac{mi}{week} \right) \right]$$

$$AVM_{i} = \frac{52 \text{ weeks}}{yr} \times \left[ \left( 26.5 \frac{mi}{week} \right) \right] = 1,378 \frac{mi}{yr}$$

Finally, the total annual vehicle miles traveled for each category (VMT<sub>i</sub>) is calculated using Equation 5-9.

$$VMT_i = AVM_i \times n_i$$

$$VMT_{LDGV} = 1378 \frac{mi}{yr} \times 648 \text{ vehicles} = 892,944 \frac{mi}{yr}$$

$$VMT_{LDDV} = 1378 \frac{mi}{yr} \times 18 \text{ vehicles} = 24,804 \frac{mi}{yr}$$

$$VMT_{LDGT} = 1378 \frac{mi}{yr} \times 972 \text{ vehicles} = 1,339,416 \frac{mi}{yr}$$

$$VMT_{LDDT} = 1378 \frac{mi}{yr} \times 18 \text{ vehicles} = 24,804 \frac{mi}{yr}$$

$$VMT_{HDGV} = 1378 \frac{mi}{yr} \times 72 \text{ vehicles} = 99,216 \frac{mi}{yr}$$

$$VMT_{HDDV} = 1378 \frac{mi}{yr} \times 54 \text{ vehicles} = 74,412 \frac{mi}{yr}$$

$$VMT_{MC} = 1378 \frac{mi}{yr} \times 18 \text{ vehicles} = 24,804 \frac{mi}{yr}$$

<u>Step 3</u> – <u>Select emission factors.</u> Emission factors for vehicles in CY2014 are provided in Table 5-25. The CO emission factors for a base in Alabama for 2014 are provided in the sub-table below.

Vehicle Category	CO Emission Factor (g/mi)
LDGV	5.110
LDDV	8.387
LDGT	25.156
LDDT	3.666
HDGV	7.422
HDDV	2.762
MC	14.943

<u>Step 4</u> – Calculate emissions. Emissions are calculated using the vehicle miles traveled as calculated in Step 2, the emission factors recorded in Step 3, and Equation 5-8. First the CO emissions from each vehicle category are individually calculated and then summed for total CO emissions. Also, since no information was provided regarding the use of alternative fuels, a fuel emission reduction factor (FERF) value of "0" is used.

$$E(Pol)_{Total} = \sum_{i=1}^{7} \left[ VMT_i \times EF(Pol)_i \times \frac{FERF(Pol)}{100} \times 0.002205 \right]$$

$$E(CO)_{LDGV} = 892,944 \frac{mi}{yr} \times 5.110 \frac{g}{mi} \times \left[ 1 - \frac{0\%}{100\%} \right] \times 0.002205 \frac{lb}{g} = 10061.3 \frac{lb}{yr}$$

$$E(CO)_{LDDV} = 24,804 \frac{mi}{yr} \times 8.387 \frac{g}{mi} \times \left[ 1 - \frac{0\%}{100\%} \right] \times 0.002205 \frac{lb}{g} = 458.7 \frac{lb}{yr}$$

$$\begin{split} \mathbf{E}(\mathbf{CO})_{\mathbf{LDGT}} &= 1{,}339{,}416\frac{\mathbf{m}i}{\mathbf{yr}} \times 25.156\frac{\mathbf{g}}{\mathbf{m}i} \times \left[1 - \frac{0\%}{100\%}\right] \times 0.002205\frac{\mathrm{lb}}{\mathrm{g}} = \mathbf{74296.0}\frac{\mathrm{lb}}{\mathrm{yr}} \\ \mathbf{E}(\mathbf{CO})_{\mathbf{LDDT}} &= 24{,}804\frac{\mathbf{m}i}{\mathbf{yr}} \times 3.666\frac{\mathbf{g}}{\mathbf{m}i} \times \left[1 - \frac{0\%}{100\%}\right] \times 0.002205\frac{\mathrm{lb}}{\mathrm{g}} = \mathbf{200.5}\frac{\mathrm{lb}}{\mathrm{yr}} \\ \mathbf{E}(\mathbf{CO})_{\mathbf{HDGV}} &= 99{,}216\frac{\mathbf{m}i}{\mathbf{yr}} \times 7.422\frac{\mathbf{g}}{\mathbf{m}i} \times \left[1 - \frac{0\%}{100\%}\right] \times 0.002205\frac{\mathrm{lb}}{\mathrm{g}} = \mathbf{1,623.7}\frac{\mathrm{lb}}{\mathrm{yr}} \\ \mathbf{E}(\mathbf{CO})_{\mathbf{HDDV}} &= 74{,}412\frac{\mathbf{m}i}{\mathbf{yr}} \times 2.762\frac{\mathbf{g}}{\mathbf{m}i} \times \left[1 - \frac{0\%}{100\%}\right] \times 0.002205\frac{\mathrm{lb}}{\mathrm{g}} = \mathbf{453.2}\frac{\mathrm{lb}}{\mathrm{yr}} \\ \mathbf{E}(\mathbf{CO})_{\mathbf{MC}} &= 24{,}804\frac{\mathbf{m}i}{\mathbf{yr}} \times 14.943\frac{\mathbf{g}}{\mathbf{m}i} \times \left[1 - \frac{0\%}{100\%}\right] \times 0.002205\frac{\mathrm{lb}}{\mathrm{g}} = \mathbf{817.3}\frac{\mathrm{lb}}{\mathrm{yr}} \end{split}$$

The total CO emissions are calculated by summing the CO emissions from each contributing vehicle category:

$$E(Pol)_{Total} = \sum_{i=1}^{7} E(Pol)_{i}$$

$$E(CO)_{Total} = (10061.3 + 458.7 + 74296.0 + 200.5 + 1623.7 + 453.2 + 817.3) \frac{lb}{yr}$$

$$E(CO)_{TOTAL} = 87,910.7 \frac{lb}{yr}$$

# 5.5.4 Problem 4 - Calculating POV Emissions - Using Typical Vehicle Mix Data

An Air Force base is interested in determining the  $NO_X$  generated by the operation of POVs driven on base. There are approximately 600 POVs that average 3,700 miles per year, but no vehicle studies have been performed to describe the vehicle mix. Using the typical Air Force vehicle mix, determine the  $NO_X$  generated by the operation of these vehicles on base for CY 2014. The base is located in Colorado.

<u>Step 1</u> – **Gather fleet data.** The problem statement provided information regarding the number of POVs (N = 600) and the average vehicle miles driven by each vehicle (AVM = 3,700 miles per year).

<u>Step 2</u> – **Group vehicle categories.** The first step is to determine the total annual vehicle miles traveled (VMT<sub>Total</sub>) for all vehicles. Using the number of POVs and average miles traveled as recorded in Step 1, the total vehicle miles traveled is calculated using Equation 5-13 as shown:

$$VMT_{Total} = AVM \times N$$

$$VMT_{Total} = 3,700 \frac{mi}{yr} \times 600 = 2,220,000 \frac{mi}{yr}$$

Since the typical Air Force vehicle mix is assumed for this example, the vehicle mix (MIX<sub>i</sub>) for each category for POVs has been extracted from Table 5-2 and presented in the following subtable.

Vehicle Category	POV Vehicle Mix (%)
LDGV	56.17
LDDV	0.88
LDGT	34.62
LDDT	1.00
HDGV	0.62
HDDV	0.22
MC	4.49
LDGV (H)	1.70
LDGT (H)	0.24
LDGV (C)	0.06
LDGT (C)	0.00
HDGV (C)	0.00

<u>Step 3</u> – Select emission factors. The emission factors for CY 2014 POVs are presented in Table 5-25. The emission factors for  $NO_X$  in Colorado have been extracted from the table and presented in the following sub-table.

Vehicle Category	NOx Emission Factor (g/mi)
LDGV	0.634
LDDV	0.322
LDGT	1.094
LDDT	0.871
HDGV	3.143
HDDV	8.995
MC	0.861

<u>Step 4</u> – Calculate emissions. First, a total composite emission factor is calculated by taking the product of the emission factor for each vehicle category (EF(Pol)<sub>i</sub> – from the sub-table in Step 3), the vehicle mix value for the corresponding vehicle category (MIX<sub>i</sub> – from the sub-table in Step 2), and the appropriate fuel emission reduction factor from Table 5-9. These values are calculated as follows:

$$\begin{split} EF(Pol)_{Total} &= \sum_{i=1}^{7} \left\{ EF(Pol)_{i} \times \frac{MIX_{i}}{100} \times \left[ 1 - \frac{FERF(Pol)}{100\%} \right] \right\} \\ EF(NO_{X})_{LDGV} &= 0.634 \frac{g}{mi} \times \left( \frac{56.17\%}{100\%} \right) \times \left[ 1 - \frac{0\%}{100\%} \right] = \mathbf{0.356} \frac{g}{mi} \\ EF(NO_{X})_{LDDV} &= 0.322 \frac{g}{mi} \times \left( \frac{0.88\%}{100\%} \right) \times \left[ 1 - \frac{0\%}{100\%} \right] = \mathbf{0.00283} \frac{g}{mi} \\ EF(NO_{X})_{LDGT} &= 1.094 \frac{g}{mi} \times \left( \frac{34.62\%}{100\%} \right) \times \left[ 1 - \frac{0\%}{100\%} \right] = \mathbf{0.379} \frac{g}{mi} \\ EF(NO_{X})_{LDDT} &= 0.871 \frac{g}{mi} \times \left( \frac{1.00\%}{100\%} \right) \times \left[ 1 - \frac{0\%}{100\%} \right] = \mathbf{0.00871} \frac{g}{mi} \\ EF(NO_{X})_{HDGV} &= 3.143 \frac{g}{mi} \times \left( \frac{0.62\%}{100\%} \right) \times \left[ 1 - \frac{0\%}{100\%} \right] = \mathbf{0.0195} \frac{g}{mi} \\ EF(NO_{X})_{HDDV} &= 8.995 \frac{g}{mi} \times \left( \frac{0.22\%}{100\%} \right) \times \left[ 1 - \frac{0\%}{100\%} \right] = \mathbf{0.0198} \frac{g}{mi} \\ EF(NO_{X})_{MC} &= 0.861 \frac{g}{mi} \times \left( \frac{4.49\%}{100\%} \right) \times \left[ 1 - \frac{0\%}{100\%} \right] = \mathbf{0.0387} \frac{g}{mi} \\ EF(NO_{X})_{LDGV(H)} &= 0.634 \frac{g}{mi} \times \left( \frac{1.70\%}{100\%} \right) \times \left[ 1 - \frac{75\%}{100\%} \right] = \mathbf{0.00269} \frac{g}{mi} \\ EF(NO_{X})_{LDGV(H)} &= 1.094 \frac{g}{mi} \times \left( \frac{0.24\%}{100\%} \right) \times \left[ 1 - \frac{75\%}{100\%} \right] = \mathbf{0.000656} \frac{g}{mi} \\ EF(NO_{X})_{LDGV(C)} &= 0.634 \frac{g}{mi} \times \left( \frac{0.00\%}{100\%} \right) \times \left[ 1 - \frac{35\%}{100\%} \right] = \mathbf{0.000247} \frac{g}{mi} \\ EF(NO_{X})_{LDGV(C)} &= 1.094 \frac{g}{mi} \times \left( \frac{0.00\%}{100\%} \right) \times \left[ 1 - \frac{35\%}{100\%} \right] = \mathbf{0.000247} \frac{g}{mi} \\ EF(NO_{X})_{LDGV(C)} &= 3.143 \frac{g}{mi} \times \left( \frac{0.00\%}{100\%} \right) \times \left[ 1 - \frac{35\%}{100\%} \right] = \mathbf{0.00} \frac{g}{mi} \\ EF(NO_{X})_{LDGV(C)} &= 3.143 \frac{g}{mi} \times \left( \frac{0.00\%}{100\%} \right) \times \left[ 1 - \frac{35\%}{100\%} \right] = \mathbf{0.00} \frac{g}{mi} \\ EF(NO_{X})_{LDGV(C)} &= 3.143 \frac{g}{mi} \times \left( \frac{0.00\%}{100\%} \right) \times \left[ 1 - \frac{35\%}{100\%} \right] = \mathbf{0.00} \frac{g}{mi} \\ EF(NO_{X})_{LDGV(C)} &= 3.143 \frac{g}{mi} \times \left( \frac{0.00\%}{100\%} \right) \times \left[ 1 - \frac{35\%}{100\%} \right] = \mathbf{0.00} \frac{g}{mi} \\ EF(NO_{X})_{LDGV(C)} &= 3.143 \frac{g}{mi} \times \left( \frac{0.00\%}{100\%} \right) \times \left[ 1 - \frac{35\%}{100\%} \right] = \mathbf{0.00} \frac{g}{mi} \\ EF(NO_{X})_{LDGV(C)} &= 3.143 \frac{g}{mi} \times \left( \frac{0.00\%}{100\%} \right) \times \left[ 1 - \frac{35\%}{100\%} \right] = \mathbf{0.00} \frac{g}{mi} \\ EF(NO_{X})_{LDGV(C)} &= 3.143 \frac{g}{mi} \times \left( \frac{0.00\%}{100\%} \right) \times \left[ 1 - \frac{35\%}{100\%} \right] = \mathbf{0.00} \frac{g}{mi}$$

Next, sum these values for a total composite emission factor (EF(Pol)<sub>Total</sub>) as shown:

$$EF(Pol)_{Total} = \sum_{i=1}^{7} EF(Pol)_{i}$$

$$EF(NO_X)_{Total}$$
=  $(0.356 + 0.00283 + 0.379 + 0.00871 + 0.0195 + 0.0198 + 0.0387 + 0.00269 + 0.000656 + 0.000247 + 0.00 + 0.00) \frac{g}{mi}$ 
=  $\mathbf{0.828} \frac{g}{mi}$ 

Finally, using the total vehicle miles traveled (VMT $_{Total}$ ) from Step 2 and the total composite emission factor, the total NO $_{\rm X}$  emissions are calculated using Equation 5-10 as shown:

$$E(Pol)_{Total} = VMT_{Total} \times EF(Pol)_{Total} \times 0.002205$$

$$E(NO_X)_{Total} = 2,220,000 \frac{mi}{yr} \times 0.806 \frac{g}{mi} \times 0.002205 \frac{lb}{g}$$

$$E(NO_X)_{Total} = 3945.5 \frac{lb}{yr}$$

## 5.5.5 Problem 5 - Calculating Fugitive PM Emissions

Determine the fugitive  $PM_{10}$  generated from the POVs and GOVs provided in Problem 1 given that the base is located in central Alabama. It can be assumed that all 100% of all miles traveled by POVs are on paved roads, whereas GOVs traveled 90% on paved roads and 10% on unpaved roads.

<u>Step 1</u> – **Gather fleet data.** Calculation of fugitive  $PM_{10}$  emissions from on-road vehicle operation requires that the total vehicle miles driven (VMT<sub>Total</sub>) for POVs and GOVs is known. These values have been calculated in Step 1 of Problem 1 (VMT<sub>Total-POV</sub> = 1,925,586 and VMT<sub>Total-GOV</sub> = 173,394 miles/year).

<u>Step 2</u> – **Select emission factors.** Fugitive PM<sub>10</sub> emission factors are provided in Table 5-10. For POVs, the emission factors for paved and unpaved roads are **0.058** and **466.206 g/mi** respectively. Similarly, for GOVs, the emission factors for paved and unpaved roads are **0.069** and **505.981 g/mi** respectively.

Once selected, the emission factors must be corrected to account for precipitation at the base. It is given that the base is located in central Alabama. Based on this information, a review of Figure 5-1 reveals that the base is estimated to have 110 days in the year with precipitation of 0.01 inches or more. The emission factors are corrected using this value and Equation 5-1 or Equation 5-2.

For POVs:

$$EF(Pol)_{CP} = EF(Pol)_P \times \left(1 - \frac{P}{4N}\right)$$

$$EF(PM_{10})_{CP} = 0.058 \frac{g}{mi} \times \left(1 - \frac{110}{4 \times 365}\right)$$

$$EF(PM_{10})_{CP} = 0.058 \frac{g}{mi} \times \left(1 - \frac{110}{1460}\right) = \mathbf{0.054} \frac{g}{mi}$$

For GOVs:

$$EF(PM_{10})_{CP} = 0.069 \frac{g}{mi} \times \left(1 - \frac{110}{4 \times 365}\right)$$

$$EF(PM_{10})_{CP} = 0.069 \frac{g}{mi} \times \left(1 - \frac{110}{1460}\right) = 0.064 \frac{g}{mi}$$

$$EF(Pol)_{CU} = EF(Pol)_{U} \times \left(1 - \frac{P}{N}\right)$$

$$EF(PM_{10})_{CU} = 505.981 \frac{g}{mi} \times \left(1 - \frac{110}{365}\right) = 353.494 \frac{g}{mi}$$

<u>Step 3</u> – Calculate emissions. Using the VMT<sub>Total</sub> for POVs and GOVs as recorded in Step 1, the estimated percentage of driving on paved and unpaved roads (as given in the problem statement), and Equation 5-20, emissions are calculated as follows:

$$E(Pol)_{Total} = VMT_{Total} \times \left[ \left( \frac{\%VMT_P}{100} \times EF(Pol)_{CP} \right) + \left( \frac{\%VMT_U}{100} \times EF(Pol)_{CU} \right) \right] \times 0.002205$$

For POVs:

$$\begin{split} E(PM_{10})_{Total} &= 1925586 \frac{mi}{yr} \times \left[ \left( \frac{100\%}{100\%} \times 0.054 \frac{g}{mi} \right) + (0) \right] \times 0.002205 \frac{lb}{g} \\ E(PM_{10})_{Total} &= 1925586 \frac{mi}{yr} \times \left[ \left( 1 \times 0.054 \frac{g}{mi} \right) \right] \times 0.002205 \frac{lb}{g} \\ \hline E(PM_{10})_{Total} &= 229.3 \frac{lb}{yr} \end{split}$$

# For GOVs:

$$\begin{split} E(PM_{10})_{Total} &= 173394 \frac{mi}{yr} \times \left[ \left( \frac{90\%}{100\%} \times 0.064 \frac{g}{mi} \right) + \left( \frac{10\%}{100\%} \times 353.494 \frac{g}{mi} \right) \right] \times 0.002205 \frac{lb}{g} \\ E(PM_{10})_{Total} &= 173394 \frac{mi}{yr} \times \left[ \left( 0.9 \times 0.064 \frac{g}{mi} \right) + \left( 0.1 \times 353.494 \frac{g}{mi} \right) \right] \times 0.002205 \frac{lb}{g} \\ E(PM_{10})_{Total} &= 173394 \frac{mi}{yr} \times \left[ \left( 0.0576 \frac{g}{mi} \right) + \left( 353.494 \frac{g}{mi} \right) \right] \times 0.002205 \frac{lb}{g} \\ E(PM_{10})_{Total} &= 173394 \frac{mi}{yr} \times \left[ 35.407 \frac{g}{mi} \right] \times 0.002205 \frac{lb}{g} \\ \hline E(PM_{10})_{Total} &= 13537.3 \frac{lb}{yr} \end{split}$$

Table 5-11. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2014 POV

State	Vohiala Trma	Emission Factors (g/mi) Criteria Pollutants and Ozone Precursors							
State	Vehicle Type	NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
ALABAMA	All Vehicles	0.823	0.008	6.767	0.766	0.013	0.011	422.115	0.034
ALASKA	All Vehicles	0.867	0.008	7.312	0.796	0.029	0.026	418.113	0.034
ARIZONA	All Vehicles	0.770	0.005	6.442	0.738	0.011	0.010	431.674	0.034
ARKANSAS	All Vehicles	0.842	0.008	6.945	0.748	0.014	0.012	414.467	0.034
COLORADO	All Vehicles	0.828	0.008	6.525	0.720	0.019	0.017	420.067	0.034
CONNECTICUT	All Vehicles	0.729	0.008	5.987	0.635	0.018	0.016	420.797	0.034
DELAWARE	All Vehicles	0.775	0.008	5.858	0.651	0.015	0.013	423.429	0.034
DISTRICT OF COLUMBIA	All Vehicles	0.710	0.009	5.759	0.635	0.015	0.013	441.372	0.033
FLORIDA	All Vehicles	0.789	0.009	6.831	0.783	0.011	0.010	442.829	0.034
GEORGIA	All Vehicles	0.780	0.008	6.379	0.714	0.014	0.012	417.317	0.034
HAWAII	All Vehicles	0.782	0.008	6.862	0.757	0.010	0.009	431.019	0.034
IDAHO	All Vehicles	0.872	0.008	6.883	0.750	0.018	0.016	415.121	0.034
ILLINOIS	All Vehicles	0.794	0.009	6.746	0.734	0.017	0.016	434.207	0.034
INDIANA	All Vehicles	0.831	0.008	7.082	0.749	0.016	0.015	424.071	0.034
IOWA	All Vehicles	0.863	0.008	7.129	0.776	0.020	0.017	414.178	0.034
KANSAS	All Vehicles	0.855	0.008	6.996	0.759	0.016	0.014	416.090	0.034
KENTUCKY	All Vehicles	0.825	0.008	6.825	0.719	0.015	0.013	412.972	0.034
LOUISIANA	All Vehicles	0.806	0.008	6.878	0.765	0.012	0.011	424.496	0.034
MAINE	All Vehicles	0.858	0.008	6.752	0.763	0.022	0.019	405.181	0.034
MARYLAND	All Vehicles	0.784	0.008	6.065	0.665	0.016	0.014	419.699	0.034
MASSACHUSETTS	All Vehicles	0.785	0.008	6.298	0.684	0.019	0.017	418.323	0.034
MICHIGAN	All Vehicles	0.862	0.008	7.411	0.768	0.019	0.017	421.608	0.034
MINNESOTA	All Vehicles	0.853	0.008	7.302	0.787	0.023	0.021	416.884	0.034
MISSISSIPPI	All Vehicles	0.820	0.008	6.741	0.763	0.013	0.011	416.129	0.034
MISSOURI	All Vehicles	0.829	0.008	6.769	0.723	0.016	0.014	409.962	0.034
MONTANA	All Vehicles	0.903	0.008	7.250	0.778	0.021	0.018	407.612	0.034
NEBRASKA	All Vehicles	0.875	0.008	7.177	0.778	0.019	0.017	414.356	0.034

		Emission Factors (g/mi)							
State	Vehicle Type	NO	50		ollutants a			CO	NITT
		NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
NEVADA	All Vehicles	0.846	0.009	6.301	0.746	0.014	0.012	432.032	0.034
NEW HAMPSHIRE	All Vehicles	0.783	0.008	6.278	0.700	0.020	0.018	413.943	0.034
NEW JERSEY	All Vehicles	0.770	0.008	5.933	0.630	0.016	0.015	409.117	0.034
NEW MEXICO	All Vehicles	0.882	0.008	6.681	0.765	0.015	0.014	414.448	0.034
NEW YORK	All Vehicles	0.707	0.008	5.712	0.630	0.018	0.016	421.850	0.034
NORTH CAROLINA	All Vehicles	0.826	0.008	6.656	0.752	0.014	0.013	419.636	0.034
NORTH DAKOTA	All Vehicles	0.880	0.008	7.615	0.826	0.026	0.023	408.930	0.034
OHIO	All Vehicles	0.794	0.008	6.838	0.720	0.017	0.015	423.941	0.032
OKLAHOMA	All Vehicles	0.845	0.008	6.972	0.766	0.014	0.012	421.019	0.034
OREGON	All Vehicles	0.825	0.008	6.384	0.692	0.016	0.014	411.244	0.034
PACIFIC ISLANDS	All Vehicles	0.784	0.008	6.362	0.697	0.015	0.013	419.783	0.034
PENNSYLVANIA	All Vehicles	0.787	0.008	6.384	0.697	0.017	0.016	421.616	0.034
PUERTO RICO	All Vehicles	0.764	0.009	7.594	0.801	0.010	0.009	446.113	0.034
RHODE ISLAND	All Vehicles	0.606	0.008	4.838	0.553	0.018	0.016	424.888	0.034
SOUTH CAROLINA	All Vehicles	0.836	0.008	6.845	0.765	0.013	0.012	420.437	0.034
SOUTH DAKOTA	All Vehicles	0.881	0.008	7.379	0.794	0.022	0.019	408.145	0.034
TENNESSEE	All Vehicles	0.816	0.008	6.720	0.735	0.014	0.013	420.993	0.034
TEXAS	All Vehicles	0.760	0.008	6.379	0.706	0.012	0.011	423.813	0.034
UTAH	All Vehicles	0.831	0.008	6.700	0.734	0.018	0.016	426.291	0.034
VERMONT	All Vehicles	0.806	0.008	6.491	0.742	0.022	0.020	406.118	0.034
VIRGIN ISLANDS	All Vehicles	0.749	0.008	7.160	0.766	0.009	0.008	422.296	0.033
VIRGINIA	All Vehicles	0.875	0.008	7.177	0.778	0.019	0.017	414.356	0.034
WASHINGTON	All Vehicles	0.795	0.008	6.537	0.691	0.017	0.015	416.690	0.034
WEST VIRGINIA	All Vehicles	0.856	0.008	7.005	0.748	0.016	0.014	409.147	0.034
WISCONSIN	All Vehicles	0.838	0.008	7.026	0.761	0.021	0.019	414.292	0.034
WYOMING	All Vehicles	0.915	0.008	7.421	0.796	0.022	0.019	410.010	0.034

Table 5-12. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2015 POV

a		Emission Factors (g/mi) Criteria Pollutants and Ozone Precursors									
State	Vehicle Type	NOx	SO <sub>2</sub>	Co	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>		
ALABAMA	All Vehicles	0.708	0.008	6.113	0.684	0.012	0.010	413.825	0.031		
ALASKA	All Vehicles	0.765	0.008	6.710	0.726	0.026	0.023	410.571	0.032		
ARIZONA	All Vehicles	0.672	0.005	5.939	0.671	0.011	0.009	423.762	0.032		
ARKANSAS	All Vehicles	0.742	0.008	6.389	0.681	0.013	0.011	406.916	0.032		
COLORADO	All Vehicles	0.730	0.008	5.995	0.656	0.017	0.015	412.426	0.032		
CONNECTICUT	All Vehicles	0.640	0.008	5.488	0.575	0.016	0.015	413.136	0.032		
DELAWARE	All Vehicles	0.680	0.008	5.376	0.591	0.014	0.012	415.686	0.032		
DISTRICT OF COLUMBIA	All Vehicles	0.623	0.009	5.299	0.577	0.014	0.012	433.264	0.030		
FLORIDA	All Vehicles	0.691	0.009	6.277	0.711	0.010	0.009	434.682	0.032		
GEORGIA	All Vehicles	0.684	0.008	5.853	0.648	0.012	0.011	409.699	0.032		
HAWAII	All Vehicles	0.687	0.008	6.311	0.688	0.009	0.008	423.091	0.032		
IDAHO	All Vehicles	0.768	0.008	6.308	0.682	0.017	0.015	407.581	0.032		
ILLINOIS	All Vehicles	0.697	0.008	6.178	0.666	0.016	0.014	426.267	0.032		
INDIANA	All Vehicles	0.731	0.008	6.502	0.679	0.015	0.013	416.335	0.032		
IOWA	All Vehicles	0.761	0.008	6.546	0.707	0.018	0.016	406.664	0.032		
KANSAS	All Vehicles	0.753	0.008	6.430	0.691	0.015	0.013	408.518	0.032		
KENTUCKY	All Vehicles	0.727	0.008	6.273	0.653	0.014	0.012	405.461	0.032		
LOUISIANA	All Vehicles	0.708	0.008	6.322	0.695	0.011	0.010	416.730	0.032		
MAINE	All Vehicles	0.764	0.008	6.180	0.695	0.020	0.018	398.759	0.031		
MARYLAND	All Vehicles	0.689	0.008	5.568	0.605	0.015	0.013	412.050	0.032		
MASSACHUSETTS	All Vehicles	0.690	0.008	5.758	0.623	0.017	0.015	410.716	0.032		
MICHIGAN	All Vehicles	0.759	0.008	6.808	0.697	0.017	0.015	413.940	0.032		
MINNESOTA	All Vehicles	0.751	0.008	6.664	0.714	0.021	0.019	409.329	0.032		
MISSISSIPPI	All Vehicles	0.720	0.008	6.190	0.693	0.012	0.010	408.528	0.031		
MISSOURI	All Vehicles	0.403	0.244	6.218	0.658	0.015	0.013	402.519	0.024		
MONTANA	All Vehicles	0.797	0.008	6.645	0.708	0.018	0.016	400.243	0.031		
NEBRASKA	All Vehicles	0.771	0.008	6.595	0.709	0.017	0.015	406.840	0.032		

		Emission Factors (g/mi)								
State	Vehicle Type	Criteria Pollutants and Ozone Precursors								
		NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
NEVADA	All Vehicles	0.742	0.008	5.790	0.678	0.013	0.011	424.114	0.032	
NEW HAMPSHIRE	All Vehicles	0.688	0.008	5.738	0.637	0.018	0.016	406.429	0.032	
NEW JERSEY	All Vehicles	0.677	0.008	5.454	0.574	0.015	0.013	401.691	0.032	
NEW MEXICO	All Vehicles	0.776	0.008	6.141	0.697	0.014	0.012	406.900	0.032	
NEW YORK	All Vehicles	0.622	0.008	5.257	0.573	0.017	0.015	414.164	0.032	
NORTH CAROLINA	All Vehicles	0.726	0.008	6.106	0.683	0.013	0.012	411.969	0.032	
NORTH DAKOTA	All Vehicles	0.776	0.008	6.948	0.752	0.024	0.021	401.557	0.031	
OHIO	All Vehicles	0.699	0.008	6.282	0.652	0.015	0.013	416.209	0.030	
OKLAHOMA	All Vehicles	0.743	0.008	6.409	0.697	0.013	0.011	413.333	0.032	
OREGON	All Vehicles	0.726	0.008	5.853	0.628	0.014	0.013	403.757	0.032	
PACIFIC ISLANDS	All Vehicles	0.689	0.007	5.844	0.633	0.013	0.012	412.114	0.032	
PENNSYLVANIA	All Vehicles	0.692	0.008	5.848	0.632	0.016	0.014	413.934	0.032	
PUERTO RICO	All Vehicles	0.671	0.009	6.989	0.728	0.009	0.008	437.910	0.032	
RHODE ISLAND	All Vehicles	0.534	0.008	4.479	0.504	0.016	0.014	417.140	0.032	
SOUTH CAROLINA	All Vehicles	0.735	0.008	6.286	0.695	0.012	0.011	412.756	0.032	
SOUTH DAKOTA	All Vehicles	0.777	0.008	6.738	0.722	0.020	0.017	400.771	0.032	
TENNESSEE	All Vehicles	0.717	0.008	6.173	0.667	0.013	0.012	413.308	0.032	
TEXAS	All Vehicles	0.667	0.008	5.859	0.641	0.011	0.010	416.064	0.032	
UTAH	All Vehicles	0.731	0.008	6.147	0.667	0.017	0.015	418.520	0.032	
VERMONT	All Vehicles	0.710	0.008	5.930	0.675	0.020	0.018	398.779	0.031	
VIRGIN ISLANDS	All Vehicles	0.658	0.008	6.582	0.695	0.008	0.007	414.562	0.031	
VIRGINIA	All Vehicles	0.712	0.008	5.952	0.645	0.014	0.012	412.461	0.032	
WASHINGTON	All Vehicles	0.700	0.008	5.990	0.626	0.015	0.013	409.101	0.032	
WEST VIRGINIA	All Vehicles	0.754	0.008	6.434	0.680	0.015	0.013	401.716	0.032	
WISCONSIN	All Vehicles	0.738	0.008	6.414	0.691	0.019	0.017	406.782	0.032	
WYOMING	All Vehicles	0.808	0.008	6.805	0.725	0.019	0.017	402.602	0.032	

Table 5-13. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2016 POV

g		Emission Factors (g/mi) e Criteria Pollutants and Ozone Precursors							
State	Vehicle Type	NO <sub>x</sub>	SO <sub>2</sub>	Co	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
ALABAMA	All Vehicles	0.633	0.008	5.728	0.629	0.011	0.010	405.175	0.030
ALASKA	All Vehicles	0.673	0.008	6.181	0.660	0.023	0.021	401.578	0.030
ARIZONA	All Vehicles	0.585	0.005	5.511	0.610	0.010	0.009	414.308	0.030
ARKANSAS	All Vehicles	0.651	0.008	5.903	0.616	0.012	0.010	397.897	0.030
COLORADO	All Vehicles	0.643	0.008	5.546	0.597	0.015	0.014	403.310	0.030
CONNECTICUT	All Vehicles	0.562	0.008	5.069	0.523	0.015	0.013	403.995	0.030
DELAWARE	All Vehicles	0.593	0.008	4.967	0.537	0.012	0.011	406.453	0.030
DISTRICT OF COLUMBIA	All Vehicles	0.547	0.008	4.925	0.527	0.013	0.011	423.599	0.028
FLORIDA	All Vehicles	0.603	0.008	5.803	0.643	0.010	0.009	424.950	0.030
GEORGIA	All Vehicles	0.600	0.008	5.400	0.587	0.012	0.010	400.603	0.030
HAWAII	All Vehicles	0.601	0.008	5.833	0.621	0.009	0.008	413.625	0.030
IDAHO	All Vehicles	0.674	0.008	5.804	0.618	0.015	0.013	398.586	0.030
ILLINOIS	All Vehicles	0.609	0.008	5.672	0.602	0.014	0.013	416.801	0.030
INDIANA	All Vehicles	0.641	0.008	5.997	0.614	0.013	0.012	407.109	0.030
IOWA	All Vehicles	0.669	0.008	6.035	0.641	0.016	0.014	397.699	0.029
KANSAS	All Vehicles	0.661	0.008	5.934	0.626	0.014	0.012	399.480	0.030
KENTUCKY	All Vehicles	0.637	0.008	5.792	0.590	0.012	0.011	396.495	0.030
LOUISIANA	All Vehicles	0.619	0.008	5.839	0.628	0.011	0.009	407.452	0.030
MAINE	All Vehicles	0.663	0.008	5.675	0.628	0.018	0.016	389.116	0.029
MARYLAND	All Vehicles	0.601	0.008	5.138	0.548	0.013	0.012	402.919	0.030
MASSACHUSETTS	All Vehicles	0.604	0.008	5.286	0.563	0.015	0.014	401.640	0.030
MICHIGAN	All Vehicles	0.666	0.008	6.276	0.629	0.015	0.013	404.793	0.030
MINNESOTA	All Vehicles	0.660	0.008	6.105	0.645	0.019	0.017	400.316	0.030
MISSISSIPPI	All Vehicles	0.630	0.008	5.710	0.626	0.011	0.010	399.451	0.029
MISSOURI	All Vehicles	0.640	0.008	5.733	0.596	0.013	0.012	393.630	0.030
MONTANA	All Vehicles	0.701	0.008	6.112	0.641	0.017	0.015	391.450	0.029
NEBRASKA	All Vehicles	0.678	0.008	6.084	0.642	0.016	0.014	397.869	0.030

		Emission Factors (g/mi)  Criteria Pollutants and Ozone Precursors								
State	Vehicle Type									
		NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
NEVADA	All Vehicles	0.647	0.008	5.348	0.615	0.012	0.010	414.666	0.030	
NEW HAMPSHIRE	All Vehicles	0.601	0.008	5.249	0.575	0.016	0.014	397.467	0.030	
NEW JERSEY	All Vehicles	0.594	0.008	5.048	0.521	0.014	0.012	392.824	0.030	
NEW MEXICO	All Vehicles	0.681	0.008	5.670	0.632	0.013	0.011	397.892	0.030	
NEW YORK	All Vehicles	0.549	0.008	4.886	0.524	0.015	0.013	404.995	0.030	
NORTH CAROLINA	All Vehicles	0.635	0.008	5.624	0.617	0.012	0.011	402.819	0.030	
NORTH DAKOTA	All Vehicles	0.682	0.008	6.359	0.680	0.021	0.019	392.759	0.029	
OHIO	All Vehicles	0.613	0.008	5.802	0.591	0.014	0.012	406.988	0.028	
OKLAHOMA	All Vehicles	0.652	0.008	5.917	0.631	0.012	0.010	404.158	0.030	
OREGON	All Vehicles	0.637	0.008	5.388	0.568	0.013	0.012	394.827	0.030	
PACIFIC ISLANDS	All Vehicles	0.603	0.007	5.397	0.574	0.012	0.011	402.962	0.030	
PENNSYLVANIA	All Vehicles	0.605	0.008	5.378	0.571	0.015	0.013	404.770	0.030	
PUERTO RICO	All Vehicles	0.587	0.008	6.466	0.658	0.009	0.008	428.102	0.030	
RHODE ISLAND	All Vehicles	0.477	0.008	4.228	0.466	0.015	0.013	407.899	0.030	
SOUTH CAROLINA	All Vehicles	0.643	0.008	5.800	0.628	0.011	0.010	403.584	0.030	
SOUTH DAKOTA	All Vehicles	0.682	0.008	6.174	0.652	0.018	0.016	391.970	0.029	
TENNESSEE	All Vehicles	0.627	0.008	5.696	0.602	0.012	0.011	404.136	0.030	
TEXAS	All Vehicles	0.583	0.008	5.414	0.581	0.010	0.009	406.804	0.030	
UTAH	All Vehicles	0.641	0.008	5.667	0.607	0.015	0.013	409.250	0.030	
VERMONT	All Vehicles	0.621	0.008	5.423	0.609	0.018	0.016	390.022	0.029	
VIRGIN ISLANDS	All Vehicles	0.575	0.008	6.082	0.627	0.008	0.007	405.306	0.029	
VIRGINIA	All Vehicles	0.625	0.008	5.494	0.585	0.013	0.012	403.314	0.030	
WASHINGTON	All Vehicles	0.617	0.008	5.518	0.567	0.014	0.012	400.050	0.030	
WEST VIRGINIA	All Vehicles	0.662	0.008	5.935	0.615	0.013	0.012	392.846	0.030	
WISCONSIN	All Vehicles	0.647	0.008	5.872	0.624	0.017	0.015	397.823	0.030	
WYOMING	All Vehicles	0.711	0.008	6.262	0.657	0.017	0.015	393.760	0.030	

Table 5-14. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2017 POV

	******	Emission Factors (g/mi)  Criteria Pollutants and Ozone Precursors								
State	Vehicle Type	NO <sub>x</sub>	SO <sub>2</sub>	Co	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
ALABAMA	All Vehicles	0.471	0.003	5.199	0.553	0.010	0.009	395.482	0.028	
ALASKA	All Vehicles	0.509	0.003	5.688	0.582	0.020	0.018	392.129	0.028	
ARIZONA	All Vehicles	0.482	0.003	5.077	0.562	0.009	0.008	404.366	0.028	
ARKANSAS	All Vehicles	0.488	0.003	5.415	0.545	0.011	0.009	388.414	0.028	
COLORADO	All Vehicles	0.485	0.003	5.106	0.537	0.014	0.013	393.729	0.028	
CONNECTICUT	All Vehicles	0.423	0.003	4.701	0.468	0.013	0.012	394.388	0.028	
DELAWARE	All Vehicles	0.447	0.003	4.600	0.479	0.011	0.010	396.746	0.028	
DISTRICT OF COLUMBIA	All Vehicles	0.412	0.003	4.587	0.473	0.011	0.010	413.440	0.026	
FLORIDA	All Vehicles	0.448	0.003	5.265	0.566	0.009	0.008	414.713	0.028	
GEORGIA	All Vehicles	0.446	0.003	4.904	0.515	0.010	0.009	391.039	0.028	
HAWAII	All Vehicles	0.449	0.003	5.342	0.549	0.008	0.007	403.668	0.028	
IDAHO	All Vehicles	0.507	0.003	5.318	0.551	0.014	0.012	389.133	0.028	
ILLINOIS	All Vehicles	0.457	0.003	5.139	0.532	0.013	0.012	406.851	0.028	
INDIANA	All Vehicles	0.479	0.003	5.315	0.544	0.013	0.012	397.413	0.028	
IOWA	All Vehicles	0.504	0.003	5.537	0.565	0.014	0.013	388.276	0.028	
KANSAS	All Vehicles	0.496	0.003	5.443	0.553	0.012	0.011	389.978	0.028	
KENTUCKY	All Vehicles	0.477	0.003	5.195	0.524	0.012	0.010	387.070	0.028	
LOUISIANA	All Vehicles	0.460	0.003	5.301	0.554	0.010	0.008	397.693	0.028	
MAINE	All Vehicles	0.497	0.003	5.156	0.551	0.016	0.014	379.933	0.028	
MARYLAND	All Vehicles	0.452	0.003	4.750	0.487	0.012	0.011	393.321	0.028	
MASSACHUSETTS	All Vehicles	0.457	0.003	4.855	0.500	0.014	0.012	392.102	0.028	
MICHIGAN	All Vehicles	0.498	0.003	5.519	0.558	0.015	0.013	395.181	0.028	
MINNESOTA	All Vehicles	0.498	0.003	5.624	0.574	0.017	0.015	390.845	0.028	
MISSISSIPPI	All Vehicles	0.469	0.003	5.184	0.550	0.010	0.009	389.906	0.028	
MISSOURI	All Vehicles	0.481	0.003	5.271	0.526	0.012	0.011	384.286	0.028	
MONTANA	All Vehicles	0.528	0.003	5.597	0.572	0.015	0.014	382.210	0.028	
NEBRASKA	All Vehicles	0.510	0.003	5.583	0.567	0.014	0.013	388.440	0.028	

					Emission Fa				
State	Vehicle Type	NO	GO.		ollutants a			CO	NIVY
		NO <sub>x</sub>	SO <sub>2</sub>	со	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
NEVADA	All Vehicles	0.483	0.003	4.907	0.547	0.011	0.010	404.732	0.028
NEW HAMPSHIRE	All Vehicles	0.454	0.003	4.805	0.509	0.015	0.013	388.049	0.028
NEW JERSEY	All Vehicles	0.448	0.003	4.682	0.465	0.012	0.011	383.504	0.028
NEW MEXICO	All Vehicles	0.510	0.003	5.201	0.560	0.012	0.010	388.423	0.028
NEW YORK	All Vehicles	0.413	0.003	4.518	0.468	0.014	0.012	395.360	0.028
NORTH CAROLINA	All Vehicles	0.472	0.003	5.104	0.542	0.011	0.010	393.199	0.028
NORTH DAKOTA	All Vehicles	0.516	0.003	5.856	0.606	0.019	0.017	383.515	0.028
OHIO	All Vehicles	0.458	0.003	5.121	0.525	0.013	0.012	397.296	0.026
OKLAHOMA	All Vehicles	0.489	0.003	5.425	0.558	0.011	0.010	394.510	0.028
OREGON	All Vehicles	0.479	0.003	4.942	0.506	0.012	0.011	385.443	0.028
PACIFIC ISLANDS	All Vehicles	0.461	0.003	4.929	0.513	0.011	0.010	393.344	0.028
PENNSYLVANIA	All Vehicles	0.453	0.003	4.863	0.506	0.013	0.012	395.139	0.028
PUERTO RICO	All Vehicles	0.438	0.003	5.922	0.581	0.008	0.007	417.781	0.028
RHODE ISLAND	All Vehicles	0.364	0.003	3.989	0.423	0.013	0.012	398.187	0.028
SOUTH CAROLINA	All Vehicles	0.478	0.003	5.267	0.553	0.010	0.009	393.941	0.028
SOUTH DAKOTA	All Vehicles	0.515	0.003	5.688	0.581	0.016	0.014	382.720	0.028
TENNESSEE	All Vehicles	0.468	0.003	5.111	0.533	0.011	0.010	394.493	0.028
TEXAS	All Vehicles	0.435	0.003	4.962	0.514	0.009	0.008	397.066	0.028
UTAH	All Vehicles	0.481	0.003	5.204	0.542	0.014	0.012	399.508	0.028
VERMONT	All Vehicles	0.466	0.003	4.908	0.534	0.016	0.014	380.820	0.028
VIRGIN ISLANDS	All Vehicles	0.430	0.003	5.564	0.553	0.007	0.006	395.565	0.027
VIRGINIA	All Vehicles	0.468	0.003	5.050	0.517	0.012	0.010	393.700	0.028
WASHINGTON	All Vehicles	0.464	0.003	5.064	0.506	0.013	0.011	390.538	0.028
WEST VIRGINIA	All Vehicles	0.494	0.003	5.298	0.543	0.013	0.011	383.524	0.028
WISCONSIN	All Vehicles	0.488	0.003	5.412	0.555	0.016	0.014	388.408	0.028
WYOMING	All Vehicles	0.535	0.003	5.736	0.587	0.016	0.014	384.469	0.028

Table 5-15. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2018 POV

a	******	Emission Factors (g/mi) Type Criteria Pollutants and Ozone Precursors								
State	Vehicle Type	NOx	SO <sub>2</sub>	Co	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
ALABAMA	All Vehicles	0.408	0.003	4.872	0.505	0.009	0.008	385.518	0.026	
ALASKA	All Vehicles	0.445	0.003	5.324	0.533	0.018	0.016	382.415	0.027	
ARIZONA	All Vehicles	0.418	0.003	4.774	0.516	0.009	0.008	394.145	0.027	
ARKANSAS	All Vehicles	0.425	0.003	5.084	0.498	0.010	0.009	378.664	0.026	
COLORADO	All Vehicles	0.424	0.003	4.791	0.494	0.013	0.012	383.882	0.027	
CONNECTICUT	All Vehicles	0.370	0.003	4.416	0.431	0.012	0.011	384.512	0.027	
DELAWARE	All Vehicles	0.387	0.003	4.310	0.439	0.010	0.009	386.771	0.026	
DISTRICT OF COLUMBIA	All Vehicles	0.358	0.003	4.315	0.436	0.011	0.009	403.004	0.025	
FLORIDA	All Vehicles	0.387	0.003	4.937	0.517	0.008	0.007	404.192	0.027	
GEORGIA	All Vehicles	0.388	0.003	4.599	0.471	0.010	0.009	381.206	0.026	
HAWAII	All Vehicles	0.389	0.003	5.013	0.501	0.008	0.007	393.434	0.027	
IDAHO	All Vehicles	0.442	0.003	4.974	0.504	0.013	0.011	379.416	0.026	
ILLINOIS	All Vehicles	0.396	0.003	4.793	0.485	0.012	0.011	396.628	0.027	
INDIANA	All Vehicles	0.417	0.003	4.969	0.497	0.012	0.011	387.447	0.027	
IOWA	All Vehicles	0.440	0.003	5.189	0.517	0.013	0.012	378.589	0.026	
KANSAS	All Vehicles	0.433	0.003	5.105	0.505	0.011	0.010	380.209	0.026	
KENTUCKY	All Vehicles	0.415	0.003	4.863	0.478	0.011	0.010	377.379	0.026	
LOUISIANA	All Vehicles	0.399	0.003	4.972	0.505	0.009	0.008	387.661	0.027	
MAINE	All Vehicles	0.433	0.002	4.818	0.503	0.014	0.013	370.491	0.026	
MARYLAND	All Vehicles	0.391	0.003	4.449	0.446	0.011	0.010	383.454	0.027	
MASSACHUSETTS	All Vehicles	0.395	0.003	4.519	0.456	0.013	0.011	382.297	0.027	
MICHIGAN	All Vehicles	0.434	0.003	5.157	0.509	0.013	0.012	385.301	0.027	
MINNESOTA	All Vehicles	0.435	0.003	5.242	0.524	0.016	0.014	381.108	0.026	
MISSISSIPPI	All Vehicles	0.407	0.003	4.859	0.502	0.009	0.008	380.092	0.026	
MISSOURI	All Vehicles	0.419	0.003	4.939	0.480	0.011	0.010	374.676	0.026	
MONTANA	All Vehicles	0.462	0.003	5.234	0.523	0.014	0.012	372.710	0.026	
NEBRASKA	All Vehicles	0.446	0.003	5.235	0.519	0.013	0.011	378.746	0.026	

				I	Emission Fa	actors (g/m	i)		
State	Vehicle Type			Criteria P	ollutants a	nd Ozone I	recursors		
		NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
NEVADA	All Vehicles	0.418	0.003	4.599	0.501	0.010	0.009	394.524	0.027
NEW HAMPSHIRE	All Vehicles	0.393	0.003	4.474	0.464	0.013	0.012	378.366	0.026
NEW JERSEY	All Vehicles	0.390	0.003	4.391	0.426	0.011	0.010	373.921	0.027
NEW MEXICO	All Vehicles	0.444	0.003	4.879	0.513	0.011	0.009	378.688	0.026
NEW YORK	All Vehicles	0.361	0.003	4.248	0.431	0.012	0.011	385.457	0.027
NORTH CAROLINA	All Vehicles	0.410	0.003	4.779	0.494	0.010	0.009	383.311	0.026
NORTH DAKOTA	All Vehicles	0.451	0.003	5.451	0.553	0.017	0.015	374.008	0.026
ОНЮ	All Vehicles	0.399	0.003	4.792	0.480	0.012	0.011	387.336	0.025
OKLAHOMA	All Vehicles	0.425	0.003	5.090	0.509	0.010	0.009	384.592	0.026
OREGON	All Vehicles	0.418	0.003	4.625	0.463	0.011	0.010	375.797	0.026
PACIFIC ISLANDS	All Vehicles	0.401	0.003	4.621	0.469	0.010	0.009	383.464	0.027
PENNSYLVANIA	All Vehicles	0.394	0.003	4.546	0.462	0.012	0.011	385.240	0.027
PUERTO RICO	All Vehicles	0.379	0.003	5.558	0.530	0.008	0.007	407.170	0.027
RHODE ISLAND	All Vehicles	0.322	0.003	3.781	0.393	0.012	0.011	388.206	0.027
SOUTH CAROLINA	All Vehicles	0.415	0.003	4.938	0.504	0.010	0.009	384.027	0.027
SOUTH DAKOTA	All Vehicles	0.450	0.003	5.302	0.530	0.015	0.013	373.208	0.026
TENNESSEE	All Vehicles	0.406	0.003	4.784	0.486	0.011	0.009	384.581	0.027
TEXAS	All Vehicles	0.377	0.003	4.656	0.470	0.009	0.008	387.053	0.027
UTAH	All Vehicles	0.419	0.003	4.873	0.497	0.013	0.011	389.495	0.027
VERMONT	All Vehicles	0.404	0.003	4.568	0.486	0.015	0.013	371.359	0.026
VIRGIN ISLANDS	All Vehicles	0.373	0.003	5.217	0.503	0.007	0.006	385.545	0.026
VIRGINIA	All Vehicles	0.407	0.003	4.735	0.473	0.011	0.010	383.816	0.027
WASHINGTON	All Vehicles	0.406	0.003	4.745	0.463	0.012	0.010	380.762	0.027
WEST VIRGINIA	All Vehicles	0.431	0.003	4.959	0.495	0.012	0.010	373.940	0.026
WISCONSIN	All Vehicles	0.425	0.003	5.041	0.506	0.014	0.012	378.728	0.026
WYOMING	All Vehicles	0.468	0.003	5.366	0.537	0.015	0.013	374.915	0.026

Table 5-16. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2019 POV

		Emission Factors (g/mi)  Criteria Pollutants and Ozone Precursors								
State	Vehicle Type	NO <sub>x</sub>	SO <sub>2</sub>	Criteria P	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
ALABAMA	All Vehicles	0.356	0.003	4.579	0.463	0.009	0.008	375.509	0.025	
ALASKA	All Vehicles	0.391	0.003	5.000	0.491	0.017	0.015	372.655	0.025	
ARIZONA	All Vehicles	0.364	0.002	4.501	0.476	0.008	0.007	383.878	0.026	
ARKANSAS	All Vehicles	0.372	0.002	4.785	0.457	0.009	0.008	368.870	0.025	
COLORADO	All Vehicles	0.373	0.003	4.509	0.456	0.012	0.011	373.989	0.025	
CONNECTICUT	All Vehicles	0.325	0.003	4.159	0.399	0.011	0.010	374.593	0.026	
DELAWARE	All Vehicles	0.337	0.003	4.050	0.405	0.010	0.009	376.752	0.025	
DISTRICT OF COLUMBIA	All Vehicles	0.313	0.003	4.068	0.404	0.010	0.009	392.522	0.024	
FLORIDA	All Vehicles	0.336	0.003	4.643	0.474	0.008	0.007	393.623	0.026	
GEORGIA	All Vehicles	0.338	0.003	4.325	0.433	0.009	0.008	371.330	0.025	
HAWAII	All Vehicles	0.338	0.003	4.718	0.459	0.007	0.007	383.154	0.025	
IDAHO	All Vehicles	0.387	0.002	4.668	0.464	0.012	0.010	369.654	0.025	
ILLINOIS	All Vehicles	0.345	0.003	4.486	0.445	0.011	0.010	386.359	0.026	
INDIANA	All Vehicles	0.365	0.003	4.661	0.456	0.011	0.010	377.436	0.025	
IOWA	All Vehicles	0.386	0.002	4.876	0.475	0.012	0.011	368.857	0.025	
KANSAS	All Vehicles	0.379	0.003	4.802	0.465	0.010	0.009	370.396	0.025	
KENTUCKY	All Vehicles	0.363	0.002	4.567	0.439	0.010	0.009	367.645	0.025	
LOUISIANA	All Vehicles	0.347	0.003	4.677	0.463	0.008	0.008	377.582	0.025	
MAINE	All Vehicles	0.380	0.002	4.517	0.462	0.013	0.012	361.006	0.025	
MARYLAND	All Vehicles	0.340	0.003	4.180	0.411	0.010	0.009	373.544	0.025	
MASSACHUSETTS	All Vehicles	0.344	0.003	4.222	0.417	0.012	0.010	372.449	0.025	
MICHIGAN	All Vehicles	0.381	0.003	4.834	0.467	0.012	0.011	375.376	0.025	
MINNESOTA	All Vehicles	0.381	0.003	4.902	0.481	0.014	0.013	371.325	0.025	
MISSISSIPPI	All Vehicles	0.355	0.002	4.569	0.461	0.009	0.008	370.234	0.025	
MISSOURI	All Vehicles	0.366	0.002	4.642	0.441	0.010	0.009	365.024	0.025	
MONTANA	All Vehicles	0.406	0.002	4.911	0.481	0.013	0.011	363.166	0.025	
NEBRASKA	All Vehicles	0.391	0.002	4.922	0.477	0.012	0.010	369.007	0.025	

		Emission Factors (g/mi)								
State	Vehicle Type				ollutants a					
		NO <sub>x</sub>	SO <sub>2</sub>	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
NEVADA	All Vehicles	0.363	0.003	4.324	0.462	0.009	0.008	384.271	0.026	
NEW HAMPSHIRE	All Vehicles	0.343	0.002	4.181	0.425	0.012	0.011	368.640	0.025	
NEW JERSEY	All Vehicles	0.341	0.002	4.131	0.393	0.010	0.009	364.296	0.025	
NEW MEXICO	All Vehicles	0.388	0.002	4.590	0.472	0.010	0.009	368.910	0.025	
NEW YORK	All Vehicles	0.317	0.003	4.004	0.399	0.011	0.010	375.509	0.025	
NORTH CAROLINA	All Vehicles	0.357	0.003	4.490	0.454	0.009	0.008	373.378	0.025	
NORTH DAKOTA	All Vehicles	0.396	0.002	5.092	0.508	0.016	0.014	364.457	0.025	
ОНЮ	All Vehicles	0.350	0.003	4.498	0.442	0.011	0.010	377.330	0.023	
OKLAHOMA	All Vehicles	0.372	0.003	4.788	0.468	0.009	0.008	374.629	0.025	
OREGON	All Vehicles	0.366	0.002	4.343	0.425	0.010	0.009	366.110	0.025	
PACIFIC ISLANDS	All Vehicles	0.350	0.002	4.346	0.432	0.010	0.009	373.539	0.025	
PENNSYLVANIA	All Vehicles	0.344	0.003	4.263	0.424	0.011	0.010	375.297	0.025	
PUERTO RICO	All Vehicles	0.330	0.003	5.233	0.487	0.008	0.007	396.509	0.026	
RHODE ISLAND	All Vehicles	0.285	0.003	3.588	0.367	0.011	0.010	378.182	0.026	
SOUTH CAROLINA	All Vehicles	0.362	0.003	4.644	0.463	0.009	0.008	374.070	0.025	
SOUTH DAKOTA	All Vehicles	0.395	0.002	4.959	0.486	0.013	0.012	363.652	0.025	
TENNESSEE	All Vehicles	0.354	0.003	4.492	0.446	0.010	0.009	374.624	0.025	
TEXAS	All Vehicles	0.329	0.003	4.383	0.432	0.008	0.007	376.995	0.025	
UTAH	All Vehicles	0.367	0.003	4.578	0.458	0.012	0.010	379.437	0.026	
VERMONT	All Vehicles	0.353	0.002	4.266	0.445	0.013	0.012	361.854	0.025	
VIRGIN ISLANDS	All Vehicles	0.324	0.003	4.908	0.460	0.007	0.006	375.477	0.025	
VIRGINIA	All Vehicles	0.356	0.003	4.453	0.435	0.010	0.009	373.889	0.025	
WASHINGTON	All Vehicles	0.357	0.003	4.461	0.426	0.011	0.010	370.944	0.026	
WEST VIRGINIA	All Vehicles	0.370	0.002	4.613	0.445	0.010	0.009	364.158	0.025	
WISCONSIN	All Vehicles	0.372	0.002	4.712	0.464	0.013	0.011	369.004	0.025	
WYOMING	All Vehicles	0.412	0.002	5.036	0.494	0.013	0.012	365.317	0.025	

Table 5-17. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2020 POV

a		Emission Factors (g/mi)  VDE Criteria Pollutants and Ozone Precursors								
State	Vehicle Type	NOx	SO <sub>2</sub>	Co	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
ALABAMA	All Vehicles	0.313	0.002	4.332	0.429	0.008	0.007	365.418	0.024	
ALASKA	All Vehicles	0.347	0.002	4.724	0.455	0.015	0.013	362.813	0.025	
ARIZONA	All Vehicles	0.320	0.002	4.272	0.443	0.008	0.007	373.527	0.025	
ARKANSAS	All Vehicles	0.329	0.002	4.532	0.424	0.009	0.008	358.994	0.024	
COLORADO	All Vehicles	0.331	0.002	4.271	0.425	0.011	0.010	364.017	0.025	
CONNECTICUT	All Vehicles	0.288	0.002	3.939	0.372	0.011	0.009	364.593	0.025	
DELAWARE	All Vehicles	0.296	0.002	3.828	0.376	0.009	0.008	366.650	0.024	
DISTRICT OF COLUMBIA	All Vehicles	0.276	0.003	3.856	0.377	0.009	0.008	381.958	0.023	
FLORIDA	All Vehicles	0.295	0.003	4.395	0.440	0.008	0.007	382.967	0.025	
GEORGIA	All Vehicles	0.298	0.002	4.092	0.401	0.009	0.008	361.372	0.024	
HAWAII	All Vehicles	0.296	0.003	4.473	0.425	0.007	0.006	372.791	0.025	
IDAHO	All Vehicles	0.342	0.002	4.410	0.430	0.011	0.010	359.812	0.024	
ILLINOIS	All Vehicles	0.303	0.003	4.227	0.412	0.010	0.009	376.008	0.025	
INDIANA	All Vehicles	0.323	0.002	4.401	0.422	0.010	0.009	367.344	0.025	
IOWA	All Vehicles	0.342	0.002	4.610	0.441	0.011	0.010	359.044	0.024	
KANSAS	All Vehicles	0.335	0.002	4.544	0.431	0.010	0.009	360.502	0.024	
KENTUCKY	All Vehicles	0.321	0.002	4.317	0.407	0.009	0.008	357.831	0.025	
LOUISIANA	All Vehicles	0.305	0.002	4.428	0.429	0.008	0.007	367.420	0.024	
MAINE	All Vehicles	0.336	0.002	4.260	0.427	0.012	0.011	351.441	0.024	
MARYLAND	All Vehicles	0.299	0.002	3.952	0.381	0.010	0.009	363.552	0.025	
MASSACHUSETTS	All Vehicles	0.302	0.002	3.969	0.386	0.011	0.010	362.520	0.025	
MICHIGAN	All Vehicles	0.337	0.002	4.561	0.432	0.011	0.010	365.369	0.025	
MINNESOTA	All Vehicles	0.338	0.002	4.616	0.446	0.013	0.012	361.461	0.024	
MISSISSIPPI	All Vehicles	0.312	0.002	4.323	0.427	0.008	0.007	360.294	0.024	
MISSOURI	All Vehicles	0.324	0.002	4.390	0.409	0.010	0.008	355.291	0.024	
MONTANA	All Vehicles	0.360	0.002	4.640	0.446	0.012	0.010	353.541	0.024	
NEBRASKA	All Vehicles	0.347	0.002	4.656	0.442	0.011	0.010	359.187	0.024	

				I	Emission Fa	actors (g/m	i)		
State	Vehicle Type				ollutants a				
		NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
NEVADA	All Vehicles	0.318	0.003	4.094	0.429	0.009	0.008	373.934	0.025
NEW HAMPSHIRE	All Vehicles	0.301	0.002	3.931	0.393	0.011	0.010	358.834	0.024
NEW JERSEY	All Vehicles	0.301	0.002	3.907	0.365	0.010	0.009	354.590	0.025
NEW MEXICO	All Vehicles	0.343	0.002	4.344	0.439	0.009	0.008	359.051	0.024
NEW YORK	All Vehicles	0.281	0.002	3.795	0.372	0.011	0.009	365.481	0.025
NORTH CAROLINA	All Vehicles	0.314	0.002	4.245	0.420	0.009	0.008	363.365	0.024
NORTH DAKOTA	All Vehicles	0.351	0.002	4.789	0.470	0.014	0.013	354.824	0.024
ОНЮ	All Vehicles	0.309	0.002	4.249	0.410	0.010	0.009	367.244	0.023
OKLAHOMA	All Vehicles	0.328	0.002	4.533	0.434	0.009	0.008	364.583	0.024
OREGON	All Vehicles	0.323	0.002	4.105	0.394	0.010	0.009	356.343	0.024
PACIFIC ISLANDS	All Vehicles	0.309	0.002	4.113	0.401	0.009	0.008	363.533	0.025
PENNSYLVANIA	All Vehicles	0.303	0.002	4.023	0.393	0.010	0.009	365.273	0.025
PUERTO RICO	All Vehicles	0.289	0.003	4.963	0.451	0.007	0.006	385.759	0.025
RHODE ISLAND	All Vehicles	0.255	0.002	3.418	0.345	0.010	0.009	368.077	0.025
SOUTH CAROLINA	All Vehicles	0.319	0.002	4.395	0.429	0.009	0.008	364.030	0.025
SOUTH DAKOTA	All Vehicles	0.350	0.002	4.670	0.450	0.012	0.011	354.015	0.024
TENNESSEE	All Vehicles	0.311	0.002	4.246	0.414	0.009	0.008	364.586	0.025
TEXAS	All Vehicles	0.289	0.002	4.151	0.401	0.008	0.007	366.853	0.025
UTAH	All Vehicles	0.324	0.002	4.329	0.426	0.011	0.010	369.297	0.025
VERMONT	All Vehicles	0.311	0.002	4.009	0.411	0.012	0.011	352.269	0.024
VIRGIN ISLANDS	All Vehicles	0.284	0.002	4.651	0.425	0.006	0.006	365.321	0.024
VIRGINIA	All Vehicles	0.314	0.002	4.214	0.404	0.009	0.008	363.881	0.025
WASHINGTON	All Vehicles	0.316	0.002	4.221	0.395	0.010	0.009	361.047	0.025
WEST VIRGINIA	All Vehicles	0.334	0.002	4.400	0.422	0.010	0.009	354.605	0.024
WISCONSIN	All Vehicles	0.329	0.002	4.435	0.429	0.012	0.011	359.199	0.024
WYOMING	All Vehicles	0.366	0.002	4.759	0.458	0.012	0.011	355.639	0.024

Table 5-18. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2014 GOV

_		Emission Factors (g/mi)  Vype Criteria Pollutants and Ozone Precursors								
State	Vehicle Type	NOx	SO <sub>2</sub>	Co	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
ALABAMA	All Vehicles	3.379	0.011	7.370	0.784	0.126	0.116	866.064	0.028	
ALASKA	All Vehicles	3.931	0.011	7.410	0.859	0.137	0.126	856.402	0.029	
ARIZONA	All Vehicles	3.696	0.009	7.426	0.777	0.129	0.118	894.087	0.029	
ARKANSAS	All Vehicles	3.581	0.011	7.507	0.797	0.125	0.115	863.188	0.029	
COLORADO	All Vehicles	3.654	0.011	7.119	0.761	0.130	0.119	857.788	0.029	
CONNECTICUT	All Vehicles	3.226	0.010	6.784	0.673	0.128	0.117	848.632	0.028	
DELAWARE	All Vehicles	3.046	0.010	6.595	0.657	0.126	0.115	842.864	0.027	
DISTRICT OF COLUMBIA	All Vehicles	3.113	0.011	6.751	0.672	0.138	0.126	881.170	0.028	
FLORIDA	All Vehicles	3.182	0.011	7.704	0.792	0.132	0.121	904.105	0.028	
GEORGIA	All Vehicles	3.454	0.011	7.133	0.767	0.125	0.115	863.454	0.029	
HAWAII	All Vehicles	2.927	0.011	7.558	0.724	0.125	0.115	870.218	0.028	
IDAHO	All Vehicles	3.813	0.010	7.296	0.802	0.129	0.119	853.835	0.029	
ILLINOIS	All Vehicles	3.241	0.011	7.362	0.747	0.134	0.123	868.798	0.028	
INDIANA	All Vehicles	3.547	0.011	7.508	0.794	0.131	0.120	863.652	0.029	
IOWA	All Vehicles	3.719	0.010	7.413	0.823	0.129	0.119	854.611	0.029	
KANSAS	All Vehicles	3.520	0.011	7.424	0.784	0.126	0.116	854.400	0.028	
KENTUCKY	All Vehicles	3.763	0.011	7.424	0.810	0.127	0.117	864.446	0.029	
LOUISIANA	All Vehicles	3.378	0.011	7.574	0.796	0.126	0.115	878.510	0.029	
MAINE	All Vehicles	3.769	0.010	7.011	0.814	0.128	0.117	839.211	0.029	
MARYLAND	All Vehicles	3.346	0.011	6.854	0.712	0.126	0.116	854.528	0.028	
MASSACHUSETTS	All Vehicles	3.413	0.010	6.962	0.730	0.128	0.118	849.071	0.028	
MICHIGAN	All Vehicles	3.621	0.011	7.702	0.811	0.131	0.120	859.646	0.029	
MINNESOTA	All Vehicles	3.455	0.010	7.424	0.787	0.130	0.119	842.437	0.028	
MISSISSIPPI	All Vehicles	3.325	0.011	7.295	0.770	0.123	0.113	856.808	0.028	
MISSOURI	All Vehicles	3.523	0.010	7.293	0.767	0.124	0.114	849.345	0.028	
MONTANA	All Vehicles	4.004	0.010	7.448	0.841	0.129	0.119	850.030	0.029	
NEBRASKA	All Vehicles	3.865	0.011	7.547	0.844	0.130	0.119	863.239	0.029	

		Emission Factors (g/mi)									
State	Vehicle Type				ollutants a						
		NOx	SO <sub>2</sub>	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>		
NEVADA	All Vehicles	3.748	0.011	7.226	0.783	0.132	0.121	884.394	0.029		
NEW HAMPSHIRE	All Vehicles	3.460	0.010	6.807	0.741	0.128	0.117	840.827	0.028		
NEW JERSEY	All Vehicles	3.946	0.011	6.805	0.785	0.129	0.118	867.210	0.030		
NEW MEXICO	All Vehicles	3.911	0.011	7.285	0.816	0.128	0.117	862.843	0.029		
NEW YORK	All Vehicles	3.304	0.011	6.487	0.683	0.129	0.119	851.775	0.028		
NORTH CAROLINA	All Vehicles	3.309	0.011	7.220	0.757	0.125	0.115	853.898	0.028		
NORTH DAKOTA	All Vehicles	3.822	0.010	7.542	0.851	0.131	0.120	844.582	0.029		
OHIO	All Vehicles	3.413	0.011	7.340	0.756	0.130	0.119	858.186	0.028		
OKLAHOMA	All Vehicles	3.498	0.011	7.523	0.790	0.126	0.116	865.963	0.029		
OREGON	All Vehicles	3.607	0.010	6.977	0.753	0.126	0.116	843.827	0.028		
PACIFIC ISLANDS	All Vehicles	3.469	0.010	7.082	0.750	0.127	0.117	859.992	0.028		
PENNSYLVANIA	All Vehicles	3.577	0.011	7.074	0.771	0.131	0.120	862.732	0.029		
PUERTO RICO	All Vehicles	2.875	0.011	8.330	0.766	0.128	0.118	907.343	0.028		
RHODE ISLAND	All Vehicles	3.303	0.011	5.994	0.645	0.131	0.121	860.674	0.028		
SOUTH CAROLINA	All Vehicles	3.606	0.011	7.497	0.820	0.128	0.117	874.234	0.029		
SOUTH DAKOTA	All Vehicles	3.962	0.010	7.572	0.860	0.130	0.119	855.314	0.029		
TENNESSEE	All Vehicles	3.554	0.011	7.394	0.791	0.128	0.117	868.317	0.029		
TEXAS	All Vehicles	3.298	0.011	7.243	0.741	0.124	0.114	873.119	0.028		
UTAH	All Vehicles	3.633	0.011	7.338	0.769	0.132	0.121	866.420	0.028		
VERMONT	All Vehicles	3.768	0.010	6.889	0.807	0.129	0.118	842.706	0.029		
VIRGIN ISLANDS	All Vehicles	2.588	0.011	7.629	0.682	0.113	0.104	857.213	0.027		
VIRGINIA	All Vehicles	3.865	0.011	7.547	0.844	0.130	0.119	863.239	0.029		
WASHINGTON	All Vehicles	3.636	0.011	7.189	0.767	0.129	0.119	854.906	0.029		
WEST VIRGINIA	All Vehicles	3.675	0.010	7.404	0.803	0.126	0.115	849.786	0.029		
WISCONSIN	All Vehicles	3.610	0.010	7.304	0.798	0.129	0.119	847.410	0.029		
WYOMING	All Vehicles	4.195	0.011	7.656	0.879	0.132	0.121	862.285	0.030		

Table 5-19. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2015 GOV

		Emission Factors (g/mi)  Vote Criteria Pollutants and Ozone Precursors								
State	Vehicle Type	NOx	SO <sub>2</sub>	Criteria P	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
ALABAMA	All Vehicles	3.033	0.010	6.554	0.690	0.112	0.103	852.504	0.027	
ALASKA	All Vehicles	3.571	0.010	6.730	0.778	0.122	0.112	843.529	0.028	
ARIZONA	All Vehicles	3.343	0.009	6.751	0.697	0.115	0.105	880.885	0.028	
ARKANSAS	All Vehicles	3.247	0.010	6.819	0.719	0.111	0.102	850.240	0.028	
COLORADO	All Vehicles	3.303	0.010	6.460	0.684	0.116	0.106	845.080	0.027	
CONNECTICUT	All Vehicles	2.896	0.010	6.134	0.599	0.113	0.104	836.272	0.027	
DELAWARE	All Vehicles	2.724	0.010	5.965	0.585	0.111	0.102	830.597	0.026	
DISTRICT OF COLUMBIA	All Vehicles	2.785	0.011	6.115	0.597	0.122	0.112	868.688	0.027	
FLORIDA	All Vehicles	2.865	0.011	6.980	0.708	0.117	0.107	890.995	0.027	
GEORGIA	All Vehicles	3.125	0.010	6.462	0.689	0.111	0.102	850.575	0.027	
HAWAII	All Vehicles	2.620	0.011	6.849	0.645	0.111	0.102	857.619	0.027	
IDAHO	All Vehicles	3.455	0.010	6.615	0.723	0.115	0.105	841.020	0.028	
ILLINOIS	All Vehicles	2.906	0.011	6.662	0.668	0.119	0.109	856.323	0.027	
INDIANA	All Vehicles	3.206	0.010	6.812	0.713	0.116	0.107	850.856	0.027	
IOWA	All Vehicles	3.374	0.010	6.730	0.744	0.115	0.106	841.751	0.028	
KANSAS	All Vehicles	3.182	0.010	6.738	0.706	0.112	0.103	841.663	0.027	
KENTUCKY	All Vehicles	3.421	0.010	6.745	0.731	0.113	0.104	851.413	0.028	
LOUISIANA	All Vehicles	3.055	0.011	6.870	0.716	0.112	0.103	865.461	0.027	
MAINE	All Vehicles	4.612	0.011	6.353	0.860	0.139	0.128	955.886	0.030	
MARYLAND	All Vehicles	3.014	0.010	6.208	0.638	0.112	0.103	841.963	0.027	
MASSACHUSETTS	All Vehicles	3.076	0.010	6.299	0.657	0.114	0.105	836.565	0.027	
MICHIGAN	All Vehicles	3.274	0.010	6.993	0.730	0.116	0.107	846.895	0.027	
MINNESOTA	All Vehicles	3.115	0.010	6.708	0.706	0.115	0.106	829.943	0.027	
MISSISSIPPI	All Vehicles	3.002	0.010	6.611	0.692	0.109	0.100	844.021	0.027	
MISSOURI	All Vehicles	2.799	0.291	6.620	0.692	0.110	0.101	836.650	0.018	
MONTANA	All Vehicles	3.641	0.010	6.760	0.762	0.115	0.106	837.126	0.028	
NEBRASKA	All Vehicles	3.513	0.010	6.858	0.763	0.116	0.106	850.220	0.028	

		Emission Factors (g/mi)									
State	Vehicle Type	Criteria Pollutants and Ozone Precursors									
		NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>		
NEVADA	All Vehicles	3.385	0.011	6.552	0.702	0.118	0.108	871.407	0.028		
NEW HAMPSHIRE	All Vehicles	3.123	0.010	6.158	0.668	0.113	0.104	828.309	0.027		
NEW JERSEY	All Vehicles	3.598	0.010	6.185	0.710	0.115	0.106	854.041	0.028		
NEW MEXICO	All Vehicles	3.550	0.010	6.615	0.736	0.114	0.104	849.855	0.028		
NEW YORK	All Vehicles	2.975	0.010	5.883	0.610	0.115	0.105	839.278	0.027		
NORTH CAROLINA	All Vehicles	2.979	0.010	6.537	0.679	0.111	0.102	841.291	0.027		
NORTH DAKOTA	All Vehicles	3.470	0.010	6.826	0.770	0.117	0.107	831.802	0.028		
OHIO	All Vehicles	3.077	0.010	6.656	0.677	0.115	0.106	845.552	0.027		
OKLAHOMA	All Vehicles	3.163	0.010	6.828	0.711	0.112	0.103	853.084	0.027		
OREGON	All Vehicles	3.263	0.010	6.322	0.677	0.112	0.103	831.202	0.027		
PACIFIC ISLANDS	All Vehicles	3.133	0.010	6.421	0.674	0.113	0.104	847.247	0.027		
PENNSYLVANIA	All Vehicles	3.236	0.010	6.405	0.692	0.116	0.107	849.927	0.028		
PUERTO RICO	All Vehicles	2.578	0.011	7.558	0.684	0.114	0.104	894.349	0.027		
RHODE ISLAND	All Vehicles	2.979	0.010	5.450	0.577	0.117	0.107	848.088	0.027		
SOUTH CAROLINA	All Vehicles	3.270	0.011	6.800	0.739	0.114	0.104	861.156	0.028		
SOUTH DAKOTA	All Vehicles	3.606	0.010	6.859	0.778	0.116	0.106	842.332	0.028		
TENNESSEE	All Vehicles	3.217	0.010	6.708	0.711	0.114	0.104	855.395	0.028		
TEXAS	All Vehicles	2.975	0.011	6.563	0.664	0.111	0.102	860.233	0.027		
UTAH	All Vehicles	3.278	0.010	6.652	0.690	0.117	0.108	853.697	0.027		
VERMONT	All Vehicles	3.422	0.010	6.236	0.729	0.115	0.105	829.943	0.028		
VIRGIN ISLANDS	All Vehicles	2.313	0.010	6.911	0.608	0.100	0.092	844.559	0.026		
VIRGINIA	All Vehicles	3.198	0.010	6.497	0.693	0.114	0.105	851.025	0.028		
WASHINGTON	All Vehicles	3.291	0.010	6.511	0.689	0.115	0.105	842.209	0.028		
WEST VIRGINIA	All Vehicles	3.333	0.010	6.722	0.724	0.112	0.103	836.994	0.028		
WISCONSIN	All Vehicles	3.266	0.010	6.607	0.720	0.115	0.105	834.737	0.027		
WYOMING	All Vehicles	3.825	0.010	6.954	0.797	0.118	0.108	849.165	0.028		

Table 5-20. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2016 GOV

State		Emission Factors (g/mi) Criteria Pollutants and Ozone Precursors								
	Vehicle Type	NOx	SO <sub>2</sub>	Co	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
ALABAMA	All Vehicles	2.756	0.010	6.064	0.628	0.099	0.091	839.274	0.026	
ALASKA	All Vehicles	3.245	0.010	6.124	0.701	0.109	0.099	829.640	0.027	
ARIZONA	All Vehicles	3.026	0.009	6.164	0.624	0.102	0.093	866.568	0.027	
ARKANSAS	All Vehicles	2.945	0.010	6.208	0.644	0.099	0.091	836.270	0.027	
COLORADO	All Vehicles	2.989	0.010	5.888	0.614	0.103	0.094	831.304	0.026	
CONNECTICUT	All Vehicles	2.602	0.010	5.575	0.535	0.100	0.092	822.800	0.026	
DELAWARE	All Vehicles	2.434	0.010	5.415	0.519	0.099	0.090	817.208	0.025	
DISTRICT OF COLUMBIA	All Vehicles	2.492	0.011	5.576	0.532	0.108	0.099	854.974	0.026	
FLORIDA	All Vehicles	2.579	0.011	6.344	0.629	0.104	0.095	876.695	0.026	
GEORGIA	All Vehicles	2.829	0.010	5.872	0.615	0.099	0.091	836.649	0.026	
HAWAII	All Vehicles	2.345	0.010	6.220	0.570	0.098	0.090	843.858	0.026	
IDAHO	All Vehicles	3.133	0.010	6.009	0.648	0.102	0.094	827.185	0.027	
ILLINOIS	All Vehicles	2.604	0.010	6.033	0.592	0.105	0.097	842.667	0.026	
INDIANA	All Vehicles	2.898	0.010	6.195	0.637	0.103	0.094	836.981	0.026	
IOWA	All Vehicles	3.062	0.010	6.122	0.668	0.102	0.094	827.881	0.027	
KANSAS	All Vehicles	2.878	0.010	6.128	0.631	0.099	0.091	827.884	0.026	
KENTUCKY	All Vehicles	3.112	0.010	6.143	0.657	0.101	0.092	837.376	0.027	
LOUISIANA	All Vehicles	2.764	0.010	6.248	0.639	0.099	0.091	851.336	0.026	
MAINE	All Vehicles	3.106	0.010	5.764	0.661	0.101	0.093	812.830	0.027	
MARYLAND	All Vehicles	2.715	0.010	5.641	0.569	0.100	0.091	828.310	0.026	
MASSACHUSETTS	All Vehicles	2.773	0.010	5.711	0.587	0.101	0.093	822.981	0.026	
MICHIGAN	All Vehicles	2.961	0.010	6.359	0.653	0.103	0.095	833.077	0.026	
MINNESOTA	All Vehicles	2.810	0.010	6.071	0.631	0.102	0.094	816.397	0.026	
MISSISSIPPI	All Vehicles	2.711	0.010	6.005	0.616	0.097	0.089	830.192	0.026	
MISSOURI	All Vehicles	2.887	0.010	6.020	0.619	0.098	0.090	822.937	0.026	
MONTANA	All Vehicles	3.315	0.010	6.145	0.686	0.102	0.094	823.255	0.027	
NEBRASKA	All Vehicles	3.196	0.010	6.244	0.687	0.103	0.095	836.197	0.027	

		Emission Factors (g/mi)									
State	Vehicle Type	Criteria Pollutants and Ozone Precursors									
		NOx	SO <sub>2</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>		
NEVADA	All Vehicles	3.058	0.010	5.959	0.627	0.104	0.096	857.294	0.027		
NEW HAMPSHIRE	All Vehicles	2.819	0.010	5.570	0.596	0.101	0.092	814.753	0.026		
NEW JERSEY	All Vehicles	3.285	0.010	5.644	0.642	0.103	0.094	839.897	0.027		
NEW MEXICO	All Vehicles	3.225	0.010	6.021	0.661	0.101	0.093	835.853	0.027		
NEW YORK	All Vehicles	2.681	0.010	5.373	0.548	0.102	0.093	825.683	0.026		
NORTH CAROLINA	All Vehicles	2.683	0.010	5.930	0.604	0.099	0.090	827.605	0.026		
NORTH DAKOTA	All Vehicles	3.153	0.010	6.185	0.693	0.104	0.095	818.049	0.027		
OHIO	All Vehicles	2.775	0.010	6.056	0.604	0.102	0.094	831.824	0.026		
OKLAHOMA	All Vehicles	2.861	0.010	6.210	0.635	0.100	0.092	839.143	0.026		
OREGON	All Vehicles	2.954	0.010	5.739	0.606	0.099	0.091	817.555	0.026		
PACIFIC ISLANDS	All Vehicles	2.832	0.010	5.841	0.602	0.101	0.092	833.429	0.026		
PENNSYLVANIA	All Vehicles	2.928	0.010	5.814	0.619	0.103	0.095	836.054	0.027		
PUERTO RICO	All Vehicles	2.310	0.011	6.875	0.605	0.101	0.092	880.129	0.026		
RHODE ISLAND	All Vehicles	2.692	0.010	5.024	0.521	0.104	0.095	834.388	0.026		
SOUTH CAROLINA	All Vehicles	2.966	0.010	6.183	0.661	0.101	0.093	847.030	0.027		
SOUTH DAKOTA	All Vehicles	3.285	0.010	6.221	0.701	0.103	0.095	828.384	0.027		
TENNESSEE	All Vehicles	2.913	0.010	6.101	0.635	0.101	0.093	841.411	0.027		
TEXAS	All Vehicles	2.686	0.010	5.969	0.592	0.098	0.090	846.255	0.026		
UTAH	All Vehicles	2.959	0.010	6.047	0.617	0.104	0.095	839.867	0.026		
VERMONT	All Vehicles	3.109	0.010	5.646	0.655	0.102	0.094	816.212	0.027		
VIRGIN ISLANDS	All Vehicles	2.065	0.010	6.276	0.537	0.088	0.081	830.815	0.025		
VIRGINIA	All Vehicles	2.895	0.010	5.908	0.621	0.101	0.093	837.132	0.026		
WASHINGTON	All Vehicles	2.981	0.010	5.914	0.616	0.102	0.094	828.456	0.027		
WEST VIRGINIA	All Vehicles	3.024	0.010	6.115	0.649	0.099	0.091	823.204	0.027		
WISCONSIN	All Vehicles	2.957	0.010	5.981	0.644	0.102	0.094	821.039	0.026		
WYOMING	All Vehicles	3.491	0.010	6.328	0.719	0.105	0.096	835.079	0.027		

Table 5-21. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2017 GOV

_		Emission Factors (g/mi) Criteria Pollutants and Ozone Precursors								
State	Vehicle Type	NOx	SO <sub>2</sub>	Criteria P	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
ALABAMA	All Vehicles	2.389	0.007	5.434	0.545	0.087	0.080	824.311	0.025	
ALASKA	All Vehicles	2.846	0.007	5.546	0.619	0.096	0.088	814.791	0.026	
ARIZONA	All Vehicles	2.697	0.007	5.601	0.559	0.090	0.083	851.179	0.026	
ARKANSAS	All Vehicles	2.571	0.007	5.609	0.565	0.087	0.080	821.309	0.026	
COLORADO	All Vehicles	2.600	0.007	5.324	0.542	0.091	0.083	816.514	0.026	
CONNECTICUT	All Vehicles	2.242	0.007	5.069	0.468	0.088	0.081	808.279	0.025	
DELAWARE	All Vehicles	2.080	0.007	4.912	0.451	0.087	0.079	802.756	0.025	
DISTRICT OF COLUMBIA	All Vehicles	2.135	0.007	5.079	0.463	0.095	0.087	840.083	0.025	
FLORIDA	All Vehicles	2.227	0.007	5.685	0.544	0.091	0.084	861.252	0.025	
GEORGIA	All Vehicles	2.464	0.007	5.267	0.537	0.087	0.080	821.713	0.026	
HAWAII	All Vehicles	2.003	0.007	5.603	0.491	0.086	0.079	828.984	0.025	
IDAHO	All Vehicles	2.736	0.007	5.418	0.573	0.090	0.083	812.373	0.026	
ILLINOIS	All Vehicles	2.234	0.007	5.399	0.514	0.093	0.085	827.893	0.025	
INDIANA	All Vehicles	2.518	0.007	5.455	0.559	0.091	0.084	822.078	0.026	
IOWA	All Vehicles	2.677	0.007	5.531	0.587	0.090	0.083	813.043	0.026	
KANSAS	All Vehicles	2.500	0.007	5.533	0.552	0.088	0.080	813.107	0.025	
KENTUCKY	All Vehicles	2.730	0.007	5.466	0.580	0.089	0.082	822.368	0.026	
LOUISIANA	All Vehicles	2.403	0.007	5.604	0.556	0.088	0.080	836.170	0.026	
MAINE	All Vehicles	2.717	0.007	5.171	0.580	0.089	0.082	798.222	0.026	
MARYLAND	All Vehicles	2.349	0.007	5.123	0.498	0.088	0.080	813.623	0.025	
MASSACHUSETTS	All Vehicles	2.403	0.007	5.164	0.513	0.089	0.082	808.377	0.025	
MICHIGAN	All Vehicles	2.573	0.007	5.572	0.573	0.092	0.084	818.244	0.026	
MINNESOTA	All Vehicles	2.432	0.007	5.497	0.554	0.090	0.083	801.856	0.025	
MISSISSIPPI	All Vehicles	2.350	0.007	5.382	0.536	0.085	0.078	815.354	0.025	
MISSOURI	All Vehicles	2.514	0.007	5.449	0.543	0.086	0.079	808.244	0.025	
MONTANA	All Vehicles	2.910	0.007	5.545	0.609	0.091	0.083	808.450	0.026	
NEBRASKA	All Vehicles	2.803	0.007	5.645	0.605	0.091	0.083	821.207	0.026	

		Emission Factors (g/mi)									
State	Vehicle Type	Criteria Pollutants and Ozone Precursors									
		NO <sub>x</sub>	SO <sub>2</sub>	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>		
NEVADA	All Vehicles	2.657	0.007	5.380	0.548	0.092	0.084	842.102	0.026		
NEW HAMPSHIRE	All Vehicles	2.449	0.007	5.023	0.522	0.089	0.081	800.212	0.025		
NEW JERSEY	All Vehicles	2.906	0.007	5.144	0.571	0.091	0.083	824.806	0.026		
NEW MEXICO	All Vehicles	2.823	0.007	5.440	0.581	0.089	0.082	820.872	0.026		
NEW YORK	All Vehicles	2.321	0.007	4.875	0.480	0.090	0.082	811.050	0.025		
NORTH CAROLINA	All Vehicles	2.314	0.007	5.309	0.523	0.087	0.080	812.887	0.025		
NORTH DAKOTA	All Vehicles	2.762	0.007	5.609	0.614	0.092	0.084	803.358	0.026		
OHIO	All Vehicles	2.402	0.007	5.312	0.529	0.091	0.083	817.057	0.025		
OKLAHOMA	All Vehicles	2.486	0.007	5.606	0.555	0.088	0.081	824.179	0.026		
OREGON	All Vehicles	2.572	0.007	5.171	0.534	0.088	0.081	802.929	0.025		
PACIFIC ISLANDS	All Vehicles	2.473	0.007	5.258	0.529	0.089	0.081	818.590	0.025		
PENNSYLVANIA	All Vehicles	2.552	0.007	5.197	0.543	0.091	0.084	821.163	0.026		
PUERTO RICO	All Vehicles	1.979	0.007	6.202	0.521	0.088	0.081	864.727	0.025		
RHODE ISLAND	All Vehicles	2.344	0.007	4.617	0.461	0.091	0.084	819.634	0.025		
SOUTH CAROLINA	All Vehicles	2.590	0.007	5.548	0.578	0.089	0.082	831.892	0.026		
SOUTH DAKOTA	All Vehicles	2.890	0.007	5.645	0.622	0.091	0.084	813.500	0.026		
TENNESSEE	All Vehicles	2.538	0.007	5.418	0.556	0.089	0.082	826.408	0.026		
TEXAS	All Vehicles	2.330	0.007	5.395	0.516	0.086	0.079	831.227	0.025		
UTAH	All Vehicles	2.566	0.007	5.455	0.543	0.092	0.084	824.989	0.025		
VERMONT	All Vehicles	2.727	0.007	5.054	0.575	0.090	0.082	801.546	0.026		
VIRGIN ISLANDS	All Vehicles	1.756	0.007	5.654	0.461	0.078	0.071	816.016	0.024		
VIRGINIA	All Vehicles	2.520	0.007	5.346	0.544	0.089	0.082	822.220	0.026		
WASHINGTON	All Vehicles	2.599	0.007	5.333	0.543	0.090	0.083	813.699	0.026		
WEST VIRGINIA	All Vehicles	2.640	0.007	5.417	0.571	0.088	0.081	808.451	0.026		
WISCONSIN	All Vehicles	2.577	0.007	5.424	0.568	0.090	0.082	806.363	0.026		
WYOMING	All Vehicles	3.077	0.007	5.716	0.640	0.093	0.085	820.061	0.026		

Table 5-22. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2018 GOV

_		Emission Factors (g/mi) Criteria Pollutants and Ozone Precursors								
State	Vehicle Type	NOx	SO <sub>2</sub>	Criteria P	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
ALABAMA	All Vehicles	2.143	0.007	5.010	0.488	0.076	0.070	809.533	0.025	
ALASKA	All Vehicles	2.573	0.007	5.122	0.561	0.084	0.077	800.146	0.025	
ARIZONA	All Vehicles	2.427	0.007	5.182	0.502	0.078	0.072	835.972	0.025	
ARKANSAS	All Vehicles	2.319	0.007	5.184	0.508	0.076	0.070	806.556	0.025	
COLORADO	All Vehicles	2.336	0.007	4.915	0.489	0.079	0.073	801.905	0.025	
CONNECTICUT	All Vehicles	1.996	0.006	4.677	0.420	0.077	0.070	793.910	0.024	
DELAWARE	All Vehicles	1.838	0.006	4.520	0.401	0.075	0.069	788.449	0.024	
DISTRICT OF COLUMBIA	All Vehicles	1.889	0.007	4.687	0.413	0.082	0.075	825.295	0.024	
FLORIDA	All Vehicles	1.990	0.007	5.241	0.484	0.079	0.073	845.955	0.025	
GEORGIA	All Vehicles	2.217	0.007	4.859	0.481	0.076	0.070	806.973	0.025	
HAWAII	All Vehicles	1.775	0.007	5.164	0.434	0.075	0.069	814.250	0.024	
IDAHO	All Vehicles	2.467	0.007	4.995	0.516	0.079	0.072	797.764	0.025	
ILLINOIS	All Vehicles	1.982	0.007	4.959	0.457	0.080	0.074	813.246	0.024	
INDIANA	All Vehicles	2.261	0.007	5.024	0.501	0.079	0.073	807.353	0.025	
IOWA	All Vehicles	2.417	0.007	5.108	0.530	0.079	0.072	798.414	0.025	
KANSAS	All Vehicles	2.246	0.007	5.109	0.496	0.076	0.070	798.522	0.025	
KENTUCKY	All Vehicles	2.471	0.007	5.044	0.523	0.078	0.072	807.576	0.025	
LOUISIANA	All Vehicles	2.160	0.007	5.172	0.498	0.076	0.070	821.193	0.025	
MAINE	All Vehicles	2.455	0.006	4.765	0.524	0.078	0.071	783.833	0.025	
MARYLAND	All Vehicles	2.099	0.007	4.720	0.445	0.076	0.070	799.106	0.025	
MASSACHUSETTS	All Vehicles	2.149	0.006	4.741	0.459	0.078	0.071	793.944	0.025	
MICHIGAN	All Vehicles	2.312	0.007	5.131	0.515	0.080	0.073	803.594	0.025	
MINNESOTA	All Vehicles	2.177	0.006	5.051	0.497	0.078	0.072	787.494	0.024	
MISSISSIPPI	All Vehicles	2.108	0.007	4.963	0.479	0.074	0.068	800.711	0.025	
MISSOURI	All Vehicles	2.262	0.006	5.029	0.488	0.075	0.069	793.753	0.025	
MONTANA	All Vehicles	2.637	0.006	5.117	0.551	0.079	0.073	793.871	0.025	
NEBRASKA	All Vehicles	2.537	0.007	5.218	0.547	0.080	0.073	806.434	0.025	

		Emission Factors (g/mi)									
State	Vehicle Type	Criteria Pollutants and Ozone Precursors									
		NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>		
NEVADA	All Vehicles	2.383	0.007	4.961	0.490	0.080	0.073	827.076	0.025		
NEW HAMPSHIRE	All Vehicles	2.194	0.006	4.613	0.468	0.077	0.071	785.856	0.025		
NEW JERSEY	All Vehicles	2.642	0.007	4.756	0.517	0.079	0.073	809.950	0.026		
NEW MEXICO	All Vehicles	2.551	0.007	5.026	0.523	0.078	0.071	806.103	0.025		
NEW YORK	All Vehicles	2.074	0.006	4.504	0.432	0.078	0.071	796.579	0.024		
NORTH CAROLINA	All Vehicles	2.067	0.006	4.889	0.467	0.075	0.069	798.343	0.024		
NORTH DAKOTA	All Vehicles	2.496	0.006	5.160	0.555	0.080	0.073	788.886	0.025		
OHIO	All Vehicles	2.150	0.007	4.891	0.474	0.079	0.072	802.457	0.025		
OKLAHOMA	All Vehicles	2.233	0.007	5.176	0.497	0.077	0.070	809.405	0.025		
OREGON	All Vehicles	2.313	0.006	4.764	0.479	0.077	0.070	788.499	0.025		
PACIFIC ISLANDS	All Vehicles	2.220	0.007	4.850	0.475	0.077	0.071	803.936	0.025		
PENNSYLVANIA	All Vehicles	2.295	0.007	4.785	0.487	0.079	0.073	806.455	0.025		
PUERTO RICO	All Vehicles	1.757	0.007	5.724	0.462	0.077	0.071	849.454	0.024		
RHODE ISLAND	All Vehicles	2.099	0.007	4.285	0.416	0.079	0.073	805.038	0.025		
SOUTH CAROLINA	All Vehicles	2.336	0.007	5.121	0.519	0.078	0.071	816.956	0.025		
SOUTH DAKOTA	All Vehicles	2.621	0.007	5.199	0.562	0.080	0.073	798.845	0.025		
TENNESSEE	All Vehicles	2.284	0.007	4.994	0.499	0.078	0.071	811.596	0.025		
TEXAS	All Vehicles	2.089	0.007	4.980	0.461	0.075	0.069	816.378	0.025		
UTAH	All Vehicles	2.300	0.007	5.028	0.487	0.080	0.073	810.275	0.025		
VERMONT	All Vehicles	2.464	0.006	4.646	0.518	0.079	0.072	787.101	0.025		
VIRGIN ISLANDS	All Vehicles	1.552	0.007	5.212	0.408	0.067	0.062	801.390	0.023		
VIRGINIA	All Vehicles	2.266	0.007	4.933	0.488	0.078	0.071	807.495	0.025		
WASHINGTON	All Vehicles	2.339	0.007	4.917	0.489	0.079	0.072	799.128	0.025		
WEST VIRGINIA	All Vehicles	2.382	0.006	4.995	0.514	0.077	0.070	793.910	0.025		
WISCONSIN	All Vehicles	2.318	0.006	4.986	0.510	0.078	0.072	791.884	0.025		
WYOMING	All Vehicles	2.796	0.007	5.279	0.580	0.081	0.075	805.277	0.026		

Table 5-23. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2019 GOV

a					Emission Fa				
State	Vehicle Type	NOx	SO <sub>2</sub>	Co	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
ALABAMA	All Vehicles	1.928	0.006	4.633	0.438	0.067	0.061	795.742	0.024
ALASKA	All Vehicles	2.334	0.006	4.745	0.510	0.073	0.067	786.485	0.025
ARIZONA	All Vehicles	2.190	0.007	4.809	0.452	0.069	0.063	821.777	0.025
ARKANSAS	All Vehicles	2.098	0.006	4.805	0.459	0.067	0.061	792.792	0.024
COLORADO	All Vehicles	2.105	0.006	4.552	0.442	0.069	0.064	788.271	0.024
CONNECTICUT	All Vehicles	1.781	0.006	4.328	0.378	0.067	0.062	780.492	0.024
DELAWARE	All Vehicles	1.627	0.006	4.171	0.358	0.066	0.060	775.089	0.023
DISTRICT OF COLUMBIA	All Vehicles	1.674	0.007	4.337	0.369	0.071	0.066	811.482	0.024
FLORIDA	All Vehicles	1.782	0.007	4.845	0.433	0.069	0.064	831.669	0.024
GEORGIA	All Vehicles	2.001	0.006	4.496	0.434	0.067	0.061	793.219	0.024
HAWAII	All Vehicles	1.575	0.007	4.774	0.386	0.065	0.060	800.490	0.024
IDAHO	All Vehicles	2.231	0.006	4.619	0.467	0.069	0.063	784.136	0.024
ILLINOIS	All Vehicles	1.762	0.006	4.570	0.408	0.070	0.064	799.566	0.024
INDIANA	All Vehicles	2.037	0.006	4.641	0.452	0.070	0.064	793.612	0.024
IOWA	All Vehicles	2.189	0.006	4.732	0.480	0.069	0.063	784.767	0.024
KANSAS	All Vehicles	2.023	0.006	4.730	0.448	0.067	0.061	784.912	0.024
KENTUCKY	All Vehicles	2.244	0.006	4.669	0.473	0.069	0.063	793.780	0.025
LOUISIANA	All Vehicles	1.948	0.007	4.787	0.448	0.067	0.061	807.216	0.024
MAINE	All Vehicles	2.225	0.006	4.406	0.475	0.069	0.063	770.414	0.024
MARYLAND	All Vehicles	1.880	0.006	4.362	0.400	0.067	0.061	785.553	0.024
MASSACHUSETTS	All Vehicles	1.926	0.006	4.367	0.412	0.068	0.062	780.472	0.024
MICHIGAN	All Vehicles	2.084	0.006	4.739	0.465	0.070	0.064	789.922	0.024
MINNESOTA	All Vehicles	1.954	0.006	4.655	0.448	0.069	0.063	774.090	0.024
MISSISSIPPI	All Vehicles	1.896	0.006	4.591	0.431	0.065	0.060	787.047	0.024
MISSOURI	All Vehicles	2.041	0.006	4.656	0.440	0.066	0.061	780.232	0.024
MONTANA	All Vehicles	2.397	0.006	4.738	0.500	0.070	0.064	780.278	0.025
NEBRASKA	All Vehicles	2.305	0.006	4.837	0.496	0.070	0.064	792.655	0.025

				I	Emission Fa	actors (g/m	i)		
State	Vehicle Type				ollutants a				
		NOx	SO <sub>2</sub>	co	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
NEVADA	All Vehicles	2.144	0.007	4.589	0.441	0.070	0.064	813.052	0.024
NEW HAMPSHIRE	All Vehicles	1.971	0.006	4.251	0.421	0.068	0.062	772.460	0.024
NEW JERSEY	All Vehicles	2.410	0.006	4.410	0.471	0.070	0.064	796.097	0.025
NEW MEXICO	All Vehicles	2.312	0.006	4.657	0.474	0.068	0.063	792.328	0.025
NEW YORK	All Vehicles	1.857	0.006	4.171	0.390	0.068	0.063	783.071	0.024
NORTH CAROLINA	All Vehicles	1.852	0.006	4.517	0.419	0.066	0.061	784.767	0.024
NORTH DAKOTA	All Vehicles	2.263	0.006	4.762	0.504	0.070	0.064	775.389	0.024
ОНЮ	All Vehicles	1.929	0.006	4.518	0.427	0.069	0.063	788.830	0.024
OKLAHOMA	All Vehicles	2.013	0.006	4.793	0.448	0.067	0.062	795.618	0.024
OREGON	All Vehicles	2.086	0.006	4.403	0.432	0.067	0.062	775.038	0.024
PACIFIC ISLANDS	All Vehicles	1.998	0.006	4.487	0.428	0.068	0.062	790.259	0.024
PENNSYLVANIA	All Vehicles	2.069	0.006	4.420	0.440	0.070	0.064	792.731	0.024
PUERTO RICO	All Vehicles	1.563	0.007	5.298	0.411	0.067	0.062	835.183	0.024
RHODE ISLAND	All Vehicles	1.885	0.006	3.987	0.377	0.069	0.064	791.412	0.024
SOUTH CAROLINA	All Vehicles	2.115	0.007	4.741	0.468	0.068	0.063	803.021	0.025
SOUTH DAKOTA	All Vehicles	2.385	0.006	4.803	0.511	0.070	0.064	785.179	0.025
TENNESSEE	All Vehicles	2.062	0.006	4.617	0.450	0.068	0.063	797.775	0.024
TEXAS	All Vehicles	1.878	0.007	4.610	0.414	0.066	0.061	802.517	0.024
UTAH	All Vehicles	2.066	0.006	4.649	0.439	0.070	0.064	796.541	0.024
VERMONT	All Vehicles	2.235	0.006	4.285	0.469	0.069	0.063	773.630	0.025
VIRGIN ISLANDS	All Vehicles	1.373	0.006	4.820	0.362	0.059	0.054	787.730	0.023
VIRGINIA	All Vehicles	2.044	0.006	4.566	0.441	0.068	0.063	793.754	0.024
WASHINGTON	All Vehicles	2.111	0.006	4.549	0.441	0.069	0.063	785.532	0.024
WEST VIRGINIA	All Vehicles	2.157	0.006	4.618	0.464	0.067	0.062	780.337	0.024
WISCONSIN	All Vehicles	2.092	0.006	4.598	0.461	0.069	0.063	778.375	0.024
WYOMING	All Vehicles	2.551	0.006	4.891	0.528	0.072	0.066	791.493	0.025

Table 5-24. Air Force/State/Territory-Specific On-Road Vehicle Composite Emission Factors – 2020 GOV

a	****** ***				Emission Fa				
State	Vehicle Type	NO <sub>x</sub>	SO <sub>2</sub>	Co	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
ALABAMA	All Vehicles	1.738	0.006	4.315	0.396	0.059	0.054	782.765	0.024
ALASKA	All Vehicles	2.123	0.006	4.428	0.467	0.065	0.059	773.641	0.024
ARIZONA	All Vehicles	1.982	0.006	4.496	0.410	0.060	0.055	808.419	0.024
ARKANSAS	All Vehicles	1.903	0.006	4.485	0.417	0.059	0.054	779.842	0.024
COLORADO	All Vehicles	1.901	0.006	4.247	0.402	0.061	0.056	775.447	0.024
CONNECTICUT	All Vehicles	1.591	0.006	4.033	0.342	0.059	0.054	767.867	0.023
DELAWARE	All Vehicles	1.441	0.006	3.876	0.321	0.057	0.052	762.515	0.023
DISTRICT OF COLUMBIA	All Vehicles	1.484	0.006	4.039	0.333	0.062	0.057	798.488	0.023
FLORIDA	All Vehicles	1.600	0.007	4.512	0.389	0.061	0.056	818.224	0.024
GEORGIA	All Vehicles	1.810	0.006	4.189	0.393	0.059	0.054	780.279	0.024
HAWAII	All Vehicles	1.399	0.006	4.449	0.345	0.057	0.052	787.535	0.023
IDAHO	All Vehicles	2.023	0.006	4.304	0.425	0.061	0.056	771.320	0.024
ILLINOIS	All Vehicles	1.569	0.006	4.243	0.367	0.061	0.056	786.696	0.023
INDIANA	All Vehicles	1.838	0.006	4.320	0.410	0.061	0.056	780.689	0.024
IOWA	All Vehicles	1.987	0.006	4.414	0.438	0.061	0.056	771.933	0.024
KANSAS	All Vehicles	1.827	0.006	4.412	0.406	0.059	0.054	772.108	0.024
KENTUCKY	All Vehicles	2.044	0.006	4.354	0.431	0.060	0.055	780.805	0.024
LOUISIANA	All Vehicles	1.761	0.006	4.463	0.405	0.059	0.054	794.062	0.024
MAINE	All Vehicles	2.021	0.006	4.102	0.433	0.060	0.055	757.795	0.024
MARYLAND	All Vehicles	1.687	0.006	4.060	0.362	0.059	0.054	772.801	0.023
MASSACHUSETTS	All Vehicles	1.729	0.006	4.052	0.373	0.060	0.055	767.798	0.024
MICHIGAN	All Vehicles	1.882	0.006	4.411	0.422	0.061	0.056	777.064	0.024
MINNESOTA	All Vehicles	1.758	0.006	4.323	0.407	0.060	0.055	761.479	0.023
MISSISSIPPI	All Vehicles	1.710	0.006	4.277	0.390	0.057	0.052	774.186	0.024
MISSOURI	All Vehicles	1.846	0.006	4.342	0.400	0.058	0.053	767.509	0.024
MONTANA	All Vehicles	2.186	0.006	4.420	0.457	0.061	0.056	767.495	0.024
NEBRASKA	All Vehicles	2.099	0.006	4.516	0.453	0.061	0.056	779.697	0.024

					Emission Fa				
State	Vehicle Type	NO	60		ollutants a			CO	NITT
		NO <sub>x</sub>	SO <sub>2</sub>	со	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
NEVADA	All Vehicles	1.933	0.006	4.277	0.399	0.061	0.056	799.859	0.024
NEW HAMPSHIRE	All Vehicles	1.775	0.006	3.945	0.381	0.059	0.054	759.859	0.024
NEW JERSEY	All Vehicles	2.205	0.006	4.117	0.431	0.062	0.056	783.072	0.025
NEW MEXICO	All Vehicles	2.102	0.006	4.346	0.432	0.060	0.055	779.372	0.024
NEW YORK	All Vehicles	1.666	0.006	3.888	0.354	0.060	0.055	770.363	0.023
NORTH CAROLINA	All Vehicles	1.662	0.006	4.203	0.378	0.058	0.053	771.992	0.023
NORTH DAKOTA	All Vehicles	2.058	0.006	4.429	0.460	0.062	0.057	762.695	0.024
OHIO	All Vehicles	1.734	0.006	4.204	0.386	0.060	0.055	776.011	0.024
OKLAHOMA	All Vehicles	1.818	0.006	4.471	0.406	0.059	0.054	782.645	0.024
OREGON	All Vehicles	1.886	0.006	4.100	0.392	0.059	0.054	762.377	0.024
PACIFIC ISLANDS	All Vehicles	1.802	0.006	4.182	0.388	0.059	0.054	777.393	0.024
PENNSYLVANIA	All Vehicles	1.870	0.006	4.112	0.399	0.061	0.056	779.824	0.024
PUERTO RICO	All Vehicles	1.392	0.007	4.944	0.368	0.059	0.054	821.742	0.023
RHODE ISLAND	All Vehicles	1.695	0.006	3.730	0.343	0.061	0.056	778.595	0.024
SOUTH CAROLINA	All Vehicles	1.919	0.006	4.421	0.425	0.060	0.055	789.912	0.024
SOUTH DAKOTA	All Vehicles	2.176	0.006	4.471	0.467	0.062	0.057	772.328	0.024
TENNESSEE	All Vehicles	1.866	0.006	4.299	0.408	0.060	0.055	784.773	0.024
TEXAS	All Vehicles	1.692	0.006	4.299	0.374	0.058	0.053	789.470	0.024
UTAH	All Vehicles	1.860	0.006	4.331	0.398	0.061	0.056	783.622	0.024
VERMONT	All Vehicles	2.032	0.006	3.980	0.427	0.061	0.056	760.961	0.024
VIRGIN ISLANDS	All Vehicles	1.216	0.006	4.492	0.323	0.051	0.047	774.852	0.023
VIRGINIA	All Vehicles	1.848	0.006	4.256	0.400	0.060	0.055	780.828	0.024
WASHINGTON	All Vehicles	1.909	0.006	4.239	0.401	0.061	0.056	772.747	0.024
WEST VIRGINIA	All Vehicles	1.958	0.006	4.306	0.423	0.059	0.054	767.588	0.024
WISCONSIN	All Vehicles	1.891	0.006	4.273	0.419	0.060	0.055	765.669	0.024
WYOMING	All Vehicles	2.334	0.006	4.567	0.484	0.063	0.058	778.534	0.025

Table 5-25. On-Road Vehicle Emission Factors – 2014

						Emission F	actors (g/m	i)		
State	Fuel Type	Vehicle Type			Criteria 1	Pollutants a	nd Ozone I			
			NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.640	0.007	5.110	0.594	0.011	0.010	372.813	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.099	0.010	8.387	0.809	0.012	0.011	497.021	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.856	0.015	25.156	1.413	0.027	0.024	771.104	0.045
Alabama	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.313	0.003	3.666	0.234	0.006	0.006	381.292	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.832	0.005	7.422	0.537	0.008	0.007	593.486	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.194	0.014	2.762	0.791	0.373	0.343	1574.473	0.029
	NA	MC Motorcycles	0.732	0.008	14.943	2.823	0.028	0.025	393.387	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.669	0.007	5.947	0.684	0.027	0.024	369.127	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.140	0.010	8.478	0.836	0.029	0.026	491.610	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	3.124	0.015	25.824	1.318	0.068	0.060	757.735	0.045
Alaska	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.320	0.003	3.250	0.304	0.007	0.006	370.247	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.858	0.005	6.646	0.611	0.008	0.008	576.205	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	9.822	0.014	2.994	0.961	0.377	0.347	1563.604	0.031
	NA	MC Motorcycles	0.895	0.008	15.901	2.100	0.033	0.029	401.696	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.593	0.005	4.855	0.555	0.009	0.008	380.844	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.001	0.006	7.913	0.732	0.011	0.010	509.566	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.697	0.010	26.665	1.422	0.027	0.024	799.025	0.045
Arizona	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.338	0.003	3.933	0.224	0.007	0.006	390.690	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.912	0.005	8.059	0.544	0.009	0.008	608.828	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	9.318	0.015	2.935	0.866	0.384	0.354	1632.046	0.030
	NA	MC Motorcycles	0.827	0.005	14.204	3.271	0.025	0.022	394.491	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.652	0.007	5.305	0.589	0.012	0.010	364.883	0.033
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.125	0.010	8.582	0.787	0.013	0.012	488.457	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.884	0.015	25.320	1.320	0.031	0.028	763.635	0.045
Arkansas	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.318	0.003	3.665	0.240	0.007	0.006	372.814	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.848	0.005	7.430	0.541	0.008	0.008	581.739	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.786	0.014	2.886	0.877	0.367	0.338	1585.442	0.030
	NA	MC Motorcycles	0.768	0.008	14.895	2.664	0.027	0.024	395.572	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.634	0.007	5.076	0.571	0.017	0.015	370.212	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.094	0.010	7.705	0.728	0.019	0.016	495.268	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	3.143	0.015	26.612	1.357	0.045	0.040	768.830	0.045
Colorado	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.322	0.003	3.443	0.261	0.007	0.006	375.528	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.871	0.005	7.086	0.577	0.009	0.008	585.692	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.995	0.014	2.769	0.815	0.374	0.344	1555.585	0.029
	NA	MC Motorcycles	0.861	0.008	15.174	2.706	0.029	0.026	398.711	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.546	0.007	4.512	0.496	0.016	0.014	370.192	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.971	0.010	7.179	0.649	0.018	0.016	497.272	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	3.039	0.015	26.061	1.346	0.045	0.040	774.341	0.046
Connecticut	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.314	0.003	3.486	0.253	0.007	0.006	376.124	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.857	0.005	7.258	0.580	0.009	0.008	588.042	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.834	0.014	2.463	0.647	0.366	0.336	1521.493	0.026
	NA	MC Motorcycles	0.801	0.008	14.479	2.386	0.030	0.026	399.981	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.598	0.007	4.431	0.509	0.013	0.012	374.571	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.028	0.010	6.988	0.672	0.014	0.013	498.413	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.960	0.015	25.544	1.358	0.031	0.027	764.739	0.046
Delaware	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.311	0.003	3.448	0.248	0.006	0.006	381.252	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.827	0.005	7.008	0.555	0.008	0.007	593.230	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.216	0.013	2.362	0.576	0.368	0.339	1500.232	0.025
	NA	MC Motorcycles	0.770	0.008	14.238	2.401	0.027	0.023	393.966	0.049
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.543	0.008	4.349	0.486	0.013	0.011	390.447	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.931	0.010	6.791	0.632	0.015	0.013	521.358	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	3.054	0.016	27.300	1.506	0.033	0.029	805.286	0.047
District of Columbia	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.309	0.003	3.564	0.245	0.006	0.006	397.486	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.833	0.006	7.381	0.577	0.008	0.008	620.049	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.539	0.014	2.571	0.638	0.405	0.372	1567.085	0.026
	NA	MC Motorcycles	0.735	0.008	14.249	2.634	0.027	0.024	394.816	0.047

Table 5-25. On-Road Vehicle Emission Factors – 2014 (cont.)

							Emission F	actors (g/m	i)		
State	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
			·-	NO <sub>x</sub>	SO <sub>2</sub>	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.613	0.008	5.086	0.578	0.009	0.008	391.932	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.060	0.010	8.566	0.823	0.010	0.009	522.586	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.785	0.016	26.982	1.597	0.023	0.020	814.010	0.046
Florida	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.307	0.004	4.001	0.216	0.006	0.006	402.372	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.822	0.006	8.176	0.537	0.008	0.008	626.077	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	7.639	0.015	2.810	0.762	0.395	0.363	1633.017	0.028
	NA	MC	Motorcycles	0.648	0.008	14.785	3.190	0.027	0.024	392.026	0.048
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.598	0.007	4.770	0.551	0.011	0.010	367.669	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.037	0.010	7.835	0.745	0.013	0.011	491.872	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.869	0.015	24.858	1.369	0.031	0.027	767.677	0.045
Georgia	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.315	0.003	3.662	0.235	0.007	0.006	375.935	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.843	0.005	7.445	0.540	0.008	0.008	586.287	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.507	0.014	2.815	0.832	0.369	0.339	1578.178	0.029
	NA	MC	Motorcycles	0.750	0.008	14.906	2.711	0.029	0.025	395.124	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.606	0.008	5.120	0.569	0.008	0.007	381.013	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.051	0.010	8.641	0.807	0.009	0.008	508.378	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.777	0.016	26.893	1.513	0.020	0.018	789.086	0.046
Hawaii	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.305	0.003	3.836	0.207	0.006	0.006	391.624	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.815	0.005	7.812	0.520	0.008	0.008	609.856	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.848	0.014	2.466	0.593	0.375	0.345	1559.210	0.026
	NA	MC	Motorcycles	0.696	0.008	14.613	2.959	0.026	0.023	391.464	0.049
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.673	0.007	5.393	0.609	0.017	0.015	366.292	0.033
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.153	0.010	8.233	0.779	0.018	0.016	488.279	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	3.117	0.015	25.841	1.302	0.041	0.037	755.112	0.045
Idaho	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.324	0.003	3.377	0.268	0.006	0.006	371.129	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.865	0.005	6.852	0.568	0.008	0.008	577.978	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	9.424	0.014	2.889	0.889	0.372	0.342	1559.636	0.030
	NA	MC	Motorcycles	0.881	0.008	15.202	2.500	0.028	0.025	397.107	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.609	0.008	5.160	0.567	0.015	0.014	383.447	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.061	0.010	8.272	0.790	0.017	0.015	512.863	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	3.019	0.016	27.267	1.463	0.041	0.037	793.162	0.046
Illinois	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.311	0.003	3.503	0.255	0.007	0.006	389.272	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.841	0.005	7.275	0.587	0.009	0.008	607.509	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.770	0.014	2.552	0.661	0.389	0.358	1549.086	0.026
	NA	MC	Motorcycles	0.758	0.008	14.522	2.570	0.028	0.025	397.516	0.048
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.643	0.007	5.527	0.596	0.015	0.013	374.798	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.103	0.010	8.545	0.795	0.016	0.014	499.143	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.988	0.015	27.003	1.380	0.037	0.033	770.644	0.046
Indiana	Diesel		Light-Duty Vehicles (Passenger Cars)	0.313	0.003	3.448	0.258	0.006	0.006	380.537	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.838	0.005	7.038	0.569	0.008	0.008	592.064	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.692	0.014	2.818	0.829	0.381	0.350	1564.723	0.029
	NA	MC	Motorcycles	0.787	0.008	15.084	2.517	0.028	0.024	396.131	0.049
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.670	0.007	5.629	0.641	0.018	0.016	365.391	0.033
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.144	0.010	8.550	0.817	0.020	0.017	487.101	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.974	0.015	25.224	1.295	0.044	0.039	753.885	0.045
Iowa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.317	0.003	3.409	0.269	0.006	0.006	370.076	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.844	0.005	6.899	0.566	0.008	0.007	576.445	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	9.181	0.014	2.915	0.906	0.370	0.341	1564.836	0.030
	NA	MC	Motorcycles	0.822	0.008	15.301	2.377	0.029	0.025	397.206	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.662	0.007	5.407	0.606	0.014	0.013	366.787	0.033
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.140	0.010	8.550	0.802	0.016	0.014	490.099	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.965	0.015	25.534	1.329	0.037	0.033	761.040	0.045
Kansas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.318	0.003	3.544	0.252	0.007	0.006	373.293	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.849	0.005	7.200	0.555	0.008	0.008	582.003	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	8.553	0.014	2.743	0.804	0.366	0.336	1555.563	0.029
	NA	MC	Motorcycles	0.798	0.008	15.036	2.564	0.028	0.025	396.318	0.051

Table 5-25. On-Road Vehicle Emission Factors – 2014 (cont.)

							Emission F	actors (g/m	i)		
State	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NOx	$SO_2$	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.638	0.007	5.273	0.569	0.013	0.011	363.373	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.093	0.010	8.314	0.758	0.014	0.013	486.594	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.902	0.015	25.609	1.280	0.035	0.031	761.532	0.045
Kentucky	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.319	0.003	3.556	0.250	0.007	0.006	370.159	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.853	0.005	7.237	0.552	0.008	0.008	577.631	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	9.400	0.014	3.028	0.960	0.372	0.342	1594.749	0.031
	NA	MC	Motorcycles	0.787	0.008	14.718	2.480	0.027	0.024	397.275	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.625	0.007	5.170	0.585	0.010	0.009	374.471	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.080	0.010	8.594	0.808	0.011	0.010	500.471	0.034
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	2.794	0.016	25.461	1.434	0.027	0.024	782.238	0.045
Louisiana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.313	0.003	3.856	0.226	0.007	0.006	383.927	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.837	0.005	7.834	0.534	0.008	0.008	598.112	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.228	0.014	2.842	0.830	0.373	0.344	1604.495	0.029
	NA	MC	Motorcycles	0.702	0.008	14.879	2.918	0.028	0.025	393.933	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.666	0.007	5.334	0.643	0.020	0.018	356.811	0.033
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	1.129	0.009	7.977	0.802	0.022	0.019	476.409	0.034
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	2.977	0.015	23.744	1.251	0.047	0.042	736.714	0.044
Maine	Diesel		Light-Duty Vehicles (Passenger Cars)	0.320	0.003	3.271	0.279	0.006	0.006	360.485	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.847	0.005	6.585	0.565	0.008	0.007	562.761	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	9.355	0.014	2.888	0.907	0.362	0.333	1541.911	0.030
	NA	MC	Motorcycles	0.858	0.008	15.385	2.175	0.031	0.027	397.791	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.600	0.007	4.565	0.515	0.014	0.012	369.510	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.044	0.010	7.333	0.696	0.016	0.014	495.406	0.034
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	2.973	0.015	25.189	1.343	0.039	0.034	771.890	0.045
Maryland	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.316	0.003	3.564	0.246	0.007	0.006	376.396	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.855	0.005	7.349	0.564	0.009	0.008	587.742	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.129	0.014	2.597	0.717	0.367	0.337	1543.374	0.027
	NA	MC	Motorcycles	0.780	0.008	14.429	2.463	0.029	0.026	397.970	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.598	0.007	4.791	0.542	0.017	0.015	368.340	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.042	0.010	7.625	0.724	0.019	0.016	493.564	0.034
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	3.030	0.015	25.559	1.310	0.045	0.040	766.507	0.045
Massachusetts	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.315	0.003	3.428	0.260	0.007	0.006	373.725	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.854	0.005	7.083 2.611	0.578	0.009	0.008	583.498	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.332	0.014		0.733	0.367	0.338	1532.030	0.028
	NA	MC	Motorcycles	0.815	0.008	14.508	2.315	0.030	0.026	399.335	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.666	0.007	5.840	0.617	0.017	0.015	372.034	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.150	0.010	8.977	0.829	0.018	0.016	496.650	0.034
3.0.41	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	3.032	0.015	27.164	1.362	0.044	0.039	768.641	0.045
Michigan	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.315	0.003	3.417	0.266	0.007	0.006	376.882	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.848	0.005	7.013	0.580	0.008	0.008	587.155	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	8.847	0.014	2.806	0.834	0.377	0.347	1558.702	0.029
<u> </u>	NA Casalina	MC	Motorcycles	0.815	0.008	15.309	2.404	0.029	0.026	398.324	0.050
	Gasoline	LDGV LDGT	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.666 1.126	0.007	5.811 8.711	0.649	0.021	0.019	367.941 490.645	0.033
	Gasoline			3.001	0.010	25,953	1.361	0.024	0.021		
Minnesota	Gasoline Diesel	LDDV	Heavy-Duty Vehicles (8,501 + lbs)	0.316	0.015	3.357	0.276	0.053	0.047	755.533 371.622	0.045
Minnesota	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)		0.003			0.007			
	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.846 8.360	0.005	6.840 2.610	0.581	0.008	0.008	578.959 1519.553	0.008
	NA	MC	Heavy-Duty Vehicles (8,501 + lbs) Motorcycles	0.827	0.014	15.543	2.374	0.364	0.333	398.547	0.028
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.827	0.008	5.101	0.597	0.031	0.027	367.095	0.030
	Gasoline	LDGV	Light-Duty Venicies (Passenger Cars)  Light-Duty Trucks (0-8.500 lbs)	1.093	0.007	8.335	0.597	0.011	0.009	489,953	0.033
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.807	0.010	24.705	1.373	0.012	0.010	760.448	0.034
Mississippi	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.314	0.013	3.669	0.233	0.026	0.023	375.756	0.045
Mississippi	Diesel	LDDV	Light-Duty Trucks (0-8,500 lbs)	0.830	0.005	7.383	0.233	0.008	0.006	585.601	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	8.040	0.005	2.706	0.527	0.363	0.007	1561.469	0.008
	NA	MC	Motorcycles  Motorcycles	0.733	0.014	14.953	2.788	0.363	0.024	392.901	0.028
	INA	IVIC	Motorcycles	0.755	0.008	14.733	2.700	0.027	0.024	374.701	0.050

Table 5-25. On-Road Vehicle Emission Factors – 2014 (cont.)

							Emission F	actors (g/m	i)		
State	Fuel Type		Vehicle Type					nd Ozone I	recursors		
				NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.637	0.007	5.192	0.575	0.014	0.013	360.201	0.033
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.107	0.010	8.293	0.765	0.016	0.014	483.604	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.912	0.015	24.973	1.274	0.039	0.034	756.748	0.045
Missouri	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.319	0.003	3.577	0.250	0.007	0.006	366.922	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.857	0.005	7.298	0.553	0.009	0.008	573.613	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.616	0.014	2.741	0.814	0.358	0.330	1554.257	0.029
	NA	MC	Motorcycles	0.795	0.008	14.723	2.450	0.028	0.025	398.119	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.700	0.007	5.796	0.652	0.019	0.017	359.001	0.033
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.193	0.010	8.627	0.811	0.020	0.018	479.286	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	3.080	0.015	25.142	1.229	0.047	0.041	743.631	0.044
Montana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.326	0.003	3.325	0.280	0.007	0.006	362.734	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.867	0.005	6.705	0.569	0.008	0.007	565.916	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	9.983	0.014	3.034	0.983	0.368	0.339	1569.123	0.031
	NA	MC	Motorcycles	0.900	0.008	15.336	2.332	0.029	0.026	398.205	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.676	0.007	5.626	0.634	0.017	0.015	364.981	0.033
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.163	0.010	8.688	0.819	0.019	0.017	487.852	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.999	0.015	25.303	1.292	0.045	0.040	760.330	0.045
Nebraska	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.321	0.003	3.488	0.265	0.007	0.006	370.175	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.859	0.005	7.093	0.567	0.008	0.008	577.145	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	9.604	0.014	3.036	0.970	0.373	0.343	1589.614	0.031
	NA	MC	Motorcycles	0.828	0.008	15.260	2.482	0.029	0.026	398.308	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.646	0.008	4.713	0.564	0.012	0.010	381.611	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.122	0.010	7.670	0.757	0.013	0.012	509,626	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	3.262	0.016	26.860	1.484	0.032	0.028	792.718	0.046
Nevada	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.331	0.003	3.679	0.238	0.007	0.006	389.699	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.894	0.005	7.563	0.560	0.008	0.008	607.044	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	9.217	0.014	2.874	0.833	0.390	0.359	1603.366	0.029
	NA	MC	Motorcycles	0.853	0.008	14.886	3.141	0.027	0.024	395.048	0.049
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.599	0.007	4.853	0.572	0.018	0.024	365.157	0.033
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.030	0.010	7.453	0.731	0.020	0.018	487.115	0.033
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	3.008	0.015	24.826	1.283	0.044	0.039	750.975	0.034
New Hampshire	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.316	0.003	3.336	0.269	0.007	0.006	369.640	0.008
New Hampshire	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.845	0.005	6.783	0.570	0.007	0.008	576.079	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.508	0.003	2.652	0.766	0.364	0.335	1521.870	0.008
	NA	MC	Motorcycles	0.834	0.014	14.799	2.244	0.029	0.026	397.535	0.028
		LDGV		0.596	0.008	4.546	0.505	0.029	0.028		0.034
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)		0.007				0.013	359.320	0.034
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.990 2.938		7.023 23.996	0.642	0.016		482.233	0.034
N	Gasoline	LDDV	Heavy-Duty Vehicles (8,501 + lbs)	0.321	0.015		1.187 0.252	0.040	0.036	759.078	0.044
New Jersey	Diesel	1	Light-Duty Vehicles (Passenger Cars)			3.510				365.676	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.863	0.005	7.157	0.550	0.009	0.008	571.348	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	10.105	0.014	3.196	1.058	0.375	0.345	1613.660	0.032
	NA	MC	Motorcycles	0.817	0.008	14.316	2.238	0.028	0.025	398.719	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.679	0.007	5.119	0.604	0.013	0.012	365.157	0.033
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.171	0.010	8.128	0.784	0.015	0.013	488.008	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	3.118	0.015	25.189	1.315	0.035	0.031	760.452	0.045
New Mexico	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.329	0.003	3.517	0.249	0.007	0.006	371.991	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.880	0.005	7.137	0.550	0.008	0.008	579.910	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	9.704	0.014	2.987	0.934	0.373	0.344	1586.560	0.031
	NA	MC	Motorcycles	0.870	0.008	14.993	2.847	0.028	0.025	396.071	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.537	0.007	4.408	0.505	0.016	0.014	372.100	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.920	0.010	6.517	0.619	0.018	0.016	497.387	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	3.029	0.015	25.684	1.371	0.043	0.038	769.407	0.046
New York	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.313	0.003	3.423	0.258	0.007	0.006	377.653	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.846	0.005	7.048	0.575	0.008	0.008	588.925	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.157	0.014	2.593	0.714	0.372	0.343	1531.606	0.027
					0.008	14.879	2,399	0.030	0.026		0.050

Table 5-25. On-Road Vehicle Emission Factors – 2014 (cont.)

						Emission F	actors (g/m	ni)		
State	Fuel Type	Vehicle Type			Criteria I	ollutants a	nd Ozone l	Precursors		
			NOx	SO <sub>2</sub>	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.640	0.007	5.019	0.582	0.012	0.011	370.276	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.104	0.010	8.212	0.799	0.014	0.012	494.412	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.919	0.015	25.200	1.403	0.031	0.027	766.203	0.045
North Carolina	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.313	0.003	3.569	0.239	0.007	0.006	377.976	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.837	0.005	7.262	0.545	0.008	0.008	589.015	0.008
	Diesel NA	HDDV Heavy-Duty Vehicles (8,501 + lbs)  MC Motorcycles	7.947 0.758	0.014	2.608 15.036	0.716 2.720	0.367	0.338	1543.011 394.684	0.028
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.758	0.008	6.214	0.709	0.029	0.023	360.544	0.030
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.162	0.007	8.954	0.709	0.023	0.022	480.581	0.033
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.987	0.015	25.004	1.279	0.058	0.023	741.969	0.034
North Dakota	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.322	0.003	3.307	0.290	0.006	0.006	362.930	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.853	0.005	6.657	0.577	0.008	0.007	565.948	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	9.475	0.014	2.915	0.925	0.364	0.335	1550.284	0.030
	NA	MC Motorcycles	0.864	0.008	15.679	2.262	0.031	0.028	398.901	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.611	0.007	5.327	0.571	0.015	0.013	374.453	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.052	0.010	8.179	0.753	0.016	0.014	499.382	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	3.008	0.015	27.382	1.394	0.038	0.034	771.102	0.046
Ohio	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.313	0.003	3.440	0.258	0.007	0.006	380.123	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.839	0.005	7.049	0.572	0.008	0.008	591.967	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.333	0.014	2.689	0.760	0.377	0.347	1547.058	0.028
	NA	MC Motorcycles	0.792	0.008	15.200	2.511	0.028	0.025	396.701	0.049
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.654	0.007	5.327	0.597	0.012	0.011	371.496	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.128		8.609	0.803	0.013		495.959	0.034
Oklahoma	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.939	0.015	25.867	1.374	0.031	0.028	771.158	0.045
Oktanonia	Diesel Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.317	0.003	3.655 7.423	0.241	0.007	0.006	379.257 590.753	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.507	0.005	2.796	0.818	0.008	0.008	1577.202	0.008
	NA	MC Motorcycles	0.768	0.008	14.915	2.767	0.027	0.024	394.913	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.639	0.007	4.882	0.550	0.014	0.012	362.408	0.033
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.082	0.010	7.678	0.724	0.015	0.013	484.052	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	3.038	0.015	25.499	1.287	0.035	0.031	749.335	0.045
Oregon	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.318	0.003	3.331	0.256	0.007	0.006	368.317	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.849	0.005	6.776	0.557	0.008	0.008	574.358	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.895	0.014	2.765	0.821	0.367	0.338	1536.976	0.029
	NA	MC Motorcycles	0.857	0.008	14.953	2.377	0.028	0.025	396.414	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.603	0.007	4.823	0.542	0.013	0.011	370.062	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.037	0.009	7.726	0.727	0.014	0.012	494.849	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.869	0.014	25.650	1.352	0.034	0.030	769.382	0.045
Pacific Islands	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.315	0.003	3.527	0.244	0.007	0.006	377.234	0.008
	Diesel Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)  HDDV Heavy-Duty Vehicles (8,501 + lbs)	0.848 8.552	0.005 0.014	7.227 2.757	0.556 0.798	0.008	0.008	588.206 1561.629	0.008
	NA	MC Motorcycles	0.784	0.014	14.692	2.590	0.373	0.025	396.297	0.029
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.784	0.007	4.867	0.548	0.028	0.023	371.953	0.030
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.042	0.010	7.674	0.731	0.013	0.014	496.765	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	3.006	0.015	25.831	1.363	0.041	0.036	770.352	0.045
Pennsylvania	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.315	0.003	3.456	0.258	0.007	0.006	377.704	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.847	0.005	7.091	0.571	0.008	0.008	588.529	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.862	0.014	2.838	0.845	0.378	0.348	1567.249	0.029
	NA	MC Motorcycles	0.797	0.008	15.032	2.464	0.029	0.026	397.527	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.592	0.008	5.708	0.589	0.008	0.007	394.210	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.035	0.011	9.711	0.855	0.009	0.008	527.674	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.686	0.016	28.498	1.616	0.023	0.020	827.302	0.046
Puerto Rico	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.305	0.004	4.283	0.206	0.007	0.006	405.752	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.821	0.006	8.791	0.534	0.009	0.008	632.676	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.723	0.015	2.589	0.636	0.384	0.353	1630.067	0.026
	NA	MC Motorcycles	0.625	0.008	14.625	3.282	0.027	0.024	392.803	0.049

Table 5-25. On-Road Vehicle Emission Factors – 2014 (cont.)

					I	Emission F	actors (g/m	i)		
State	Fuel Type	Vehicle Type			Criteria I	ollutants a	nd Ozone l	Precursors		
			NO <sub>x</sub>	SO <sub>2</sub>	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.445	0.007	3.699	0.437	0.016	0.014	374.408	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.779	0.010	5.209	0.509	0.018	0.016	501.680	0.034
D	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	3.041	0.016	26.088	1.363	0.044	0.039	779.150	0.046
Rhode Island	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.313	0.003	3.454 7.176	0.256	0.007	0.006	380.127	0.008
	Diesel Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)  HDDV Heavy-Duty Vehicles (8,501 + lbs)	0.850 8.345	0.005	2.662	0.582	0.009	0.008	593.524 1549.485	0.008
	NA	MC Motorcycles	0.793	0.014	14.464	2.401	0.029	0.026	399.001	0.028
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.647	0.007	5.164	0.592	0.011	0.010	370.678	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.118	0.010	8.512	0.812	0.013	0.011	495.417	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.875	0.015	25.081	1.391	0.030	0.027	773.953	0.045
South Carolina	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.316	0.003	3.691	0.235	0.007	0.006	379.060	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.844	0.005	7.509	0.541	0.008	0.008	590.633	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.879	0.014	2.962	0.905	0.376	0.346	1603.762	0.030
	NA	MC Motorcycles	0.742	0.008	14.997	2.812	0.028	0.025	394.982	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.682	0.007	5.878	0.661	0.020	0.018	359.077	0.033
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)  HDGV Heavy-Duty Vehicles (8.501 + lbs)	1.168 2.973	0.010	8.851	0.834	0.022 0.051	0.019	480.349	0.034
South Dakota	Gasoline Diesel	HDGV Heavy-Duty Vehicles (8,501 + lbs)  LDDV Light-Duty Vehicles (Passenger Cars)	0.324	0.015	24.855 3.410	1.259 0.277	0.051	0.045 0.006	748.899 363.086	0.044
South Dakota	Diesel	LDDT Light-Duty Venicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.324	0.005	6.899	0.569	0.007	0.008	566.880	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	9,909	0.014	3.074	1.003	0.369	0.339	1582,909	0.003
	NA	MC Motorcycles	0.849	0.008	15.420	2.380	0.030	0.027	399.181	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.629	0.007	5.107	0.569	0.012	0.011	371.182	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.087	0.010	8.236	0.775	0.014	0.012	496.201	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.930	0.015	26.158	1.382	0.033	0.029	773.180	0.045
Tennessee	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.315	0.003	3.610	0.243	0.007	0.006	378.652	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.846	0.005	7.377	0.553	0.008	0.008	590.165	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.743	0.014	2.868	0.856	0.376	0.346	1584.317	0.029
	NA	MC Motorcycles	0.763	0.008	14.985	2.700	0.028	0.025	396.089	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.582	0.007	4.759	0.534	0.010	0.009	373.409	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.014	0.010	7.911	0.732	0.011	0.010	500.251	0.034
Texas	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)  LDDV Light-Duty Vehicles (Passenger Cars)	2.839 0.317	0.016	25.321 3.873	1.399 0.225	0.028	0.025	783.622 382.861	0.045
Texas	Diesel Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.853	0.005	7.913	0.223	0.007	0.008	597.264	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.044	0.003	2.712	0.763	0.368	0.339	1587.983	0.008
	NA	MC Motorcycles	0.719	0.008	14.264	2.858	0.027	0.024	395.027	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.632	0.007	5.144	0.573	0.016	0.014	375.945	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.103	0.010	8.081	0.757	0.018	0.016	503.025	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	3.209	0.016	27.267	1.414	0.044	0.039	780.969	0.046
Utah	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.324	0.003	3.506	0.258	0.007	0.006	381.641	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.879	0.005	7.249	0.582	0.009	0.008	595.276	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.897	0.014	2.743	0.788	0.380	0.350	1564.461	0.028
	NA	MC Motorcycles	0.863	0.008	15.173	2.756	0.029	0.026	398.492	0.049
	Gasoline Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)  LDGT Light-Duty Trucks (0-8,500 lbs)	0.620 1.056	0.007 0.010	5.084 7.611	0.622	0.020 0.022	0.018 0.020	357.607 477.586	0.033
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.984	0.010	23.967	1.258	0.022	0.020	739.592	0.034
Vermont	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.320	0.003	3.301	0.279	0.049	0.006	361.214	0.008
Vermon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.850	0.005	6.653	0.567	0.008	0.007	563.860	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	9.451	0.014	2.923	0.925	0.364	0.334	1550.195	0.030
	NA	MC Motorcycles	0.857	0.008	15.535	2.242	0.031	0.027	398.173	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.593	0.007	5.453	0.611	0.007	0.006	373.200	0.033
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.996	0.010	8.965	0.793	0.008	0.007	497.631	0.033
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.496	0.015	25.834	1.419	0.014	0.012	767.898	0.045
Virgin Islands	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.309	0.003	4.107	0.208	0.006	0.006	385.216	0.007
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.798	0.005	8.134	0.488	0.007	0.007	600.729	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.912	0.014	2.259	0.514	0.340	0.313	1542.121	0.025
	NA	MC Motorcycles	0.643	0.008	14.552	2.758	0.024	0.021	387.397	0.051

Table 5-25. On-Road Vehicle Emission Factors – 2014 (cont.)

					I	Emission Fa	actors (g/m	i)		
State	Fuel Type	Vehicle Type			Criteria F	ollutants a	nd Ozone l	Precursors		
			NOx	SO <sub>2</sub>	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.676	0.007	5.626	0.634	0.017	0.015	364.981	0.033
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.163	0.010	8.688	0.819	0.019	0.017	487.852	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.999	0.015	25.303	1.292	0.045	0.040	760.330	0.045
Virginia	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.321	0.003	3.488	0.265	0.007	0.006	370.175	800.0
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.859	0.005	7.093	0.567	0.008	0.008	577.145	800.0
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	9.604	0.014	3.036	0.970	0.373	0.343	1589.614	0.031
	NA	MC Motorcycles	0.828	0.008	15.260	2.482	0.029	0.026	398.308	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.605	0.007	4.970	0.541	0.014	0.013	366.775	0.034
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.051	0.010	7.932	0.730	0.016	0.014	491.466	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	3.076	0.015	26.359	1.333	0.041	0.036	764.988	0.045
Washington	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.316	0.003	3.374	0.257	0.007	0.006	372.571	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.856	0.005	6.977	0.574	0.009	0.008	581.646	800.0
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	9.019	0.014	2.812	0.839	0.375	0.345	1554.798	0.029
	NA	MC Motorcycles	0.845	0.008	15.088	2.423	0.029	0.026	398.949	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.662	0.007	5.442	0.601	0.014	0.013	360.018	0.033
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.140	0.010	8.512	0.794	0.016	0.014	481.855	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.931	0.015	25.378	1.281	0.037	0.033	750.411	0.045
West Virginia	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.317	0.003	3.443	0.256	0.007	0.006	366.067	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.847	0.005	6.984	0.553	0.008	0.008	571.523	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	9.053	0.014	2.877	0.887	0.365	0.336	1560.394	0.030
	NA	MC Motorcycles	0.809	0.008	15.150	2.453	0.029	0.025	397.081	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.647	0.007	5.542	0.625	0.019	0.017	365.359	0.033
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.111	0.010	8.424	0.807	0.021	0.019	487.523	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.966	0.015	25.216	1.305	0.048	0.043	753.389	0.045
Wisconsin	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.317	0.003	3.363	0.273	0.007	0.006	369.483	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.848	0.005	6.840	0.575	0.008	0.008	575.823	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.879	0.014	2.778	0.835	0.367	0.337	1541.875	0.029
	NA	MC Motorcycles	0.823	0.008	15.106	2.310	0.030	0.026	398.340	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.706	0.007	5.928	0.662	0.020	0.017	360.825	0.033
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.213	0.010	8.881	0.830	0.021	0.019	482.466	0.034
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	3.111	0.015	25.380	1.240	0.052	0.046	753.044	0.044
Wyoming	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.329	0.003	3.391	0.280	0.007	0.006	364.565	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.881	0.005	6.881	0.576	0.008	0.008	568.730	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	10.551	0.014	3.201	1.069	0.375	0.345	1600.228	0.032
	NA	MC Motorcycles	0.905	0.008	15.402	2.439	0.030	0.026	399.849	0.052

Table 5-26. On-Road Vehicle Emission Factors – 2015

			,			I	Emission Fa	actors (g/m	i)		
State	Fuel Type		Vehicle Type			Criteria P	ollutants a	nd Ozone I	Precursors		
				NOx	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.555	0.007	4.706	0.530	0.010	0.009	367.402	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.923	0.010	7.290	0.688	0.011	0.010	483.085	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.570	0.016	23.247	1.296	0.025	0.022	777.660	0.045
Alabama	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.242	0.003	3.106	0.184	0.005	0.005	370.951	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.717	0.003	6.531	0.462	0.008	0.007	566.458	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.455	0.014	2.529	0.721	0.330	0.304	1564.091	0.028
	NA	MC	Motorcycles	0.727	0.008	14.575	2.796	0.028	0.025	393.559	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.583	0.007	5.463	0.619	0.024	0.021	363.828	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.003	0.010	7.665	0.751	0.027	0.024	479.618	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.817	0.015	23.885	1.204	0.061	0.054	763.686	0.045
Alaska	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.247	0.003	2.752	0.251	0.005	0.005	360.124	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.745	0.005	5.869	0.537	0.008	0.007	550.290	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.989	0.014	2.767	0.884	0.334	0.308	1552.330	0.030
	NA	MC	Motorcycles	0.889	0.008	15.473	2.071	0.032	0.029	401.862	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.510	0.005	4.499	0.495	0.009	0.008	375.311	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.873	0.006	7.170	0.649	0.010	0.009	496.927	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.411	0.010	24.733	1.307	0.025	0.022	806.057	0.045
Arizona	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.261	0.003	3.346	0.175	0.005	0.005	380.138	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.791	0.005	7.148	0.470	0.008	0.007	581.331	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.499	0.014	2.697	0.792	0.341	0.313	1621.267	0.029
	NA	MC	Motorcycles	0.822	0.005	13.862	3.243	0.025	0.022	394.663	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.567	0.007	4.900	0.527	0.011	0.009	359.612	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.989	0.009	7.766	0.704	0.012	0.011	476.398	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.597	0.015	23.428	1.212	0.029	0.026	769.963	0.045
Arkansas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.246	0.003	3.118	0.191	0.005	0.005	362.648	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.736	0.005	6.586	0.469	0.008	0.007	555.398	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.028	0.014	2.660	0.805	0.326	0.300	1574.179	0.030
	NA	MC	Motorcycles	0.763	0.008	14.526	2.639	0.027	0.024	395.749	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.552	0.007	4.675	0.513	0.015	0.013	364.859	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.962	0.010	6.962	0.648	0.017	0.015	483.083	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.833	0.015	24.636	1.242	0.041	0.036	775.269	0.045
Colorado	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.249	0.003	2.923	0.210	0.005	0.005	365.304	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.756	0.005	6.267	0.503	0.008	0.007	559.292	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.189	0.014	2.539	0.745	0.331	0.305	1545.268	0.029
	NA	MC	Motorcycles	0.856	0.008	14.782	2.679	0.029	0.026	398.880	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.472	0.007	4.155	0.445	0.014	0.012	364.835	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.849	0.010	6.448	0.570	0.017	0.015	485.026	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.740	0.016	24.170	1.233	0.042	0.037	781.077	0.046
Connecticut	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.243	0.003	2.967	0.204	0.005	0.005	365.885	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.744	0.005	6.425	0.505	0.008	0.008	561.565	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.078	0.013	2.236	0.585	0.323	0.297	1512.344	0.026
	NA	MC	Motorcycles	0.796	0.008	14.108	2.360	0.030	0.026	400.149	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.518	0.007	4.080	0.457	0.012	0.010	369.126	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.901	0.010	6.296	0.597	0.013	0.012	486.089	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.667	0.015	23.710	1.244	0.028	0.025	771.337	0.046
Delaware	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.239	0.003	2.910	0.198	0.005	0.005	370.915	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.717	0.005	6.186	0.482	0.008	0.007	566.384	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.487	0.013	2.128	0.514	0.325	0.299	1491.725	0.025
	NA	MC	Motorcycles	0.765	0.008	13.878	2.375	0.026	0.023	394.131	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.470	0.008	4.016	0.435	0.012	0.010	384.744	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.816	0.010	6.136	0.558	0.013	0.012	508.434	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.751	0.016	25.353	1.379	0.030	0.027	812.698	0.047
District of Columbia	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.238	0.003	3.006	0.193	0.005	0.005	386.798	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.721	0.005	6.512	0.500	0.008	0.007	592.124	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.777	0.014	2.316	0.569	0.357	0.329	1559.149	0.026
	NA	MC	Motorcycles	0.730	0.008	13.890	2.606	0.027	0.024	394.971	0.048

Table 5-26. On-Road Vehicle Emission Factors – 2015 (cont.)

State	Fuel Type		Vehicle Type								
				-				$PM_{10}$	$PM_{2.5}$		$NH_3$
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.530	0.008	4.697	0.514	0.008	0.007	386.218	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.930	0.010	7.738	0.730	0.009	0.008	509.589	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.505	0.016	24.953	1.465	0.022	0.019	821.448	0.046
Florida	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.237	0.003	3.390	0.166	0.005	0.005	391.572	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.713	0.005	7.242	0.462	0.008	0.007	597.798	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.928	0.014	2.560	0.690	0.349	0.321	1623.376	0.028
	NA	MC	Motorcycles	0.644	0.008	14.430	3.160	0.027	0.024	392.192	0.049
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.518	0.007	4.393	0.492	0.010	0.009	362.346	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.909	0.010	7.062	0.661	0.012	0.011	479.711	0.032
<b>.</b>	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.582 0.244	0.015	22.959 3.113	1.255 0.186	0.028	0.025	774.138 365.706	0.045
Georgia	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)		0.003		0.186	0.005	0.005	559.748	
	Diesel Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs)	0.732	0.005	6.597	0.468	0.008	0.007	1567.355	0.008
	NA	MC	Heavy-Duty Vehicles (8,501 + lbs)	7.757 0.745	0.014	2.587 14.538	2.684	0.327	0.301	395.299	0.029
	Gasoline	LDGV	Motorcycles Light-Duty Vehicles (Passenger Cars)	0.743	0.008	4.733	0.507	0.029	0.025	395.299	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.923	0.007	7.812	0.719	0.007	0.000	495.727	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.500	0.016	24.952	1.391	0.008	0.007	796.221	0.032
Hawaii	Diesel	LDDV	Light-Duty Vehicles (8,501 + 108)	0.236	0.010	3.251	0.159	0.019	0.017	381.064	0.048
nawan	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.230	0.005	6.915	0.139	0.003	0.003	582.232	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.167	0.003	2.226	0.530	0.331	0.305	1550.417	0.008
	NA	MC	Motorcycles	0.692	0.014	14.263	2.932	0.026	0.023	391.633	0.020
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.585	0.008	4.953	0.546	0.020	0.023	361.005	0.030
	Gasoline	LDGT	Light-Duty Venicles (Lassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	1.014	0.007	7.424	0.696	0.015	0.015	476.275	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.808	0.009	23.903	1.192	0.010	0.013	761.204	0.032
Idaho	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.250	0.003	2.859	0.217	0.005	0.005	361.003	0.008
idano	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.750	0.005	6.055	0.496	0.003	0.003	551.859	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.608	0.003	2.661	0.436	0.330	0.304	1548.647	0.030
	NA	MC	Motorcycles	0.876	0.008	14.808	2.474	0.028	0.025	397.278	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.527	0.008	4.738	0.506	0.014	0.012	377.870	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.932	0.010	7.453	0.706	0.016	0.014	500.201	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.721	0.016	25.313	1.338	0.038	0.033	800.254	0.046
Illinois	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.239	0.003	2.963	0.204	0.005	0.005	378.753	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.729	0.005	6.425	0.510	0.008	0.007	580.171	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.006	0.014	2.309	0.594	0.344	0.317	1540.550	0.026
	NA	MC	Motorcycles	0.753	0.008	14.148	2.542	0.028	0.024	397.674	0.049
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.558	0.007	5.094	0.532	0.013	0.011	369.363	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.969	0.010	7.720	0.709	0.014	0.013	486.834	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.691	0.015	25.044	1.262	0.033	0.030	777.110	0.045
Indiana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.242	0.003	2.915	0.207	0.005	0.005	370.210	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.727	0.005	6.217	0.495	0.008	0.007	565.333	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.912	0.014	2.583	0.756	0.337	0.310	1554.479	0.029
	NA	MC	Motorcycles	0.782	0.008	14.698	2.479	0.027	0.024	396.298	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.584	0.007	5.181	0.577	0.016	0.014	360.126	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.007	0.009	7.730	0.733	0.018	0.016	475.137	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.680	0.015	23.339	1.186	0.040	0.035	759.924	0.045
Iowa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.246	0.003	2.888	0.218	0.005	0.005	359.968	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.733	0.005	6.100	0.494	0.008	0.007	550.389	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.393	0.014	2.689	0.832	0.329	0.302	1553.625	0.030
	NA	MC	Motorcycles	0.817	0.008	14.907	2.350	0.028	0.025	397.378	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.576	0.007	4.986	0.544	0.013	0.011	361.488	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.003	0.010	7.733	0.718	0.015	0.013	478.023	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.671	0.015	23.644	1.218	0.034	0.030	767.357	0.045
Kansas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.246	0.003	3.009	0.202	0.005	0.005	363.118	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.737	0.005	6.373	0.483	0.008	0.007	555.680	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.790	0.014	2.517	0.735	0.324	0.298	1544.988	0.029
	NA	MC	Motorcycles	0.793	0.008	14.657	2.537	0.028	0.025	396.491	0.051

Table 5-26. On-Road Vehicle Emission Factors – 2015 (cont.)

						I	Emission Fa	actors (g/m	i)		
State	Fuel Type		Vehicle Type			Criteria P	ollutants a	nd Ozone I	recursors		
				NOx	SO <sub>2</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.554	0.007	4.865	0.509	0.012	0.010	358.130	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.960	0.009	7.515	0.676	0.013	0.012	474.604	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.614	0.015	23.700	1.173	0.033	0.029	767.716	0.044
Kentucky	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.247	0.003	3.025	0.201	0.005	0.005	360.052	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.741	0.005	6.412	0.481	0.008	0.007	551.520	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.613	0.014	2.802	0.884	0.331	0.304	1583.022	0.031
	NA	MC LDGV	Motorcycles Light-Duty Vehicles (Passenger Cars)	0.782 0.541	0.008	14.346 4.771	2.455 0.522	0.027	0.024	397.452 369.041	0.052
	Gasoline Gasoline	LDGV	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.541	0.007	7.770	0.322	0.009	0.008	488.073	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.514	0.016	23.518	1.316	0.011	0.009	788.973	0.032
Louisiana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.242	0.003	3.279	0.177	0.025	0.022	373.521	0.043
Louisiana	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.726	0.005	6.947	0.462	0.008	0.007	571.038	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.500	0.014	2.609	0.758	0.331	0.305	1593.703	0.029
	NA	MC	Motorcycles	0.697	0.008	14.517	2.890	0.028	0.025	394.108	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.579	0.007	4.884	0.579	0.018	0.016	351.687	0.030
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.993	0.009	7.191	0.720	0.020	0.017	464.736	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.681	0.015	21.907	1.144	0.043	0.038	742.439	0.044
Maine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.247	0.003	2.772	0.228	0.005	0.005	350.587	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.735	0.005	5.820	0.494	0.008	0.007	537.295	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	12.340	0.017	2.667	1.227	0.402	0.370	1941.195	0.036
	NA	MC	Motorcycles	0.853	0.008	14.986	2.149	0.031	0.027	397.967	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.519	0.007	4.204	0.461	0.012	0.011	364.162	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.916	0.010	6.614	0.619	0.015	0.013	483.186	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.678	0.016	23.319	1.231	0.036	0.032	778.526	0.045
Maryland	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.244	0.003	3.032	0.197	0.005	0.005	366.153	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.742	0.005	6.508	0.491	0.008	0.008	561.223	0.008
	Diesel	HDDV MC	Heavy-Duty Vehicles (8,501 + lbs) Motorcycles	7.373 0.775	0.014	2.370	0.651 2.437	0.325	0.299	1533.584	0.027
	NA Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.773	0.008	14.066 4.386	0.486	0.029	0.026	398.141 363.015	0.051
	Gasoline	LDGT	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.914	0.007	6.856	0.480	0.013	0.015	481.421	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.731	0.015	23.689	1.200	0.042	0.013	772.992	0.032
Massachusetts	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.244	0.003	2.913	0.209	0.005	0.005	363.540	0.008
Massachasetts	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.742	0.005	6.266	0.504	0.008	0.008	557.200	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.561	0.014	2.384	0.667	0.325	0.299	1522.229	0.028
	NA	MC	Motorcycles	0.810	0.008	14.135	2.290	0.029	0.026	399.504	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.579	0.007	5.382	0.552	0.015	0.013	366.654	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.011	0.010	8.116	0.741	0.017	0.015	484.435	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.732	0.015	25.191	1.245	0.040	0.035	775.041	0.045
Michigan	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.244	0.003	2.896	0.215	0.005	0.005	366.628	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.736	0.005	6.198	0.506	0.008	0.007	560.686	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.058	0.014	2.575	0.762	0.334	0.307	1548.339	0.029
	NA	MC	Motorcycles	0.810	0.008	14.912	2.369	0.029	0.026	398.492	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.579	0.007	5.304	0.582	0.019	0.017	362.639	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.989	0.010	7.831	0.745	0.021	0.019	478.615	0.032
3.51	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.704	0.015	23.945	1.245	0.048	0.042	761.727	0.045
Minnesota	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.244	0.003	2.844	0.225	0.005	0.005	361.477	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.734	0.005	6.044	0.508	0.008	0.007	552.831	0.008
	Diesel NA	HDDV MC	Heavy-Duty Vehicles (8,501 + lbs) Motorcycles	7.590 0.822	0.013	2.384 15.125	0.678 2.346	0.322	0.296 0.027	1509.603 398.715	0.028
-	NA Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.822	0.008	4.699	0.533	0.030	0.027	398.715	0.031
	Gasoline	LDGV	Light-Duty Venicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.554	0.007	7.529	0.533	0.010	0.008	477.830	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.525	0.010	22.826	1.260	0.011	0.010	766.825	0.032
Mississippi	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.243	0.013	3.110	0.184	0.024	0.021	365.533	0.043
тизэнээгри	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.720	0.005	6.537	0.457	0.008	0.007	559.020	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.316	0.014	2.478	0.704	0.322	0.296	1550.930	0.028
	NA	MC	Motorcycles	0.728	0.008	14.585	2.761	0.027	0.024	393.077	0.051
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Table 5-26. On-Road Vehicle Emission Factors – 2015 (cont.)

						F	Emission Fa	actors (g/m	i)		
State	Fuel Type		Vehicle Type			Criteria P	ollutants a	nd Ozone I	Precursors		
				NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.554	0.007	4.785	0.516	0.013	0.011	355.014	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.032	0.685	7.498	0.685	0.014	0.013	471.704	0.009
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.624	0.015	23.113	1.168	0.036	0.032	762.997	0.044
Missouri	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.247	0.003	3.051	0.201	0.005	0.005	356.879	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.745	0.005	6.472	0.482	0.008	0.007	547.679	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.857	0.014	2.520	0.746	0.318	0.292	1543.365	0.029
	NA	MC	Motorcycles	0.790	0.008	14.351	2.425	0.028	0.025	398.297	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.610	0.007	5.321	0.586	0.017	0.015	353.847	0.030
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	1.050	0.009	7.789	0.727	0.018	0.016	467.546	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.775	0.015	23.227	1.124	0.042	0.037	749.395	0.044
Montana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.253 0.752	0.003	2.820 5.929	0.229	0.005	0.005	352.784	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	9.154	0.005 0.014	2.810	0.498	0.008	0.007	540.332 1557.256	0.008
	Diesel	MC	Heavy-Duty Vehicles (8,501 + lbs)	0.894	0.014	14.933	2.307	0.327	0.301	398.381	0.051
	NA Gasoline	LDGV	Motorcycles Light-Duty Vehicles (Passenger Cars)	0.894	0.008	5.184	0.570	0.029	0.023	359.725	0.032
	Gasoline	LDGT	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	1.024	0.007	7.861	0.735	0.013	0.014	475.869	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.702	0.009	23.397	1.183	0.017	0.013	766.430	0.032
Nebraska	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.249	0.003	2.964	0.215	0.005	0.005	360.062	0.008
reoraska	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.746	0.005	6.280	0.495	0.008	0.007	551.087	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.800	0.014	2.809	0.893	0.331	0.305	1577.911	0.031
	NA	MC	Motorcycles	0.823	0.008	14.870	2.456	0.029	0.025	398.482	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.559	0.007	4.348	0.503	0.011	0.009	376.058	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.984	0.010	6.919	0.672	0.012	0.011	497.001	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.938	0.016	24.886	1.361	0.029	0.026	799.663	0.046
Nevada	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.255	0.003	3.117	0.188	0.005	0.005	379.175	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.775	0.005	6.690	0.485	0.008	0.007	579.655	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.387	0.014	2.633	0.759	0.346	0.318	1593.216	0.029
	NA	MC	Motorcycles	0.848	0.008	14.517	3.112	0.027	0.024	395.214	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.520	0.007	4.437	0.513	0.016	0.014	359.888	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.904	0.009	6.699	0.656	0.018	0.016	475.149	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.710	0.015	22.985	1.174	0.040	0.036	757.102	0.045
New Hampshire	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.244	0.003	2.825	0.218	0.005	0.005	359.545	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.733	0.005	5.993	0.498	0.008	0.007	550.047	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.734	0.013	2.427	0.698	0.322	0.296	1511.716	0.028
	NA	MC	Motorcycles	0.829	0.008	14.416	2.218	0.029	0.026	397.706	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.517	0.007	4.192	0.454	0.013	0.011	354.146	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.869	0.009	6.342	0.571	0.015	0.013	470.367	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.645	0.015	22.163	1.088	0.037	0.033	765.102	0.044
New Jersey	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.249	0.003	2.992	0.203	0.005	0.005	355.666	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.750	0.005	6.346	0.480	0.008	0.007	545.537	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	9.289	0.014	2.971	0.978	0.333	0.307	1601.192	0.032
	NA	MC	Motorcycles	0.812		13.952	2.214	0.028	0.025	398.898	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.589	0.007	4.721	0.542	0.012	0.011	359.878	0.031
	Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs)	1.029	0.009	7.346	0.701	0.014		475.973 766.647	0.032
New Mexico	Gasoline Diesel	LDDV	Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars)	2.808 0.254	0.015	23.302 2.985	1.206 0.199	0.032	0.028	361.848	0.045
New Mexico	Diesel	LDDV	Light-Duty Venicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.234	0.003	6.317	0.199	0.003	0.003	553.677	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.881	0.003	2.759	0.478	0.008	0.305	1575.105	0.008
	NA	MC	Motorcycles	0.865	0.014	14.617	2.821	0.028	0.303	396.246	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.466	0.008	4.065	0.453	0.028	0.024	366,709	0.032
	Gasoline	LDGT	Light-Duty Venicles (Fassenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.400	0.007	5.894	0.433	0.014	0.015	485.132	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.729	0.010	23.784	1.255	0.017	0.013	775.968	0.032
New York	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.242	0.003	2.901	0.208	0.005	0.005	367.386	0.008
1.0.7 TOIR	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.734	0.005	6.229	0.501	0.008	0.007	562.366	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.389	0.014	2.362	0.647	0.330	0.303	1522.117	0.027
	NA	MC	Motorcycles	0.796	0.008	14.499	2.372	0.029	0.026	398.009	0.050
	1 1/ 1	1710		0.,,0	0.000	//	2.0,2	0.027	0.020	270.007	0.050

Table 5-26. On-Road Vehicle Emission Factors – 2015 (cont.)

				,		Emission Fa	actors (g/m	i)		
State	Fuel Type	Vehicle Type				Pollutants a				
	J	J. J. J. J. L. J. J. L. J. L. J. L. J. L. J. J. L. J. L. J. J. J. L. J. J. J. L. J. J. L. J. J. J. L. J. J. J. J. J. J. L. J.	NO <sub>x</sub>	SO <sub>2</sub>	СО	voc	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.555	0.007	4.617	0.520	0.011	0.010	364.905	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.969	0.010	7.409	0.713	0.013	0.011	482.186	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.628	0.015	23.299	1.286	0.029	0.025	772.739	0.045
North Carolina	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.242	0.003	3.025	0.190	0.005	0.005	367.706	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.726	0.005	6.425	0.473	0.008	0.007	562.357	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.206	0.014	2.378	0.649	0.325	0.299	1533.195	0.027
	NA	MC Motorcycles	0.753	0.008	14.663	2.693	0.029	0.025	394.855	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.597	0.007	5.666	0.638	0.022	0.019	355.380	0.030
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.022	0.009	8.060	0.776	0.024	0.021	468.843	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.690	0.015	23.028	1.170	0.052	0.046	747.713	0.044
North Dakota	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.249	0.003	2.803	0.238	0.005	0.005	352.968	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.741	0.005	5.885	0.506	0.008	0.007	540.376	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.671	0.014	2.693	0.851	0.323	0.297	1538.810	0.030
	NA	MC Motorcycles	0.858	0.008	15.253	2.233	0.031	0.027	399.074	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.530	0.007	4.912	0.510	0.013	0.012	369.024	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.923	0.010	7.383	0.668	0.015	0.013	487.069	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.711	0.016	25.412	1.275	0.035	0.031	777.646	0.046
Ohio	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.241	0.003	2.911	0.207	0.005	0.005	369.804	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.728	0.005	6.227	0.498	0.008	0.007	565.254	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.563	0.014	2.455	0.691	0.334	0.307	1537.307	0.028
	NA	MC Motorcycles	0.787	0.008	14.810	2.484	0.028	0.025	396.867	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.568	0.007	4.916	0.534	0.011	0.010	366.114	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.992	0.010	7.786	0.718	0.012	0.011	483.704	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.647	0.016	23.954	1.260	0.029	0.025	777.673	0.045
Oklahoma	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.245	0.003	3.101	0.192	0.005	0.005	368.954	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.735	0.005	6.573	0.474	0.008	0.007	564.024	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.750	0.014	2.565	0.747	0.329	0.303	1566.607	0.029
	NA	MC Motorcycles	0.763	0.008	14.545	2.741	0.027	0.024	395.086	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.555	0.007	4.487	0.493	0.012	0.011	357.165	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.950	0.009	6.916	0.645	0.014	0.012	472.121	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.738	0.015	23.601	1.179	0.032	0.028	755.445	0.045
Oregon	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.246	0.003	2.822	0.206	0.005	0.005	358.260	0.008
o regon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.737	0.005	5.987	0.485	0.008	0.007	548.373	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.106	0.014	2.540	0.751	0.326	0.300	1526.412	0.029
	NA	MC Motorcycles	0.852	0.008	14.572	2.353	0.028	0.024	396.587	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.522	0.007	4.445	0.484	0.011	0.010	364.691	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.910	0.009	6.974	0.647	0.013	0.012	482.617	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.581	0.014	23.752	1.239	0.031	0.028	775.891	0.045
Pacific Islands	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.244	0.003	2.993	0.194	0.005	0.005	366.980	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.736	0.005	6.394	0.483	0.008	0.007	561.633	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.782	0.014	2.527	0.728	0.331	0.304	1551.340	0.028
	NA	MC Motorcycles	0.779	0.007	14.325	2.564	0.028	0.025	396.461	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.521	0.007	4.470	0.490	0.014	0.012	366.566	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.914	0.010	6.904	0.649	0.014	0.012	484.522	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.708	0.015	23.904	1.247	0.037	0.033	776.802	0.045
Pennsylvania	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.243	0.003	2.929	0.207	0.005	0.005	367.436	0.008
1 cian yi vaina		LDDT Light-Duty Trucks (0-8,500 lbs)	0.735	0.005	6.269	0.498	0.003	0.007	561.981	0.008
		HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.077	0.014	2.606	0.773	0.335	0.308	1556.783	0.029
	NA	MC Motorcycles	0.792	0.008	14.649	2.437	0.029	0.026	397.695	0.023
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.732	0.008	5.284	0.524	0.027	0.026	388.475	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.909	0.008	8.796	0.762	0.007	0.008	514.551	0.031
		HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.418	0.010	26.423	1.487	0.009	0.008	835.112	0.032
Puerto Rico	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.235	0.003	3.647	0.157	0.021	0.005	394.865	0.040
1 ucito Kico	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.233	0.005	7.806	0.137	0.003	0.003	604.122	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.065	0.003	2.341	0.438	0.340	0.312	1621.047	0.008
	NA	MC Motorcycles	0.621	0.014	14.276	3.252	0.027	0.024	392.971	0.026
	INA	IVIC IVIOLOTE YETCS	0.021	0.000	17.270	3.434	0.027	0.024	374.711	0.047

Table 5-26. On-Road Vehicle Emission Factors – 2015 (cont.)

					1	Emission Fa	actors (g/m	i)		
State	Fuel Type	Vehicle Type				Pollutants a	.0			
		••	NO <sub>x</sub>	SO <sub>2</sub>	СО	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.386	0.007	3.433	0.393	0.014	0.012	368.979	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.683	0.010	4.733	0.449	0.016	0.014	489.314	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.741	0.016	24.188	1.248	0.040	0.036	785.887	0.046
Rhode Island	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.242	0.003	2.931	0.206	0.005	0.005	369.805	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.738	0.005	6.345	0.507	0.008	0.008	566.804	800.0
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.569	0.014	2.429	0.676	0.335	0.308	1539.920	0.028
	NA	MC Motorcycles	0.788	0.008	14.093	2.375	0.029	0.026	399.165	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.561	0.007	4.759	0.528	0.010	0.009	365.307	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.982	0.010	7.691	0.724	0.012	0.010	483.162	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.587	0.016	23.155	1.275	0.028	0.025	780.453	0.045
South Carolina	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.244	0.003	3.135	0.186	0.005	0.005	368.764	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.733	0.005	6.652	0.469	0.008	0.007	563.914	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.116	0.014	2.730	0.830	0.334	0.307	1592.532	0.030
	NA	MC Motorcycles	0.737	0.008	14.628	2.784	0.028	0.025	395.156	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.594	0.007	5.368	0.593	0.018	0.016	353.928	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.027	0.009	7.969	0.747	0.020	0.018	468.588	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.677	0.015	22.873	1.152	0.046	0.041	754.731	0.044
South Dakota	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.251	0.003	2.900	0.226	0.005	0.005	353.123	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.750	0.005	6.109	0.498	0.008	0.007	541.274	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	9.093	0.014	2.851	0.926	0.328	0.301	1570.823	0.031
	NA	MC Motorcycles	0.844	0.008	15.009	2.353	0.030	0.027	399.357	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.545	0.007	4.708	0.508	0.011	0.010	365.804	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.955	0.010	7.437	0.690	0.013	0.011	483.943	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.638	0.016	24.210	1.266	0.031	0.027	779.704	0.045
Tennessee	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.244	0.003	3.065	0.193	0.005	0.005	368.364	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.734	0.005	6.531	0.480	0.008	0.007	563.500	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.976	0.014	2.636	0.784	0.333	0.306	1573.553	0.029
	NA	MC Motorcycles	0.758	0.008	14.612	2.673	0.028	0.025	396.262	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.503	0.007	4.393	0.476	0.009	0.008	367.998	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.888	0.010	7.137	0.649	0.011	0.009	487.863	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.555	0.016	23.429	1.284	0.026	0.023	790.460	0.045
Texas	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.245	0.003	3.300	0.177	0.005	0.005	372.475	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.740	0.005	7.021	0.466	0.008	0.007	570.252	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.313	0.014	2.481	0.695	0.326	0.300	1577.635	0.028
	NA	MC Motorcycles	0.714	0.008	13.915	2.830	0.027	0.024	395.202	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.549	0.007	4.731	0.513	0.014	0.013	370.497	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.969	0.010	7.291	0.673	0.017	0.015	490.631	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.892	0.016	25.253	1.294	0.040	0.036	787.676	0.046
Utah	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.250	0.003	2.974	0.208	0.005	0.005	371.284	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.762	0.005	6.410	0.507	0.008	0.007	568.469	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.084	0.014	2.509	0.718	0.337	0.310	1554.556	0.028
	NA	MC Motorcycles	0.858	0.008	14.781	2.728	0.029	0.026	398.657	0.050
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.538	0.007	4.640	0.559	0.018	0.016	352.475	0.030
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.927	0.009	6.844	0.689	0.020	0.018	465.890	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.687	0.015	22.108	1.150	0.045	0.040	745.343	0.044
Vermont	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.248	0.003	2.800	0.228	0.005	0.005	351.297	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.738	0.005	5.882	0.496	0.008	0.007	538.357	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.651	0.014	2.701	0.852	0.323	0.297	1538.675	0.030
	NA	MC Motorcycles	0.851	0.008	15.131	2.215	0.031	0.027	398.348	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.514	0.007	5.036	0.545	0.006	0.006	367.798	0.030
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.874	0.010	8.110	0.706	0.007	0.006	485.282	0.031
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.244	0.015	23.949	1.308	0.013	0.012	774.598	0.045
Virgin Islands	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.238	0.003	3.470	0.160	0.005	0.005	374.771	0.007
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.692	0.005	7.213	0.419	0.007	0.006	573.285	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.314	0.014	2.032	0.458	0.301	0.277	1532.724	0.025
	NA	MC Motorcycles	0.639	0.008	14.201	2.731	0.024	0.021	387.577	0.051

Table 5-26. On-Road Vehicle Emission Factors – 2015 (cont.)

					I	Emission Fa	actors (g/m	i)		
State	Fuel Type	Vehicle Type			Criteria F	ollutants a	nd Ozone I	Precursors		
		**	NOx	SO <sub>2</sub>	со	voc	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.539	0.007	4.523	0.495	0.012	0.011	364.895	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.949	0.010	7.169	0.668	0.014	0.012	483.094	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.649	0.016	23.144	1.237	0.033	0.029	777.945	0.045
Virginia	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.244	0.003	3.020	0.196	0.005	0.005	367.047	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.736	0.005	6.453	0.485	0.008	0.007	561.800	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.921	0.014	2.589	0.762	0.332	0.305	1562.187	0.029
	NA	MC Motorcycles	0.765	0.008	14.289	2.519	0.029	0.025	397.007	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.525	0.007	4.570	0.484	0.013	0.011	361.465	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.924	0.010	7.138	0.649	0.015	0.013	479.356	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.773	0.015	24.396	1.221	0.037	0.033	771.375	0.045
Washington	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.245	0.003	2.865	0.207	0.005	0.005	362.417	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.743	0.005	6.169	0.500	0.008	0.008	555.424	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.220	0.014	2.584	0.768	0.332	0.306	1544.324	0.029
	NA	MC Motorcycles	0.840	0.008	14.702	2.398	0.029	0.026	399.119	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.576	0.007	5.015	0.538	0.013	0.011	354.827	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.002	0.009	7.693	0.710	0.014	0.013	469.996	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.639	0.015	23.479	1.173	0.034	0.030	756.463	0.044
West Virginia	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.246	0.003	2.926	0.206	0.005	0.005	356.051	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.735	0.005	6.182	0.482	0.008	0.007	545.664	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.275	0.014	2.653	0.815	0.324	0.298	1549.138	0.030
	NA	MC Motorcycles	0.804	0.008	14.766	2.428	0.028	0.025	397.257	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.562	0.007	5.061	0.561	0.017	0.015	360.095	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.976	0.009	7.577	0.723	0.019	0.017	475.562	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.672	0.015	23.271	1.194	0.044	0.039	759.480	0.045
Wisconsin	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.245	0.003	2.851	0.222	0.005	0.005	359.387	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.736	0.005	6.046	0.502	0.008	0.007	549.823	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.095	0.014	2.553	0.765	0.325	0.299	1531.212	0.029
	NA	MC Motorcycles	0.818	0.008	14.705	2.283	0.029	0.026	398.511	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.616	0.007	5.446	0.596	0.017	0.015	355.649	0.031
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	1.068	0.009	8.024	0.745	0.019	0.017	470.655	0.032
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.803	0.015	23.428	1.135	0.047	0.041	758.867	0.044
Wyoming	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.255	0.003	2.882	0.229	0.005	0.005	354.571	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.765	0.005	6.091	0.504	0.008	0.007	543.074	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	9.699	0.014	2.976	0.989	0.333	0.307	1587.800	0.032
	NA	MC Motorcycles	0.899	0.008	14.997	2.413	0.029	0.026	400.025	0.052

Table 5-27. On-Road Vehicle Emission Factors – 2016

State Fuel Type Vehicle Type Criteria Pollut								actors (g/m	/		
State	Fuel Type		Vehicle Type			Criteria P	ollutants a	nd Ozone I	Precursors		
				NOx	SO <sub>2</sub>	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.479	0.007	4.375	0.471	0.009	0.008	360.496	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.840	0.009	6.827	0.634	0.011	0.009	470.689	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.310	0.016	21.427	1.180	0.024	0.021	779.252	0.045
Alabama	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.194	0.003	2.777	0.144	0.005	0.004	360.206	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.627	0.005	5.908	0.400	0.007	0.007	539.127	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.792	0.014	2.322	0.658	0.292	0.268	1554.019	0.028
	NA	MC	Motorcycles	0.723	0.008	14.258	2.774	0.028	0.024	393.712	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.507	0.007	5.052	0.558	0.021	0.019	357.088	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.876	0.009	6.927	0.669	0.024	0.021	465.943	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.538	0.015	21.993	1.092	0.055	0.049	764.794	0.045
Alaska	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.198	0.003	2.462	0.207	0.005	0.004	349.677	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.648	0.005	5.270	0.470	0.008	0.007	523.827	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.240	0.014	2.564	0.815	0.296	0.272	1541.446	0.030
	NA	MC	Motorcycles	0.885	0.008	15.095	2.048	0.032	0.028	402.009	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.435	0.005	4.212	0.440	0.008	0.007	368.241	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.756	0.006	6.511	0.572	0.009	0.008	482.520	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.153	0.010	22.893	1.194	0.023	0.021	807.886	0.045
Arizona	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.209	0.003	3.005	0.135	0.005	0.004	369.148	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.688	0.005	6.443	0.403	0.008	0.007	553.208	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.762	0.014	2.485	0.726	0.301	0.277	1610.804	0.029
	NA	MC	Motorcycles	0.818	0.005	13.567	3.220	0.025	0.022	394.815	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.492	0.007	4.566	0.470	0.010	0.009	352.878	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.864	0.009	7.019	0.620	0.011	0.010	462.648	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.337	0.015	21.616	1.105	0.027	0.024	771.346	0.044
Arkansas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.198	0.003	2.800	0.151	0.005	0.004	352.110	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.641	0.005	5.934	0.405	0.008	0.007	528.496	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.347	0.014	2.458	0.740	0.288	0.265	1563.326	0.030
	NA	MC	Motorcycles	0.759	0.008	14.205	2.619	0.027	0.024	395.907	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.480	0.007	4.345	0.459	0.013	0.012	358.039	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.843	0.009	6.318	0.576	0.015	0.014	469.194	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.551	0.015	22.721	1.129	0.038	0.033	776.753	0.045
Colorado	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	2.620	0.169	0.005	0.004	354.712	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.657	0.005	5.636	0.436	0.008	0.007	532.316	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.464	0.014	2.335	0.681	0.293	0.269	1535.244	0.028
	NA	MC	Motorcycles	0.852	0.008	14.438	2.659	0.029	0.026	399.029	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.410	0.007	3.864	0.399	0.013	0.011	358.007	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.741	0.009	5.821	0.506	0.015	0.013	471.069	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.467	0.016	22.336	1.121	0.038	0.034	782.801	0.045
Connecticut	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.195	0.003	2.666	0.163	0.005	0.004	355.273	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.648	0.005	5.783	0.438	0.008	0.007	534.506	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.399	0.013	2.034	0.529	0.285	0.262	1503.373	0.026
	NA	MC	Motorcycles	0.791	0.008	13.786	2.340	0.029	0.026	400.298	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446	0.007	3.796	0.409	0.011	0.009	362.192	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.782	0.009	5.683	0.528	0.012	0.011	472.052	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.399	0.015	21.940	1.132	0.026	0.023	773.058	0.046
Delaware	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.191	0.003	2.593	0.157	0.005	0.004	360.184	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.622	0.005	5.550	0.416	0.007	0.007	538.948	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.834	0.013	1.921	0.460	0.287	0.264	1483.344	0.025
	NA	MC	Motorcycles	0.761	0.008	13.566	2.355	0.026	0.023	394.279	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.406	0.008	3.752	0.389	0.011	0.009	377.488	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.714	0.010	5.594	0.498	0.012	0.011	493.720	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.476	0.016	23.473	1.254	0.028	0.025	814.934	0.047
District of Columbia	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.189	0.003	2.677	0.152	0.005	0.004	375.665	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.626	0.005	5.841	0.431	0.008	0.007	563.542	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.095	0.014	2.090	0.509	0.315	0.290	1551.198	0.026
	NA	MC	Motorcycles	0.726	0.008	13.579	2.584	0.027	0.024	395.109	0.049

Table 5-27. On-Road Vehicle Emission Factors – 2016 (cont.)

State   Feet   Peet							F	Emission Fa	actors (g/m	i)		
Gasoline   DGV   Light-Day Vehicles (Ravesager Cars)   0.456   0.008   0.4384   0.456   0.008   0.007   787919   0.029     Gasoline   DGV   Edyt-Day Vehicles (Ras Ol. 9 b)   0.000   0.991   0.641   0.009   0.008   0.047   0.029     Gasoline   DGV   Edyt-Day Vehicles (Ras Ol. 9 b)   0.000   0.001   0.991   0.041   0.009   0.008   0.047   0.008   0.008     Diesel   DDT   Light-Day Vehicles (Ras Ol. 9 b)   0.003   0.032   0.025   0.008   0.007   0.008   0.007   0.008     Diesel   DDT   Light-Day Vehicles (Ras Ol. 9 b)   0.009   0.005   0.516   0.395   0.008   0.007   0.008   0.007   0.008   0.007   0.008     Ras Ola   DGV   Edyt-Day Vehicles (Ras Ol. 9 b)   0.009   0.005   0.516   0.395   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.008   0.007   0.008   0.008   0.007   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.009   0.008   0.009   0.009   0.009   0.008   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009	State	Fuel Type		Vehicle Type			Criteria P	ollutants a	nd Ozone I	Precursors		
Gasoliae   DGT   Light-Duty Tracks (0-8-500 lbs)   0.890   0.010   0.991   0.541   0.009   0.008   0.947-80   0.036					NOx	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
Piorida   Diesel   LIDIV   Light-Dury Vehicles (\$9.50 - lbs)   2.250   0.016   23.077   1.377   0.021   0.018   833.609   0.045   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.058   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.059   0.		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.456	0.008	4.384	0.456	0.008	0.007	378.919	0.029
Piorida   Diesel   LIDDV   Light-Dury (Pincks (O.S.500 Hs)   0.018   0.003   3.012   0.125   0.005   0.004   380.295   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)		0.010	6.991	0.641	0.009	0.008	494.780	0.030
Diesel   LIDPT   Light-Dury Trucks (0.5500 lish)   0.619   0.015   0.018   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.007   0.008   0.008   0.007   0.008   0.008   0.007   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.250	0.016	23.037		0.021		823.609	0.046
Diesel   HDDV   Hary-Dury Vehickes (6:901 n lbs)   6.291   0.014   2.338   0.625   0.308   0.248   1613.915   0.028	Florida	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.189	0.003	3.032	0.125	0.005	0.004	380.295	0.008
NA		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.619	0.005	6.516	0.395	0.008	0.007	568.853	0.008
Gasoline   LOGV   Light-Duty Vehicles (Passenger Cars)   0.448   0.007   4.085   0.337   0.010   0.008   355.548   0.028		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.291		2.338	0.626				0.028
Gaodine   DGT   Light-Duty Tracks (08.500 lbs)   0.792   0.009   6.367   0.881   0.011   0.010   465.549   0.030												
Georgia   Georgia   Diesel   LIDPV   Light-Duty Vehicles (R.501 - lbs)   2.322   0.015   2.1146   1.143   0.027   0.023   775,632   0.045												
Coorgia   Dissel   LIDDY   Light-Duty Vehicles (Passenger Cars)   0.196   0.003   2.793   0.146   0.005   0.004   355.02   0.008   Dissel   LIDDY   Light-Duty Tracks (0.85.001 hs)   0.637   0.005   5.941   0.403   0.008   0.007   532.036   0.008   0.007   532.036   0.008   0.007   532.036   0.008   0.007   532.036   0.008   0.007   532.036   0.008   0.007   532.036   0.008   0.007   532.036   0.008   0.007   0.006   368.300   0.029   0.005   0.008   0.007   0.006   0.008   0.007   0.006   0.008   0.007   0.006   0.008   0.007   0.006   0.008   0.007   0.006   0.008   0.007   0.006   0.008   0.009   0.008   0.007   0.006   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.009   0.008   0.008   0.009   0.008   0.008   0.009   0.008   0.008   0.009   0.008   0.008   0.009   0.008   0.008   0.009   0.008   0.008   0.008   0.009   0.008   0.008   0.008   0.009   0.008   0.008   0.008   0.009   0.008   0.008   0.008   0.009   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008												
Diesel LIDDT   Light-Duy Tracks (0-8.500 lbs)   0.637   0.005   5.941   0.403   0.008   0.007   532_65   0.008     Diesel LIDDY   Molrocycles   0.741   0.008   1.4221   2.672   0.029   0.025   395_455   0.052     Radioline LIDCV   Light-Duy Vehicles (8.501 et lbs)   0.741   0.008   1.4221   2.672   0.029   0.025   395_455   0.052     Gasoline LIDCV   Light-Duy Tracks (0-8.500 lbs)   0.004   0.010   7.051   0.613   0.008   0.007   481_313   0.008     Gasoline LIDCV   Light-Duy Vehicles (8.501 et lbs)   0.008   0.007   4.421   0.005   0.004   0.000   0.001     Diesel LIDDY   Light-Duy Vehicles (9.501 et lbs)   0.008   0.007   0.001   0.005   0.004   0.005   0.004   0.005     Diesel LIDDY   Light-Duy Vehicles (9.501 et lbs)   0.614   0.005   0.021   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.004   0.005   0.005   0.004   0.005   0.005   0.004   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005												
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7,084   0.014   2,384   0.967   0.299   0.266   155,891   0.029	Georgia											
NA   MC   Motorcycles   Moto												
Gasoline   LDGV   Light-Dury Verbick (Passenger Cars)   0.453   0.007   0.451   0.007   0.007   0.006   368:360   0.029					-							
Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaii   Hawaiii   Hawaii				•								
Hawaii   Disest   LIDDY   Light-Duty Publices (8,501 + libs)   Light Duty   Light-Duty Publices (1,501 + libs)   Light Duty   Light-Duty Publices (1,501 + libs)   Light Duty   Light-Duty   Light-Dut												
Hawaii												
Diesel   IDDT   Jight-Dury Trucks (0.8500 lbs)   0.614   0.0005   6.221   0.381   0.007   0.007   553.980   0.008     Diesel   IDDV   Heavy-Dury Vehicles (8.501 + lbs)   5.557   0.014   2.014   0.474   0.292   0.268   1541.761   0.026     NA   MC   Motorcycles   0.688   0.008   13.960   2.910   0.026   0.023   391.784   0.050     Gasoline   IDGT   Light-Dury Trucks (0.8500 lbs)   0.884   0.009   6.686   0.615   0.015   0.013   462.591   0.0026     Gasoline   HDGV   Heavy-Dury Vehicles (8.501 + lbs)   2.528   0.015   2.0225   1.083   0.034   0.030   762.456   0.045     Diesel   IDDT   Light-Dury Trucks (0.8500 lbs)   0.652   0.005   5.400   0.431   0.007   0.007   525.186   0.008     Diesel   HDDV   Heavy-Dury Vehicles (8.501 + lbs)   7.874   0.014   2.488   0.750   0.029   0.269   1538.033   0.029     NA   MC   Motorcycles   0.871   0.008   1.446   0.245   0.008   0.004   385.725   0.008     Gasoline   LDGT   Light-Dury Vehicles (Passenger Cars)   0.810   0.004   2.485   0.050   0.004   387.430   0.025     Gasoline   LDGT   Light-Dury Vehicles (Passenger Cars)   0.810   0.008   1.446   0.745   0.002   0.002   0.003   307.430   0.005     Gasoline   LDGT   Light-Dury Trucks (0.8500 lbs)   0.810   0.004   0.434   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.008   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004												
Diesel   HDDV   Heavy-Duty Vehicles (8.501 + lbs)   5.557   0.014   2.014   0.474   0.392   0.268   1541,761   0.026	Hawaii											
NA   MC   Motorcycles   0.688   0.008   13.960   2.910   0.026   0.023   39.784   0.050												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.507   0.070   4.583   0.488   0.013   0.012   354.269   0.028												
Gasoline   LDCT   Light-Duty Trucks (0-8.500 lbs)   0.884   0.009   6.686   0.615   0.015   0.013   402.591   0.030     Gasoline   HDCV   Heavy-Duty Vehicles (8.501 - lbs)   2.528   0.015   22.025   1.083   0.034   0.030   762.456   0.045     Diesel   LDDV   Light-Duty Trucks (0-8.500 lbs)   0.652   0.005   2.556   0.175   0.005   0.004   350.525   0.008     Diesel   LDDV   Light-Duty Trucks (0-8.500 lbs)   0.652   0.005   5.440   0.431   0.007   0.007   525.186   0.008     Diesel   LDDV   Heavy-Duty Vehicles (8.501 - lbs)   7.874   0.014   2.458   0.750   0.292   0.269   1538.033   0.029     NA				·								
Gasoline   HDGV   Heavy-Duty Vehicles (8:501 + lbs)   2.528   0.015   22.025   1.083   0.034   0.030   762.456   0.045     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.201   0.003   2.556   0.175   0.005   0.004   350.525   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8:501 hbs)   0.652   0.055   5.440   0.431   0.007   0.007   525.186   0.088     NA												
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.201   0.003   2.556   0.175   0.005   0.004   350.525   0.008     Diesel   LDDT   Light-Duty Trucks (0-5.500 lbs)   0.652   0.005   5.460   0.431   0.007   0.007   525.186   0.008     Diesel   LDDV   Light-Duty Vehicles (B.501 + lbs)   7.874   0.014   2.458   0.750   0.292   0.269   1358.033   0.029     NA												
Diesel   IDDT   Light-Duty Trucks (0-8.500 lbs)   0.652   0.005   5.440   0.431   0.007   0.007   525.186   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8.501 + lbs)   7.874   0.014   2.458   0.750   0.292   0.269   1538.033   0.029     NA   MC   Motorcycles   0.871   0.008   14.462   2.454   0.028   0.025   0.397.430   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.454   0.007   4.379   0.450   0.012   0.011   370.774   0.029     Gasoline   LDGT   Light-Duty Trucks (0-8.500 lbs)   0.810   0.010   6.688   0.621   0.014   0.013   485.778   0.030     Gasoline   HDGV   Light-Duty Vehicles (8.501 + lbs)   2.449   0.016   2.3419   1.215   0.034   0.030   0.032   0.044   0.046     Diesel   LDDV   Light-Duty Vehicles (8.501 + lbs)   0.033   0.005   0.048   0.005   0.004   367.823   0.008     Diesel   LDDT   Light-Duty Vehicles (8.501 + lbs)   0.633   0.005   5.768   0.442   0.008   0.007   552.207   0.008     Diesel   HDDV   Heavy-Duty Vehicles (Passenger Cars)   0.749   0.008   13.822   2.531   0.027   0.024   397.816   0.050     NA   MC   Motorcycles   0.749   0.008   13.822   2.531   0.027   0.024   397.816   0.050     Gasoline   LDGT   Light-Duty Vehicles (Rassenger Cars)   0.484   0.007   4.732   0.474   0.012   0.010   362.442   0.029     Gasoline   LDGT   Light-Duty Vehicles (8.501 + lbs)   0.484   0.007   4.732   0.474   0.012   0.010   362.442   0.029     Gasoline   LDGT   Light-Duty Vehicles (8.501 + lbs)   0.631   0.005   0.005   0.005   0.004   378.049   0.008     Diesel   LDDV   Light-Duty Vehicles (8.501 + lbs)   0.031   0.003   2.602   0.165   0.005   0.004   378.049   0.008     Diesel   LDDV   Light-Duty Vehicles (8.501 + lbs)   0.193   0.003   2.602   0.165   0.005   0.004   378.049   0.008     Diesel   LDDV   Light-Duty Vehicles (8.501 + lbs)   0.193   0.003   2.602   0.165   0.005   0.004   359.499   0.008     Diesel   LDDV   Light-Duty Vehicles (8.501 + lbs)   0.778   0.008   1.4562   0.309   0.007   0.007   353.014   0.008     Diesel   LDDV   Light-Duty Vehicles (8.501 +	***				1					-		
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7.874   0.014   2.458   0.750   0.292   0.269   1538.033   0.029	Idaho				-							
NA					1				-	-		
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.454   0.007   4.379   0.450   0.012   0.011   370.774   0.029												
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.810   0.010   6.688   0.621   0.014   0.013   485.778   0.030												
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   2.449   0.016   23.419   1.215   0.034   0.030   802.244   0.046     Diesel   LDDV   Light-Duty Vehicles (Rassenger Cars)   0.191   0.003   2.648   0.163   0.005   0.004   367.823   0.008     Diesel   LDDT   Light-Duty Vehicles (Rassenger Cars)   0.191   0.003   2.648   0.163   0.005   0.004   367.823   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.6321   0.014   2.094   0.535   0.303   0.279   1532.088   0.026     NA   MC   Motorcycles   0.749   0.008   13.822   2.531   0.027   0.024   397.816   0.050     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.484   0.007   4.732   0.474   0.012   0.010   362.442   0.029     Gasoline   LDGV   Light-Duty Vehicles (Rassenger Cars)   0.484   0.007   4.732   0.474   0.012   0.010   362.442   0.029     Gasoline   LDGV   Light-Duty Vehicles (Rassenger Cars)   0.484   0.009   6.969   0.625   0.013   0.012   472.807   0.030     Gasoline   LDGV   Heavy-Duty Vehicles (Rassenger Cars)   0.193   0.003   2.602   0.165   0.005   0.004   359.499   0.008     Diesel   LDDV   Light-Duty Vehicles (Rassenger Cars)   0.193   0.003   2.602   0.165   0.005   0.004   359.499   0.008     Diesel   LDDV   Light-Duty Vehicles (Rassenger Cars)   0.193   0.003   2.602   0.165   0.005   0.004   359.499   0.008     Diesel   LDDV   Light-Duty Vehicles (Rassenger Cars)   0.508   0.007   4.806   0.517   0.014   0.013   353.415   0.029     NA   MC   Motorcycles   0.778   0.008   14.361   2.474   0.027   0.024   396.445   0.051     Gasoline   LDGV   Light-Duty Vehicles (Rassenger Cars)   0.508   0.007   4.806   0.517   0.014   0.013   353.415   0.028     Diesel   LDDV   Light-Duty Vehicles (Rassenger Cars)   0.508   0.007   4.806   0.517   0.014   0.013   353.415   0.028     Diesel   LDDV   Light-Duty Vehicles (Rassenger Cars)   0.197   0.003   2.584   0.106   0.014   40.194   0.030     Gasoline   LDGV   Light-Duty Vehicles (Rassenger Cars)   0.197   0.003   2.584   0.166   0.029   0.026   397.531   0.082     Diesel   LD												
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   D.191   D.003   2.648   D.163   D.005   D.004   367.823   D.008												
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.633   0.005   5.768   0.442   0.008   0.007   552.207   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.321   0.014   2.094   0.535   0.303   0.279   1532.088   0.026     NA   MC   Motorcycles   0.749   0.008   13.822   2.531   0.027   0.024   397.816   0.050     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.484   0.007   4.732   0.474   0.012   0.010   362.442   0.029     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.846   0.009   6.969   0.625   0.013   0.012   472.807   0.030     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   2.422   0.016   23.151   1.146   0.031   0.027   778.637   0.045     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.631   0.005   5.582   0.429   0.007   0.004   359.499   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.631   0.005   5.582   0.429   0.007   0.007   538.014   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7.212   0.014   2.373   0.691   0.298   0.274   1544.513   0.029     NA   MC   Motorcycles   0.778   0.008   14.361   2.474   0.027   0.024   396.445   0.051     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.880   0.009   6.978   0.649   0.016   0.014   461.496   0.030     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.880   0.009   6.978   0.649   0.016   0.014   461.496   0.030     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   2.413   0.015   21.518   1.079   0.037   0.032   761.128   0.044     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.880   0.009   6.978   0.649   0.016   0.014   461.496   0.030     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.877   0.003   2.584   0.176   0.055   0.004   349.515   0.008     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.812   0.008   14.562   2.330   0.028   0.025   397.531   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.500   0.007   4.636   0.046   0.012   0.010   354.729   0.028     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0	m::											
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.321   0.014   2.094   0.535   0.303   0.279   1532.088   0.026     NA   MC   Motorcycles   0.749   0.008   13.822   2.531   0.027   0.024   397.816   0.050     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.484   0.007   4.732   0.474   0.012   0.010   362.442   0.029     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.846   0.009   6.969   0.625   0.013   0.012   472.807   0.030     Gasoline   HDGW   Heavy-Duty Vehicles (R.501 + lbs)   2.422   0.016   23.151   1.146   0.031   0.027   778.637   0.045     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.631   0.005   5.582   0.429   0.007   0.007   538.014   0.008     Diesel   HDDW   Heavy-Duty Vehicles (R.501 + lbs)   7.212   0.014   2.373   0.691   0.298   0.274   1544.513   0.029     NA   MC   Motorcycles   0.778   0.008   14.361   2.474   0.027   0.024   396.445   0.051     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.508   0.007   4.806   0.517   0.014   0.013   353.415   0.028     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.508   0.009   6.978   0.649   0.016   0.014   461.496   0.030     Gasoline   HDGV   Heavy-Duty Vehicles (Passenger Cars)   0.197   0.003   2.584   0.176   0.005   0.004   349.515   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.637   0.005   5.482   0.429   0.007   0.007   523.783   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.637   0.005   5.482   0.429   0.007   0.007   523.783   0.008     Diesel   HDDV   Heavy-Duty Vehicles (Rasenger Cars)   0.197   0.003   2.584   0.176   0.005   0.004   349.515   0.008     Diesel   HDDV   Heavy-Duty Vehicles (Rasenger Cars)   0.197   0.003   2.584   0.176   0.005   0.004   349.515   0.008     Diesel   HDDV   Heavy-Duty Vehicles (Rasenger Cars)   0.197   0.003   2.584   0.176   0.005   0.004   349.515   0.008     Diesel   HDDV   Heavy-Duty Vehicles (Rasenger Cars)   0.107   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007   0.007	IIIInois				-							
NA   MC   Motorcycles   0.749   0.008   13.822   2.531   0.027   0.024   397.816   0.050												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.484   0.007   4.732   0.474   0.012   0.010   362.442   0.029												
Holiana   Holy   Heavy-Duty Vehicles (8,501 + lbs)   Holy				·								
Indiana   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   2.422   0.016   23.151   1.146   0.031   0.027   778.637   0.045												
Indiana   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.193   0.003   2.602   0.165   0.005   0.004   359,499   0.008												
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.631   0.005   5.582   0.429   0.007   0.007   538.014   0.008	Indiana				-							
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7.212   0.014   2.373   0.691   0.298   0.274   1544.513   0.029     NA   MC   Motorcycles   0.778   0.008   14.361   2.474   0.027   0.024   396.445   0.051     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.508   0.007   4.806   0.517   0.014   0.013   353.415   0.028     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.880   0.009   6.978   0.649   0.016   0.014   461.496   0.030     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   2.413   0.015   21.518   1.079   0.037   0.032   761.128   0.044     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   2.584   0.176   0.005   0.004   349.515   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.637   0.005   5.482   0.429   0.007   0.007   523.783   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7.685   0.014   2.487   0.766   0.291   0.268   1542.817   0.030     NA   MC   Motorcycles   0.812   0.008   14.562   2.330   0.028   0.025   397.531   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.500   0.007   4.636   0.486   0.012   0.010   354.729   0.028     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.876   0.009   6.983   0.634   0.013   0.012   464.255   0.030     Gasoline   LDGT   Light-Duty Vehicles (Rassenger Cars)   0.197   0.003   2.697   0.161   0.005   0.004   352.575   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   2.697   0.161   0.005   0.004   352.575   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   2.697   0.161   0.005   0.004   352.575   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   2.697   0.161   0.005   0.004   352.575   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   2.697   0.161   0.005   0.004   352.575   0.008     Diesel   LDDV   Light-Duty Vehicles (Rassenger Cars)   0.197   0.003   2.697   0.161   0.005   0.004   352.575   0.008     Diesel   LDDV   Light-	ilidialia											
NA MC   Motorcycles   0.778   0.008   14.361   2.474   0.027   0.024   396.445   0.051												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.508   0.007   4.806   0.517   0.014   0.013   353.415   0.028					-							
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.880   0.009   6.978   0.649   0.016   0.014   461.496   0.030												
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   2.413   0.015   21.518   1.079   0.037   0.032   761.128   0.044												
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   2.584   0.176   0.005   0.004   349.515   0.008												
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.637   0.005   5.482   0.429   0.007   0.007   523.783   0.008	Iowa											
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7.685   0.014   2.487   0.766   0.291   0.268   1542.817   0.030     NA   MC   Motorcycles   0.812   0.008   14.562   2.330   0.028   0.025   397.531   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.500   0.007   4.636   0.486   0.012   0.010   354.729   0.028     Gasoline   LDGT   Light-Duty Trucks (0.8,500 lbs)   0.876   0.009   6.983   0.634   0.013   0.012   464.255   0.030     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   2.405   0.015   21.823   1.109   0.031   0.028   768.772   0.045     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   2.697   0.161   0.005   0.004   352.575   0.008     Diesel   LDDV   Light-Duty Trucks (0.8,500 lbs)   0.641   0.005   5.735   0.418   0.008   0.007   528.794   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7.104   0.014   2.315   0.673   0.287   0.264   1534.754   0.028     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7.104   0.014   2.315   0.673   0.287   0.264   1534.754   0.028     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7.104   0.014   2.315   0.673   0.287   0.264   1534.754   0.028     Diesel   LDDT   Light-Duty Vehicles (8,501 + lbs)   7.104   0.014   2.315   0.673   0.287   0.264   1534.754   0.028     Diesel   LDDT   Light-Duty Vehicles (8,501 + lbs)   7.104   0.014   2.315   0.673   0.287   0.264   1534.754   0.028     Diesel   LDDT   Light-Duty Vehicles (8,501 + lbs)   7.104   0.014   2.315   0.673   0.287   0.264   1534.754   0.028     Diesel   LDDT   Light-Duty Vehicles (8,501 + lbs)   7.104   0.014   2.315   0.673   0.287   0.264   1534.754   0.028     Diesel   LDDT   Light-Duty Vehicles (8,501 + lbs)   7.104   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.014   0.	1											
NA   MC   Motorcycles   0.812   0.008   14.562   2.330   0.028   0.025   397.531   0.052												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.500   0.007   4.636   0.486   0.012   0.010   354.729   0.028												
Gasoline         LDGT         Light-Duty Trucks (0-8,500 lbs)         0.876         0.009         6.983         0.634         0.013         0.012         464.255         0.030           Gasoline         HDGV         Heavy-Duty Vehicles (8,501 + lbs)         2.405         0.015         21.823         1.109         0.031         0.028         768.772         0.045           Kansas         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.197         0.003         2.697         0.161         0.005         0.004         352.575         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.641         0.005         5.735         0.418         0.008         0.007         528.794         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         7.104         0.014         2.315         0.673         0.287         0.264         1534.754         0.028				· · ·								
Gasoline         HDGV         Heavy-Duty Vehicles (8,501 + lbs)         2.405         0.015         21.823         1.109         0.031         0.028         768.772         0.045           Kansas         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.197         0.003         2.697         0.161         0.005         0.004         352.575         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.641         0.005         5.735         0.418         0.008         0.007         528.794         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         7.104         0.014         2.315         0.673         0.287         0.264         1534.754         0.028												
Kansas         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.197         0.003         2.697         0.161         0.005         0.004         352.575         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.641         0.005         5.735         0.418         0.008         0.007         528.794         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         7.104         0.014         2.315         0.673         0.287         0.264         1534.754         0.028			HDGV			0.015	21.823	1.109	0.031	0.028		0.045
Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.641         0.005         5.735         0.418         0.008         0.007         528.794         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         7.104         0.014         2.315         0.673         0.287         0.264         1534.754         0.028	Kansas											
		Diesel	LDDT		0.641	0.005			0.008	0.007		0.008
		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.104	0.014	2.315	0.673	0.287	0.264	1534.754	0.028
		NA	MC		0.789	0.008	14.326	2.517	0.028	0.025	396.646	0.052

Table 5-27. On-Road Vehicle Emission Factors – 2016 (cont.)

						F	Emission Fa	actors (g/m	i)		
Kentucky  Louisiana  Maine  Maryland  Massachusetts  Michigan	Fuel Type		Vehicle Type			Criteria P	ollutants a	nd Ozone I	Precursors		
				NOx	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.479	0.007	4.528	0.453	0.010	0.009	351.437	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.838	0.009	6.787	0.595	0.012	0.011	460.935	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.352	0.015	21.866	1.067	0.030	0.027	768.971	0.044
Kentucky	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.198	0.003	2.718	0.160	0.005	0.004	349.586	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.645	0.005	5.775	0.416	0.008	0.007	524.855	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.905	0.014	2.600	0.816	0.293	0.269	1571.740	0.031
	NA	MC	Motorcycles	0.778	0.008	14.023	2.436	0.027	0.024	397.609	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.467	0.007	4.446	0.463	0.008	0.007	362.102	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.825	0.009	7.018	0.632	0.010	0.009	473.939	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.259	0.016	21.675	1.200	0.024	0.021	790.633	0.045
Louisiana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.194	0.003	2.942	0.137	0.005	0.004	362.700	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.632	0.005	6.260	0.397	0.008	0.007	543.365	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.846	0.014	2.402	0.694	0.293	0.269	1583.258	0.029
	NA	MC	Motorcycles	0.693	0.008	14.204	2.868	0.028	0.025	394.263	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.502	0.007	4.502	0.518	0.016	0.014	345.157	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.866	0.009	6.464	0.636	0.018	0.016	451.425	0.029
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.413	0.015	20.133	1.038	0.039	0.035	743.451	0.044
Maine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.199	0.003	2.480	0.186	0.005	0.004	340.377	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.639	0.005	5.230	0.431	0.007	0.007	511.311	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.842	0.013	2.470	0.769	0.285	0.262	1519.571	0.030
	NA	MC	Motorcycles	0.848	0.008	14.639 3.905	2.128	0.030	0.027	398.123	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.446 0.795	0.007	5.966	0.412 0.546	0.011	0.010	357.339	0.029
	Gasoline Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	2.410	0.009	21.517	1.120	0.013	0.012	469.257 780.165	0.030
Manufaud	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.196	0.016	2.724	0.156	0.005	0.029	355.531	0.043
Maryland	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.196	0.003	5.859	0.136	0.003	0.004	534.125	0.008
	Diesel	HDDV		6.694	0.003	2.167	0.424	0.008	0.007	1524.042	0.008
	NA	MC	Heavy-Duty Vehicles (8,501 + lbs) Motorcycles	0.771	0.013	13.750	2.416	0.287	0.264	398.293	0.027
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.771	0.008	4.048	0.433	0.029	0.020	356.230	0.032
	Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.796	0.007	6.153	0.433	0.015	0.012	467.581	0.029
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.459	0.005	21.877	1.091	0.018	0.034	774.534	0.036
Massachusatts	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.196	0.003	2.614	0.168	0.005	0.004	352.991	0.008
Massachuseus	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.645	0.005	5.636	0.437	0.008	0.007	530.332	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.868	0.013	2.182	0.607	0.287	0.264	1512.677	0.027
	NA	MC	Motorcycles	0.805	0.008	13.810	2.270	0.029	0.026	399.654	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.502	0.007	4.997	0.492	0.023	0.020	359.802	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.883	0.007	7.325	0.653	0.015	0.012	470.513	0.020
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.460	0.005	23.278	1.130	0.013	0.032	776.503	0.036
Michigan	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.195	0.003	2.591	0.173	0.005	0.004	356.007	0.008
gan	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.640	0.005	5.569	0.439	0.008	0.007	533.639	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.350	0.014	2.369	0.698	0.295	0.272	1538.271	0.029
	NA	MC	Motorcycles	0.806	0.008	14.566	2.348	0.029	0.025	398.640	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.502	0.007	4.878	0.520	0.017	0.015	355.887	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.865	0.009	7.031	0.658	0.019	0.017	464.900	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.433	0.015	21.997	1.131	0.044	0.039	763.088	0.045
Minnesota	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.196	0.003	2.544	0.183	0.005	0.004	350.987	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.638	0.005	5.430	0.442	0.008	0.007	526.149	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.898	0.013	2.184	0.618	0.284	0.262	1499.935	0.028
	NA	MC	Motorcycles	0.818	0.008	14.757	2.323	0.030	0.027	398.864	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.479	0.007	4.370	0.473	0.009	0.008	354.987	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.836	0.009	6.790	0.626	0.010	0.009	464.010	0.029
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.270	0.015	21.038	1.148	0.022	0.020	768.306	0.045
Mississippi	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.195	0.003	2.783	0.144	0.005	0.004	354.923	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.626	0.005	5.883	0.393	0.007	0.007	531.871	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.665	0.014	2.276	0.643	0.284	0.262	1540.741	0.028
	NA	MC	Motorcycles	0.724	0.008	14.268	2.740	0.027	0.024	393.234	0.052

Table 5-27. On-Road Vehicle Emission Factors – 2016 (cont.)

						I	Emission Fa	actors (g/m	i)		
State	Fuel Type		Vehicle Type			Criteria P	ollutants a	nd Ozone I	Precursors		
				NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.480	0.007	4.445	0.460	0.011	0.010	348.389	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.850	0.009	6.762	0.604	0.013	0.012	458.132	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.362	0.015	21.321	1.065	0.033	0.029	764.338	0.044
Missouri	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.199	0.003	2.747	0.160	0.005	0.004	346.488	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.649	0.005	5.834	0.418	0.008	0.007	521.201	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.175	0.014	2.324	0.684	0.281	0.259	1532.856	0.029
	NA	MC	Motorcycles	0.786	0.008	14.027	2.411	0.028	0.025	398.455	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.530	0.007	4.920	0.525	0.015	0.013	347.277	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.918	0.009	7.018	0.643	0.017	0.015	454.155	0.029
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.498	0.015	21.372	1.021	0.039	0.034	750.387	0.044
Montana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.203	0.003	2.525	0.187	0.005	0.004	342.516	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.654	0.005	5.330	0.434	0.007	0.007	514.222	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.408 0.889	0.014	2.611	0.837 2.287	0.290	0.267	1545.863	0.031
	NA	MC	Motorcycles	0.889	0.008	14.579 4.814		0.028	0.023	398.536	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	1			0.510			353.021	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.895	0.009	7.102	0.650	0.016	0.014	462.204	0.030
Nebraska	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.433	0.015	21.557	1.076	0.038	0.033	767.625	0.044
Nebraska	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200 0.649	0.003	2.659	0.173 0.430	0.005	0.004	349.601	0.008
	Diesel Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs)	8.077	0.005 0.014	5.652 2.607	0.430	0.008	0.007	524.477 1566.649	0.008
	NA	MC	Heavy-Duty Vehicles (8,501 + lbs) Motorcycles	0.818	0.014	14.528	2.436	0.294	0.270	398.637	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.480	0.008	4.048	0.448	0.029	0.023	368.978	0.033
	Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.480	0.007	6.245	0.448	0.010	0.009	482.617	0.029
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.642	0.016	22.991	1.239	0.011	0.010	801.485	0.030
Nevada	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.204	0.010	2.789	0.147	0.027	0.024	368.225	0.048
Nevaua	Diesel	LDDT	Light-Duty Venicles (Lassenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.673	0.005	6.015	0.418	0.003	0.004	551.641	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.642	0.003	2.418	0.693	0.305	0.281	1583.309	0.000
	NA	MC	Motorcycles	0.844	0.008	14.196	3.090	0.027	0.024	395.361	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.447	0.007	4.076	0.457	0.014	0.013	353.176	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.784	0.009	5.986	0.577	0.016	0.015	461.507	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.439	0.015	21.202	1.067	0.037	0.033	758.424	0.045
New Hampshire	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.196	0.003	2.527	0.177	0.005	0.004	349.105	0.008
F	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.637	0.005	5.383	0.433	0.007	0.007	523.466	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.038	0.013	2.227	0.638	0.285	0.262	1501.866	0.028
	NA	MC	Motorcycles	0.824	0.008	14.082	2.198	0.029	0.025	397.856	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.447	0.007	3.907	0.407	0.012	0.010	347.540	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.759	0.009	5.741	0.505	0.013	0.012	456.835	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.381	0.015	20.403	0.990	0.034	0.030	766.200	0.044
New Jersey	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	2.693	0.163	0.005	0.004	345.311	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.653	0.005	5.720	0.416	0.008	0.007	519.185	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.555	0.014	2.770	0.906	0.296	0.272	1589.239	0.032
	NA	MC	Motorcycles	0.808	0.008	13.637	2.195	0.028	0.025	399.057	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.510	0.007	4.392	0.484	0.011	0.010	353.144	0.028
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.897	0.009	6.633	0.618	0.013	0.011	462.253	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.527	0.015	21.488	1.098	0.030	0.026	767.937	0.044
New Mexico	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.204	0.003	2.674	0.158	0.005	0.004	351.341	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.664	0.005	5.684	0.413	0.008	0.007	526.884	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.140	0.014	2.555	0.791	0.294	0.270	1564.070	0.030
	NA	MC	Motorcycles	0.860	0.008	14.290	2.802	0.027	0.024	396.401	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.406	0.007	3.787	0.407	0.013	0.011	359.843	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.708	0.009	5.384	0.491	0.015	0.013	471.167	0.030
N	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	2.456	0.016	21.945	1.140	0.036	0.032	777.586	0.045
New York	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.194	0.003	2.597	0.166	0.005	0.004	356.743	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.638	0.005	5.597	0.435	0.008	0.007	535.224	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.701	0.013	2.156	0.587	0.291	0.268	1512.839	0.027
L	NA	MC	Motorcycles	0.792	0.008	14.167	2.361	0.029	0.026	398.157	0.051

Table 5-27. On-Road Vehicle Emission Factors – 2016 (cont.)

						Emission F	actors (g/mi	)		
State	Fuel Type	Vehicle Type					and Ozone P			
	• •	•	NO <sub>x</sub>	SO <sub>2</sub>	СО	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.479	0.007	4.285	0.462	0.010	0.009	358.054	0.028
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.844	0.009	6.671	0.627	0.012	0.010	468.253	0.030
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.363	0.015	21.478	1.171	0.027	0.024	774.344	0.045
North Carolina	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.194	0.003	2.708	0.149	0.005	0.004	357.047	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.631	0.005	5.777	0.408	0.008	0.007	535.117	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.542	0.013	2.174	0.590	0.287	0.264	1523.639	0.027
	NA C. J.	MC Motorcycles	0.749	0.008	14.340	2.685	0.028	0.025	395.008	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.518	0.007	5.200	0.572	0.019	0.017	348.801	0.028
	Gasoline Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs) HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.893 2.421	0.009	7.238 21.116	0.687 1.063	0.022	0.019	455.452 748.711	0.029
North Dakota	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.200	0.003	2.508	0.196	0.005	0.004	342.696	0.008
Ttorur Bukota	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.644	0.005	5.289	0.442	0.007	0.007	514.282	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.948	0.014	2.495	0.785	0.286	0.263	1527.781	0.030
	NA	MC Motorcycles	0.853	0.008	14.877	2.211	0.030	0.027	399.228	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.460	0.007	4.567	0.454	0.012	0.010	362.109	0.029
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.806	0.009	6.674	0.590	0.013	0.012	473.039	0.030
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.440	0.016	23.503	1.158	0.032	0.028	779.244	0.045
Ohio	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.193	0.003	2.601	0.166	0.005	0.004	359.102	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.632	0.005	5.592	0.431	0.008	0.007	537.952	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.872	0.014	2.247	0.629	0.295	0.271	1527.789	0.028
	NA	MC Motorcycles	0.783	0.008	14.471	2.474	0.028	0.025	397.014	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.493	0.007	4.577	0.476	0.010	0.009	359.247	0.028
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.866	0.009	7.031	0.632	0.011	0.010	469.733	0.030
011.1	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.382	0.016	22.118	1.148	0.027	0.024	779.212	0.045
Oklahoma	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.196	0.003	2.778	0.151	0.005	0.004	358.260	0.008
	Diesel Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)  HDDV Heavy-Duty Vehicles (8,501 + lbs)	0.639 7.069	0.005 0.014	5.915 2.360	0.409 0.684	0.007	0.007 0.268	536.713	0.008
	NA	MC Motorcycles	0.759	0.014	14.222	2.720	0.291	0.268	1556.345 395.240	0.029
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.480	0.003	4.158	0.439	0.027	0.024	350.484	0.032
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.829	0.009	6.221	0.568	0.013	0.011	458.524	0.030
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.465	0.015	21.764	1.072	0.030	0.026	756.748	0.045
Oregon	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.197	0.003	2.524	0.165	0.005	0.004	347.852	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.640	0.005	5.378	0.420	0.007	0.007	521.838	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.397	0.013	2.339	0.688	0.288	0.265	1516.189	0.029
	NA	MC Motorcycles	0.847	0.008	14.239	2.334	0.027	0.024	396.741	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.451	0.007	4.135	0.431	0.010	0.009	357.842	0.029
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.792	0.009	6.299	0.570	0.012	0.011	468.676	0.030
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.319	0.014	21.927	1.127	0.029	0.026	777.431	0.045
Pacific Islands	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.195	0.003	2.682	0.154	0.005	0.004	356.342	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.640	0.005	5.751	0.417	0.008	0.007	534.478	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.091	0.014	2.322	0.665	0.292	0.269	1541.343	0.028
	NA	MC Motorcycles LDGV Light-Duty Vehicles (Passenger Cars)	0.775	0.007	14.006	2.544	0.028	0.024	396.602	0.052
	Gasoline Gasoline	LDGV Light-Duty Venicies (Passenger Cars)  LDGT Light-Duty Trucks (0-8,500 lbs)	0.449 0.795	0.007	4.134 6.207	0.435 0.572	0.012 0.014	0.011	359.704 470.572	0.029
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.437	0.009	22.043	1.133	0.014	0.013	778.295	0.030
Pennsylvania	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.195	0.010	2.622	0.166	0.005	0.030	356.792	0.043
1 Chilsylvania	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.639	0.005	5.634	0.431	0.003	0.004	534.851	0.008
		HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.371	0.003	2.399	0.708	0.296	0.273	1546.619	0.029
	NA	MC Motorcycles	0.788	0.008	14.315	2.416	0.029	0.026	397.844	0.051
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.443	0.008	4.942	0.464	0.007	0.006	381.136	0.029
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.793	0.010	7.959	0.668	0.008	0.007	499.590	0.030
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.173	0.017	24.467	1.360	0.020	0.018	837.512	0.046
Puerto Rico	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.188	0.003	3.279	0.117	0.005	0.004	383.486	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.620	0.005	7.042	0.391	0.008	0.007	574.890	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.475	0.014	2.122	0.512	0.299	0.275	1612.150	0.026
	NA	MC Motorcycles	0.618	0.008	13.975	3.228	0.027	0.024	393.121	0.050

Table 5-27. On-Road Vehicle Emission Factors – 2016 (cont.)

Seate   Feet Type							Emission F	actors (g/mi	)		
Casciline   LIDEV   Light Duty Vehicles (Passenger Cars)   0.340   0.007   3.243   0.357   0.013   0.011   0.013   475.240   0.029	State	Fuel Type	Vehicle Type			Criteria 1	Pollutants a	nd Ozone P	recursors		
Risordine   LIOTT   Light-Duty Tricks (0.5.00 lbs)				NOx	SO <sub>2</sub>	со	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$
Robel baland   Diesel   LIDIV   Light-Duty Vehicles (8,501 + lbs)   2.468   0.016   22.47   1.134   0.037   0.033   37,590   0.046   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006   1.006		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.340	0.007	3.243	0.357	0.013	0.011	362.065	0.029
Rhode Islam		-									
Diesel   IDDY Light-Dury Trucks (08-500 lbs)		-									
Diesel   InDV   Neory-Day Vehicles (8,501 + lbs)	Rhode Island										
NA											
Gardeline   DGV   Light-Duty Vehicles (Passenger Cars)   0.485   0.007   4.427   0.469   0.009   0.008   38.8.448   0.028											
Gasoline   DGT   Light Dury Trucks (08-500)   lbs   0.856   0.000   6.940   0.616   0.011   0.010   409-193   0.030											
South Carolina   DGV   Heavy-Duty Vehicles (8.501 hbs)   2.326   0.016   21.318   1.102   0.026   0.023   78.19.43   0.045			<del>                                     </del>								
Diesel   DDF   Light Dury Vehicles (Passenger Cars)   0.196   0.003   2.812   0.1145   0.005   0.004   358.073   0.008											
Diesel   IDDT   Light-Duty Trucks (0.9.500 lbs)   0.637   0.005   5.990   0.0404   0.008   0.007   35.6.10   0.005	South Carolina										
Diseal   HDDV  Heavy-Duty Vehicles (63.01 + lbs)   7.430   0.014   2.524   0.763   0.296   0.272   1831.688   0.030   NA   MC   Monorycetes   0.733   0.008   1.015   0.052   0.025   395.311   0.052   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.025   0.02											
NA   MC   Motorcycles   0.733   0.008   14.309   2.763   0.028   0.025   395.11   0.052		Diesel			0.014		0.763	0.296	0.272		0.030
Gasoline   LOCT   Light-Duty Trucks (0.8-500 lbs)   0.897   0.009   7.159   0.660   0.018   0.016   455.172   0.036     Cosoline   HDCV   Heavy-Duty Vehicles (Passenger Cars)   0.202   0.003   2.603   0.184   0.005   0.004   342.841   0.008     Diesel   LDDV   Light-Duty Vehicles (Roston lbs)   0.653   0.005   5.499   0.434   0.008   0.007   575.142   0.008     NA		NA		0.733	0.008	14.309	2.763	0.028	0.025	395.311	0.052
Gasoline   IDCV   Heavy-Duty Vehicles (R501 + lbs)   2.409   0.015   2.9061   1.046   0.042   0.037   755,738   0.044		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.515	0.007	4.938	0.530	0.016	0.014	347.360	0.028
Diesel   IDDV   Light-Duty Vehicles (Passenger Cars)   Diesel   IDDT   Light-Duty Vehicles (Passenger Cars)   Diesel   Light-Duty Vehicles (Passenger Cars)   Diesel   Di		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.897	0.009	7.159	0.660	0.018	0.016	455.172	0.030
Diesel   IDDT   Ligh-Druy Trucks (0.8.500 lbs)   0.653   0.005   5.499   0.434   0.008   0.007   515.142   0.008     NA   MC   Motorcycles   0.839   0.008   1.4648   2.332   0.030   0.026   399.514   0.031     Ramper		Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.409	0.015	20.961	1.046	0.042	0.037	755.738	0.044
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs)	South Dakota	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)						0.004		
NA   MC   Motorcycles   0.839   0.008   14,648   2.332   0.030   0.026   399,514   0.053		<b>-</b>	l						0.007		
Gasoline   DGV   Light-Duty Vehicles (Passenger Cars)   0.471   0.007   4.379   0.451   0.010   0.009   358.943   0.029											
Gasoline   DGT   Light-Duty Trucks (0-8.500 lbs)   0.831   0.009   6.709   0.606   0.012   0.010   469.971   0.030											
Temessee   Gasoline   HDGV   Heavy-Duty Vehicles (8.501 + lbs)   2.373   0.016   22.341   1.152   0.028   0.025   781.230   0.045											
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.195   0.003   2.748   0.152   0.005   0.004   357.687   0.008				1							
Diesel   IDDT   Light-Duty Trucks (0-8,500 lbs)   0.639   0.005   5.878   0.415   0.008   0.007   536.251   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 - lbs)   7.286   0.014   2.430   0.719   0.295   0.271   1563.126   0.029     NA	TD			1							
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7,286   0.014   2,430   0.719   0.295   0.271   1563.126   0.029     NA   MC   Motorcycles   0.0754   0.008   14,287   2.653   0.028   0.025   396,414   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.435   0.007   4.096   0.423   0.008   0.007   306.081   0.028     Gasoline   LDGV   Light-Duty Vehicles (8,501 + lbs)   0.0774   0.009   6.443   0.571   0.010   0.009   473,740   0.030     Gasoline   LDDV   Light-Duty Vehicles (8,501 + lbs)   0.2297   0.016   21,627   1.171   0.025   0.022   792,199   0.045     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   2.968   0.137   0.005   0.004   361,677   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.644   0.005   6.331   0.400   0.008   0.007   542,643   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.6637   0.014   2.276   0.634   0.288   0.265   1567.591   0.028     NA   MC   Motorcycles   0.710   0.008   13,614   2.809   0.027   0.024   395,358   0.052     Gasoline   LDGV   Light-Duty Trucks (0.8,500 lbs)   0.845   0.010   6.583   0.596   0.015   0.013   476,507   0.030     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.204   0.016   2.326   0.166   0.005   0.004   360,540   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.200   0.003   2.664   0.166   0.005   0.004   360,540   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.200   0.003   2.664   0.166   0.005   0.004   360,540   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.200   0.003   2.664   0.166   0.005   0.004   360,540   0.008     Diesel   LDDV   Light-Duty Trucks (0.8,500 lbs)   0.663   0.005   5.763   0.439   0.008   0.007   541,066   0.008     Diesel   LDDV   Light-Duty Trucks (0.8,500 lbs)   0.663   0.005   5.763   0.439   0.008   0.007   541,066   0.008     Diesel   LDDV   Light-Duty Trucks (0.8,500 lbs)   0.663   0.005   5.288   0.432   0.007   0.007   512,334   0.008     Vermont   Diesel   LDDV   Li	Tennessee										
NA MC   Motorcycles   0.754   0.008   14.287   2.653   0.028   0.025   396.414   0.052											
Facility   Casoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.435   0.007   4.096   0.423   0.008   0.007   361.081   0.028				1							
Texas   Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.774   0.009   6.443   0.571   0.010   0.009   473.740   0.030											
Texas   Discol   IDGV   Heavy-Duty Vehicles (8,501 + Ibs)   2.297   0.016   21,627   1.171   0.025   0.022   792.199   0.045											
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   2.968   0.137   0.005   0.004   361.677   0.008		<b>-</b>	l								
Diesel   IDDT   Light-Duty Trucks (0-8,500 lbs)   0.644   0.005   6.331   0.400   0.008   0.007   542,643   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.657   0.014   2.276   0.634   0.288   0.265   1567,591   0.028     NA   MC   Motorcycles   0.710   0.008   13.614   2.809   0.027   0.024   395,538   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.475   0.007   4.386   0.458   0.013   0.011   363,558   0.029     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.845   0.010   6.583   0.596   0.015   0.013   476,507   0.030     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   2.604   0.016   23.302   1.177   0.037   0.033   789,345   0.045     Diesel   LDDV   Light-Duty Vehicles (9,8500 lbs)   0.663   0.005   5.763   0.439   0.008   0.007   541,066   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7.354   0.014   2.300   0.655   0.297   0.274   1544,884   0.028     NA   MC   Motorcycles   0.853   0.008   14.438   2.724   0.029   0.025   398,804   0.051     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.464   0.007   4.255   0.498   0.016   0.014   345,933   0.028     Gasoline   LDGV   Light-Duty Vehicles (8,501 + lbs)   0.464   0.007   4.255   0.498   0.016   0.014   345,933   0.028     Gasoline   LDGV   Light-Duty Vehicles (8,501 + lbs)   0.464   0.007   4.255   0.498   0.016   0.014   345,933   0.028     Order   LDGV   Light-Duty Vehicles (8,501 + lbs)   0.464   0.007   0.015   0.008   0.006   0.005   0.004   341,067   0.008     Diesel   LDDV   Light-Duty Vehicles (8,501 + lbs)   0.445   0.005   0.254   0.005   0.004   341,067   0.008     Diesel   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.445   0.007   4.698   0.484   0.006   0.005   360,873   0.028     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.445   0.007   4.698   0.484   0.006   0.005   360,873   0.028     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.445   0.007   4.698   0.484   0.006   0.005   360,873   0.028     Gasoline   LDGV   Light-Duty Vehi	Texas	<b>-</b>		1					0.004	_	0.008
NA MC   Motorcycles   0.710   0.008   13.614   2.809   0.027   0.024   395.358   0.052		-							0.007		
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.475   0.007   4.386   0.458   0.013   0.011   363.558   0.029		Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.657	0.014	2.276	0.634	0.288	0.265	1567.591	0.028
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.845   0.010   6.583   0.596   0.015   0.013   476.507   0.030		NA	MC Motorcycles	0.710	0.008	13.614	2.809	0.027	0.024	395.358	0.052
Utah   Diesel   LDDV   Light-Duty Vehicles (8,501 + lbs)   2.604   0.016   23.302   1.177   0.037   0.033   789.345   0.045		Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.475	0.007	4.386	0.458	0.013	0.011	363.558	0.029
Utah   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.200   0.003   2.664   0.166   0.005   0.004   360.540   0.008		Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.845	0.010	6.583	0.596	0.015	0.013	476.507	0.030
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.663   0.005   5.763   0.439   0.008   0.007   541.066   0.008		Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	2.604	0.016	23.302	1.177	0.037	0.033	789.345	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7.354   0.014   2.300   0.655   0.297   0.274   1544.884   0.028     NA   MC   Motorcycles   0.853   0.008   14.438   2.724   0.029   0.025   398.804   0.051     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.464   0.007   4.255   0.498   0.016   0.014   345.933   0.028     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.805   0.009   6.121   0.607   0.018   0.016   452.551   0.029     Gasoline   HDGV   Heavy-Duty Vehicles (R.501 + lbs)   2.417   0.015   20.314   1.045   0.041   0.036   746.355   0.044     Diesel   LDDT   Light-Duty Vehicles (Passenger Cars)   0.199   0.003   2.507   0.186   0.005   0.004   341.067   0.008     Diesel   LDDT   Light-Duty Vehicles (R.501 + lbs)   7.932   0.014   2.504   0.786   0.286   0.263   1527.604   0.030     NA   MC   Motorcycles   0.846   0.008   14.779   2.194   0.030   0.027   398.504   0.053     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.445   0.007   4.698   0.484   0.006   0.005   360.873   0.028     Gasoline   LDGV   Light-Duty Vehicles (R.501 + lbs)   0.761   0.009   7.325   0.619   0.007   0.006   471.190   0.029     Gasoline   LDGV   Light-Duty Vehicles (R.501 + lbs)   0.761   0.009   7.325   0.619   0.007   0.006   471.190   0.029     Virgin Islands   Diesel   LDDV   Light-Duty Vehicles (Rassenger Cars)   0.191   0.003   3.094   0.120   0.004   0.004   363.894   0.007     Diesel   LDDT   Light-Duty Vehicles (Rassenger Cars)   0.191   0.003   3.094   0.120   0.004   0.004   363.894   0.007     Diesel   LDDT   Light-Duty Vehicles (Rassenger Cars)   0.191   0.003   3.094   0.120   0.004   0.004   363.894   0.007     Diesel   LDDT   Light-Duty Vehicles (Rassenger Cars)   0.191   0.003   3.094   0.120   0.004   0.004   363.894   0.007     Diesel   LDDT   Light-Duty Vehicles (Rassenger Cars)   0.191   0.003   3.094   0.120   0.004   0.004   363.894   0.007     Diesel   LDDT   Light-Duty Vehicles (Rassenger Cars)   0.191   0.003   3.094   0.120   0.004   0.004   363.894   0.007     D	Utah	Diesel									
NA MC   Motorcycles   0.853   0.008   14.438   2.724   0.029   0.025   398.804   0.051											
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.464   0.007   4.255   0.498   0.016   0.014   345.933   0.028											
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.805   0.009   6.121   0.607   0.018   0.016   452.551   0.029											
Vermont   Hogv   Heavy-Duty Vehicles (8,501 + lbs)   2,417   0.015   20.314   1.045   0.041   0.036   746.355   0.044											
Vermont         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.199         0.003         2.507         0.186         0.005         0.004         341.067         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.642         0.005         5.288         0.432         0.007         0.007         512.334         0.008           Diesel         HDDV Heavy-Duty Vehicles (8,501 + lbs)         7.932         0.014         2.504         0.786         0.286         0.263         1527.604         0.030           NA         MC         Motorcycles         0.846         0.008         14.779         2.194         0.030         0.027         398.504         0.053           Gasoline         LDGV         Light-Duty Vehicles (Passenger Cars)         0.445         0.007         4.698         0.484         0.006         0.005         360.873         0.028           Virgin Islands         Diesel         LDGV         Light-Duty Vehicles (8,501 + lbs)         2.016         0.015         22.186         1.198         0.012         0.011         776.359         0.045           Virgin Islands         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.191         0.003         3.094		<b>-</b>	l	1							
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.642   0.005   5.288   0.432   0.007   0.007   512.334   0.008	¥7	<b>-</b>		1							
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7.932   0.014   2.504   0.786   0.286   0.263   1527.604   0.030     NA   MC   Motorcycles   0.846   0.008   14.779   2.194   0.030   0.027   398.504   0.053     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.445   0.007   4.698   0.484   0.006   0.005   360.873   0.028     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.761   0.009   7.325   0.619   0.007   0.006   471.190   0.029     Gasoline   HDGV   Heavy-Duty Vehicles (Ressenger Cars)   0.191   0.003   3.094   0.120   0.004   0.004   363.894   0.007     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.601   0.005   6.496   0.358   0.007   0.006   545.254   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   4.779   0.013   1.831   0.408   0.265   0.244   1523.613   0.025     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   4.779   0.013   1.831   0.408   0.265   0.244   1523.613   0.025     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   4.779   0.013   1.831   0.408   0.265   0.244   1523.613   0.025     Diesel    vermont	-		1								
NA   MC   Motorcycles   0.846   0.008   14.779   2.194   0.030   0.027   398.504   0.053											
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.445   0.007   4.698   0.484   0.006   0.005   360.873   0.028											
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.761   0.009   7.325   0.619   0.007   0.006   471.190   0.029											
Gasoline         HDGV         Heavy-Duty Vehicles (8,501 + lbs)         2.016         0.015         22.186         1.198         0.012         0.011         776.359         0.045           Virgin Islands         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.191         0.003         3.094         0.120         0.004         0.004         363.894         0.007           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.601         0.005         6.496         0.358         0.007         0.006         545.254         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         4.779         0.013         1.831         0.408         0.265         0.244         1523.613         0.025											
Virgin Islands         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.191         0.003         3.094         0.120         0.004         0.004         363.894         0.007           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.601         0.005         6.496         0.358         0.007         0.006         545.254         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         4.779         0.013         1.831         0.408         0.265         0.244         1523.613         0.025			<u> </u>	+							
Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.601         0.005         6.496         0.358         0.007         0.006         545.254         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         4.779         0.013         1.831         0.408         0.265         0.244         1523.613         0.025	Virgin Islands										
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 4.779 0.013 1.831 0.408 0.265 0.244 1523.613 0.025	6										
		NA	MC Motorcycles	0.636	0.008		2.708	0.024	0.021		0.052

Table 5-27. On-Road Vehicle Emission Factors – 2016 (cont.)

							Emission F	actors (g/mi)	)		
State	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone P	recursors		
	• •		**	NO <sub>x</sub>	SO <sub>2</sub>	СО	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV I	Light-Duty Vehicles (Passenger Cars)	0.467	0.007	4.206	0.442	0.011	0.010	358.055	0.029
	Gasoline	LDGT I	Light-Duty Trucks (0-8,500 lbs)	0.828	0.009	6.474	0.590	0.013	0.011	469.157	0.030
	Gasoline	HDGV I	Heavy-Duty Vehicles (8,501 + lbs)	2.383	0.016	21.331	1.125	0.031	0.027	779.475	0.045
Virginia	Diesel	LDDV I	Light-Duty Vehicles (Passenger Cars)	0.195	0.003	2.708	0.155	0.005	0.004	356.405	0.008
	Diesel	LDDT I	Light-Duty Trucks (0-8,500 lbs)	0.640	0.005	5.806	0.419	0.008	0.007	534.651	0.008
	Diesel	HDDV I	Heavy-Duty Vehicles (8,501 + lbs)	7.228	0.014	2.384	0.697	0.294	0.270	1551.944	0.029
	NA	MC I	Motorcycles	0.761	0.008	13.971	2.512	0.029	0.025	397.160	0.052
	Gasoline	LDGV I	Light-Duty Vehicles (Passenger Cars)	0.457	0.007	4.240	0.431	0.012	0.010	354.700	0.029
	Gasoline	LDGT I	Light-Duty Trucks (0-8,500 lbs)	0.809	0.009	6.426	0.572	0.014	0.012	465.555	0.030
	Gasoline	HDGV I	Heavy-Duty Vehicles (8,501 + lbs)	2.497	0.015	22.493	1.110	0.034	0.030	772.826	0.045
Washington	Diesel	LDDV I	Light-Duty Vehicles (Passenger Cars)	0.196	0.003	2.570	0.166	0.005	0.004	351.902	0.008
	Diesel	LDDT I	Light-Duty Trucks (0-8,500 lbs)	0.647	0.005	5.547	0.434	0.008	0.007	528.634	0.008
	Diesel	HDDV I	Heavy-Duty Vehicles (8,501 + lbs)	7.502	0.014	2.380	0.703	0.294	0.270	1534.155	0.029
	NA	MC I	Motorcycles	0.835	0.008	14.364	2.379	0.029	0.025	399.270	0.052
	Gasoline	LDGV I	Light-Duty Vehicles (Passenger Cars)	0.500	0.007	4.660	0.480	0.011	0.010	348.205	0.028
	Gasoline	LDGT I	Light-Duty Trucks (0-8,500 lbs)	0.875	0.009	6.942	0.626	0.013	0.012	456.476	0.030
	Gasoline	HDGV I	Heavy-Duty Vehicles (8,501 + lbs)	2.375	0.015	21.650	1.067	0.031	0.028	757.678	0.044
West Virginia	Diesel	LDDV I	Light-Duty Vehicles (Passenger Cars)	0.198	0.003	2.625	0.165	0.005	0.004	345.691	0.008
	Diesel	LDDT I	Light-Duty Trucks (0-8,500 lbs)	0.640	0.005	5.563	0.418	0.008	0.007	519.264	0.008
	Diesel	HDDV I	Heavy-Duty Vehicles (8,501 + lbs)	7.576	0.014	2.454	0.750	0.287	0.264	1538.298	0.030
	NA	MC I	Motorcycles	0.800	0.008	14.432	2.426	0.028	0.025	397.414	0.053
	Gasoline	LDGV I	Light-Duty Vehicles (Passenger Cars)	0.487	0.007	4.652	0.500	0.015	0.014	353.389	0.028
	Gasoline	LDGT I	Light-Duty Trucks (0-8,500 lbs)	0.851	0.009	6.792	0.638	0.018	0.015	461.924	0.030
	Gasoline	HDGV I	Heavy-Duty Vehicles (8,501 + lbs)	2.405	0.015	21.388	1.084	0.040	0.035	760.740	0.045
Wisconsin	Diesel	LDDV I	Light-Duty Vehicles (Passenger Cars)	0.197	0.003	2.552	0.180	0.005	0.004	348.950	0.008
	Diesel	LDDT I	Light-Duty Trucks (0-8,500 lbs)	0.640	0.005	5.434	0.437	0.008	0.007	523.275	0.008
	Diesel	HDDV I	Heavy-Duty Vehicles (8,501 + lbs)	7.390	0.013	2.352	0.701	0.288	0.265	1520.899	0.029
	NA	MC I	Motorcycles	0.814	0.008	14.352	2.262	0.029	0.026	398.662	0.052
	Gasoline	LDGV I	Light-Duty Vehicles (Passenger Cars)	0.535	0.007	5.039	0.534	0.016	0.014	349.048	0.028
	Gasoline	LDGT I	Light-Duty Trucks (0-8,500 lbs)	0.934	0.009	7.236	0.660	0.018	0.016	457.183	0.030
	Gasoline	HDGV I	Heavy-Duty Vehicles (8,501 + lbs)	2.524	0.015	21.540	1.031	0.043	0.038	759.835	0.044
Wyoming	Diesel	LDDV I	Light-Duty Vehicles (Passenger Cars)	0.205	0.003	2.587	0.187	0.005	0.004	344.255	0.008
	Diesel	LDDT I	Light-Duty Trucks (0-8,500 lbs)	0.666	0.005	5.482	0.440	0.008	0.007	516.884	0.008
	Diesel	HDDV I	Heavy-Duty Vehicles (8,501 + lbs)	8.933	0.014	2.775	0.916	0.296	0.272	1575.886	0.032
	NA		Motorcycles	0.894	0.008	14.641	2.393	0.029	0.026	400.181	0.053

Table 5-28. On-Road Vehicle Emission Factors – 2017

				Emission Factors (g/mi)							
State	Fuel Type		Vehicle Type			Criteria	Pollutants	and Ozone	Precursors		
			· ·	NOx	SO <sub>2</sub>	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.353	0.002	3.991	0.405	0.008	0.007	352.512	0.026
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.604	0.003	6.072	0.534	0.010	0.009	457.111	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.444	0.005	18.824	0.995	0.021	0.019	778.459	0.045
Alabama	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.170	0.003	2.664	0.128	0.004	0.004	348.518	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.546	0.005	5.426	0.347	0.007	0.007	513.912	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.168	0.014	2.134	0.600	0.256	0.235	1539.412	0.028
	NA	MC	Motorcycles	0.712	0.003	13.676	2.743	0.027	0.023	393.847	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.381	0.002	4.664	0.486	0.018	0.016	349.310	0.026
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.636	0.003	6.260	0.572	0.021	0.019	452.701	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.589	0.005	19.481	0.924	0.049	0.043	763.691	0.044
Alaska	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.174	0.003	2.362	0.190	0.004	0.004	338.436	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.564	0.004	4.838	0.415	0.007	0.007	499.549	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.534	0.013	2.378	0.752	0.260	0.240	1526.274	0.030
	NA	MC	Motorcycles	0.877	0.003	14.659	2.025	0.031	0.027	402.138	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.353	0.002	3.898	0.396	0.007	0.006	360.062	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.610	0.003	5.878	0.507	0.009	0.008	468.574	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.633	0.005	20.643	1.070	0.022	0.019	807.188	0.045
Arizona	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.183	0.003	2.883	0.119	0.005	0.004	357.151	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.598	0.005	5.925	0.349	0.008	0.007	527.388	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.068	0.014	2.292	0.664	0.264	0.243	1595.667	0.029
	NA	MC	Motorcycles	0.831	0.003	13.229	3.259	0.026	0.023	394.950	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.366	0.002	4.211	0.407	0.009	0.008	345.089	0.026
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.624	0.003	6.312	0.526	0.010	0.009	449.334	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.466	0.005	19.137	0.941	0.024	0.022	770.432	0.044
Arkansas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.174	0.003	2.688	0.134	0.004	0.004	340.680	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.558	0.004	5.457	0.353	0.007	0.007	503.815	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.705	0.014	2.274	0.680	0.253	0.233	1548.082	0.029
	NA	MC	Motorcycles	0.753	0.003	13.793	2,593	0.027	0.024	396.046	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.358	0.002	3,995	0,404	0.012	0.011	350,160	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.611	0.003	5.719	0.499	0.014	0.013	455.747	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.600	0.005	20.032	0.966	0.034	0.030	775.871	0.045
Colorado	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.175	0.003	2,514	0.153	0.005	0.004	343.242	0.008
Colorado	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.572	0.004	5.177	0.382	0.008	0.007	507.561	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.782	0.013	2.149	0.623	0.257	0.236	1520.762	0.028
	NA	MC	Motorcycles	0.846	0.003	14.221	2.652	0.029	0.026	399.161	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.304	0.002	3.596	0.349	0.011	0.010	350.117	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.535	0.002	5.298	0.436	0.011	0.010	457.557	0.027
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.562	0.005	20.049	0.430	0.014	0.012	782.054	0.028
Connecticut	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.171	0.003	2.560	0.933	0.005	0.030	343.768	0.043
Connecticut	Diesel	LDDT	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.171	0.003	5.316	0.147	0.003	0.004	509.672	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.761	0.004	1.851	0.384	0.250	0.230	1489.849	0.008
	NA	MC	Motorcycles	0.788	0.013	13.485	2.326	0.230	0.230	400.429	0.020
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.788	0.003	3.530	0.358	0.029	0.023	354.184	0.032
	Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.569	0.002	5.158	0.338	0.009	0.008	458.463	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.518	0.003	19.733	0.452	0.011	0.010	772.349	0.028
Delaware	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.167	0.003	2.486	0.939	0.023	0.021	348.526	0.046
Delawate	Diesel	LDDV	Light-Duty Venicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.167	0.003	5.090	0.140	0.004	0.004	513.764	0.008
	Diesel	HDDV	•	5.221	0.003	1.733	0.363	0.007	0.007	1470.342	0.008
	NA	MC	Heavy-Duty Vehicles (8,501 + lbs) Motorcycles	0.757	0.013	13.270	2.339	0.230	0.230	394.408	0.023
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.302	0.002	3.505	0.342	0.009	0.008	369.110	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.519	0.003	5.125	0.431	0.011	0.010	479.480	0.028
District of C.1. 11	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.573	0.005	21.128	1.055	0.025	0.023	814.460	0.047
District of Columbia	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.165	0.003	2.565	0.135	0.004	0.004	363.516	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.543	0.005	5.354	0.375	0.007	0.007	537.287	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.454	0.014	1.887	0.453	0.275	0.253	1538.244	0.026
	NA	MC	Motorcycles	0.723	0.003	13.284	2.567	0.026	0.023	395.230	0.049

Table 5-28. On-Road Vehicle Emission Factors – 2017 (cont.)

				Emission Factors (g/mi) Criteria Pollutants and Ozone Precursors								
State	Fuel Type		Vehicle Type			Criteria	Pollutants		Precursors			
				NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.335	0.002	3.998	0.391	0.007	0.006	370.475	0.027	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.582	0.003	6.219	0.539	0.008	0.007	480.445	0.028	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.417	0.005	20.283	1.123	0.019	0.017	823.099	0.046	
Florida	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.166	0.003	2.907	0.110	0.004	0.004	367.944	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.538	0.005	5.985	0.341	0.007	0.007	542.268	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.691	0.014	2.138	0.567	0.270	0.248	1599.530	0.028	
	NA	MC	Motorcycles	0.631	0.003	13.551	3.097	0.026	0.023	392.469	0.050	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.329	0.002	3.727	0.375	0.008	0.007	347.686	0.026	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.567	0.003	5.666	0.489	0.010	0.009	452.428	0.028	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.450	0.005	18.549	0.964	0.024	0.021	774.780	0.045	
Georgia	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.172	0.003	2.681	0.130	0.004	0.004	343.563	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.555	0.004	5.462	0.351	0.007	0.007	507.757	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.449	0.014	2.199	0.639	0.254	0.234	1541.975	0.029	
	NA	MC	Motorcycles	0.730	0.003	13.641	2.632	0.027	0.024	395.593	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.335	0.002	4.071	0.388	0.006	0.006	360.152	0.027	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.582	0.003	6.327	0.534	0.008	0.007	467.362	0.028	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.424	0.005	20.582	1.078	0.017	0.015	797.722	0.046	
Hawaii	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.165	0.003	2.788	0.104	0.004	0.004	358.021	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.534	0.005	5.713	0.329	0.007	0.007	528.039	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.984	0.013	1.821	0.423	0.255	0.235	1528.301	0.026	
	NA	MC	Motorcycles	0.683	0.003	13.572	2.877	0.025	0.023	391.917	0.051	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.378	0.002	4.198	0.428	0.012	0.011	346.488	0.026	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.638	0.003	6.011	0.529	0.014	0.012	449.342	0.028	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.580	0.005	19.397	0.928	0.032	0.028	761.463	0.045	
Idaho	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.176	0.003	2.453	0.159	0.004	0.004	339.201	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.568	0.004	4.995	0.378	0.007	0.007	500.715	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.182	0.013	2.273	0.689	0.257	0.236	1523.076	0.029	
	NA	MC	Motorcycles	0.865	0.003	14.244	2.447	0.028	0.025	397.563	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.337	0.002	3.968	0.390	0.011	0.010	362.579	0.027	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.587	0.003	5.949	0.529	0.013	0.012	471.819	0.028	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.547	0.005	20.675	1.027	0.031	0.028	801.632	0.046	
Illinois	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.167	0.003	2.539	0.146	0.005	0.004	355.934	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.551	0.005	5.293	0.386	0.008	0.007	526.527	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.676	0.013	1.898	0.480	0.265	0.244	1518.828	0.026	
	NA	MC	Motorcycles	0.744	0.003	13.416	2.500	0.027	0.024	397.940	0.050	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.358	0.002	4.151	0.412	0.011	0.010	354.448	0.027	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.609	0.003	6.086	0.534	0.013	0.011	459.228	0.028	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.515	0.005	19.650	0.977	0.029	0.026	777.787	0.045	
Indiana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.169	0.003	2.495	0.149	0.004	0.004	347.878	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.549	0.005	5.122	0.375	0.007	0.007	512.938	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.553	0.013	2.183	0.632	0.262	0.241	1530.030	0.029	
	NA	MC	Motorcycles	0.769	0.003	13.973	2.452	0.027	0.024	396.575	0.052	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.380	0.002	4.428	0.449	0.013	0.011	345.662	0.026	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.637	0.003	6.280	0.553	0.015	0.013	448.287	0.028	
Ie	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.511	0.005	19.047	0.915	0.033	0.029	760.111	0.044	
Iowa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.173 0.554	0.003	2.479 5.035	0.160 0.376	0.004	0.004	338.223	0.008	
	Diesel Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	7.017	0.004	2.302	0.376	0.007	0.007	499.374 1527.690	0.008	
			Heavy-Duty Vehicles (8,501 + lbs)	0.806	0.013	14.134	2.306	0.256	0.235		0.030	
	NA	MC LDGV	Motorcycles		0.003		0.421	0.027	0.024	397.665 346.915	0.053	
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.372		4.272						
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.633	0.003	6.281	0.539	0.012	0.011	450.925	0.028	
Va	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.509	0.005	19.344	0.941	0.028	0.025	767.878	0.045	
Kansas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.173	0.003	2.589	0.145	0.004	0.004	341.153	0.008	
i	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.558	0.004	5.270	0.365	0.007	0.007	504.125	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.458	0.013	2.132	0.616	0.251	0.231	1520.107	0.028	
	NA	MC	Motorcycles	0.783	0.003	13.908	2.492	0.027	0.024	396.781	0.053	

Table 5-28. On-Road Vehicle Emission Factors – 2017 (cont.)

				Emission Factors (g/mi)							
State	Fuel Type		Vehicle Type				1	and Ozone	1		
				NO <sub>x</sub>	SO <sub>2</sub>	co	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.355	0.002	4.038	0.395	0.010	0.009	343.699	0.026
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.603	0.003	5.992	0.508	0.012	0.010	447.699	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.467	0.005	18.746	0.914	0.028	0.025	767.971	0.044
Kentucky	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.174	0.003	2.609	0.143	0.004	0.004	338.256	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.562	0.004	5.311	0.364	0.007	0.007	500.392	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.237	0.014	2.416	0.752	0.258	0.237	1556.133	0.030
	NA	MC	Motorcycles	0.770	0.003	13.656	2.426	0.027	0.024	397.747	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.344	0.002	4.058	0.399	0.008	0.007	354.074	0.026
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.593	0.003	6.246	0.532	0.009	0.008	460.255	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.414	0.005	19.034	1.015	0.021	0.019	789.866	0.045
Louisiana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.170	0.003	2.824	0.121	0.004	0.004	350.913	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.550	0.005	5.756	0.344	0.007	0.007	517.967	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.231	0.014	2.213	0.635	0.257	0.236	1568.245	0.029
	NA	MC	Motorcycles	0.683	0.003	13.626	2.849	0.027	0.024	394.400	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.373	0.002	4.109	0.448	0.014	0.012	337.615	0.026
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.622	0.003	5.756	0.539	0.016	0.014	438.534	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.498	0.005	17.625	0.875	0.035	0.031	742.344	0.044
Maine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.175	0.003	2.381	0.169	0.004	0.004	329.389	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.557	0.004	4.803	0.379	0.007	0.007	487.483	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.166	0.013	2.290	0.708	0.250	0.230	1504.430	0.030
	NA	MC	Motorcycles	0.836	0.003	14.040	2.108	0.029	0.026	398.259	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.331	0.002	3.631	0.359	0.010	0.009	349.453	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.576	0.003	5.406	0.466	0.012	0.011	455.771	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.520	0.005	19.317	0.950	0.030	0.026	779.380	0.045
Maryland	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.172	0.003	2.616	0.140	0.005	0.004	344.006	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.562	0.004	5.386	0.371	0.008	0.007	509.256	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.054	0.013	1.983	0.538	0.251	0.231	1509.983	0.027
	NA	MC	Motorcycles	0.766	0.003	13.357	2.396	0.028	0.025	398.426	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.334	0.002	3.732	0.377	0.012	0.010	348.392	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.580	0.003	5.528	0.490	0.014	0.012	454.181	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.553	0.005	19.618	0.927	0.034	0.030	773.690	0.045
Massachusetts	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.172	0.003	2.510	0.152	0.005	0.004	341.571	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.562	0.004	5.179	0.383	0.008	0.007	505.676	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.216	0.013	1.999	0.553	0.252	0.232	1498.657	0.027
	NA	MC	Motorcycles	0.802	0.003	13.507	2.256	0.028	0.025	399.786	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.372	0.002	4.342	0.429	0.013	0.011	351.890	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.636	0.003	6.358	0.559	0.015	0.013	457.034	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.537	0.005	19.615	0.963	0.035	0.031	775.610	0.045
Michigan	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.171	0.003	2.486	0.157	0.004	0.004	344.506	0.008
, and the second	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.557	0.004	5.114	0.385	0.007	0.007	508.818	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.682	0.013	2.181	0.639	0.259	0.238	1523.739	0.029
	NA	MC	Motorcycles	0.796	0.003	14.148	2.345	0.029	0.026	398.770	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.376	0.002	4.499	0.455	0.015	0.013	348.090	0.026
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.628	0.003	6.365	0.566	0.018	0.016	451.619	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.533	0.005	19.567	0.970	0.039	0.035	762.160	0.045
Minnesota	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.172	0.003	2.441	0.166	0.004	0.004	339.660	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.555	0.004	4.985	0.388	0.007	0.007	501.668	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.247	0.013	2.002	0.563	0.249	0.229	1485.872	0.027
	NA	MC	Motorcycles	0.813	0.003	14.474	2.313	0.030	0.026	398.995	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.353	0.002	3.988	0.408	0.008	0.007	347.133	0.026
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.600	0.003	6.040	0.527	0.009	0.008	450.629	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.418	0.005	18.480	0.972	0.020	0.018	767.471	0.045
Mississippi	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.171	0.003	2.670	0.128	0.004	0.004	343.396	0.008
тизыырр	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.545	0.003	5.405	0.341	0.007	0.004	506.961	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.053	0.004	2.092	0.587	0.249	0.229	1526.096	0.008
	NA	MC	Motorcycles	0.713	0.003	13.686	2.709	0.026	0.023	393.372	0.028
L	1 474	IVIC		0.713	0.005	15.000	2.70)	0.020	0.023	373.314	0.055

Table 5-28. On-Road Vehicle Emission Factors – 2017 (cont.)

				Emission Factors (g/mi)							
State	Fuel Type		Vehicle Type					and Ozone			
				NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.357	0.002	4.110	0.399	0.010	0.009	340.726	0.026
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.614	0.003	6.092	0.514	0.012	0.011	444.989	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.482	0.005	18.985	0.906	0.030	0.026	763.404	0.044
Missouri	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.175	0.003	2.639	0.144	0.005	0.004	335.248	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.565	0.004	5.368	0.365	0.008	0.007	496.914	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.532	0.013	2.144	0.628	0.247	0.227	1518.011	0.029 0.054
	NA	MC LDGV	Motorcycles	0.781	0.003	13.613	2.380 0.461	0.027	0.024	398.594	0.054
	Gasoline Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.397	0.002	4.502 6.311	0.461	0.013	0.012	339.688 441.187	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.557	0.005	18.781	0.333	0.016	0.014	749.255	0.028
Montana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.178	0.003	2.424	0.170	0.004	0.004	331.461	0.008
Wionana	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.570	0.003	4.896	0.381	0.007	0.007	490.276	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.704	0.013	2.429	0.773	0.255	0.235	1530.273	0.031
	NA	MC	Motorcycles	0.883	0.003	14.353	2.281	0.028	0.025	398.672	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.382	0.002	4.438	0.443	0.012	0.011	345.274	0.026
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.647	0.003	6.394	0.553	0.014	0.013	448.971	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.522	0.005	19.058	0.914	0.034	0.030	766.587	0.044
Nebraska	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.175	0.003	2.553	0.156	0.004	0.004	338.296	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.565	0.004	5.196	0.377	0.007	0.007	500.065	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.395	0.014	2.422	0.761	0.258	0.238	1551.079	0.030
	NA	MC	Motorcycles	0.812	0.003	14.102	2.412	0.028	0.025	398.773	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.353	0.002	3.730	0.388	0.009	0.008	360.796	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.614	0.003	5.613	0.502	0.010	0.009	468.695	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.651	0.005	20.421	1.047	0.025	0.022	800.782	0.045
Nevada	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.179	0.003	2.675	0.131	0.004	0.004	356.291	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.585	0.005	5.524	0.363	0.007	0.007	525.919	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.941	0.014	2.223	0.632	0.268	0.246	1568.712	0.029
	NA Gasoline	MC LDGV	Motorcycles	0.836	0.003	13.798 3.745	3.061 0.398	0.027	0.024	395.491 345.426	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.569	0.002	5.359	0.398	0.013	0.011	448.300	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.532	0.003	18.903	0.492	0.013	0.013	757.483	0.028
New Hampshire	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.172	0.003	2.425	0.160	0.004	0.004	337.827	0.008
Trew Hampshire	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.555	0.003	4.943	0.380	0.007	0.007	499.079	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.383	0.013	2.045	0.582	0.250	0.230	1487.652	0.028
	NA	MC	Motorcycles	0.818	0.003	13.695	2.181	0.028	0.025	397.989	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.332	0.002	3.639	0.357	0.010	0.009	339.901	0.026
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.547	0.003	5.222	0.433	0.012	0.011	443.732	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.489	0.005	18.179	0.845	0.031	0.027	765.100	0.044
New Jersey	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.176	0.003	2.587	0.147	0.004	0.004	334.117	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.569	0.004	5.263	0.364	0.007	0.007	495.013	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.861	0.014	2.586	0.839	0.260	0.240	1573.046	0.032
	NA	MC	Motorcycles	0.804	0.003	13.338	2.181	0.027	0.024	399.197	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.378	0.002	4.048	0.419	0.010	0.009	345.360	0.026
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.646	0.003	5.964	0.526	0.011	0.010	448.969	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.575	0.005	19.006	0.933	0.027	0.024	766.963	0.044
New Mexico	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.179	0.003	2.567	0.142	0.004	0.004	339.958	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.578	0.004	5.223	0.361	0.007	0.007	502.302	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.442	0.014	2.370	0.728	0.258	0.237	1548.680	0.030
	NA	MC	Motorcycles	0.853	0.003	13.874	2.773	0.027	0.024	396.538	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.302	0.002	3.506	0.356	0.011	0.010	351.913	0.027
	Gasoline Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs)	0.511 1.546	0.003	4.903 19.506	0.423	0.014	0.012	457.648 776.787	0.028
New York	Diesel	LDDV	Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars)	0.170	0.005	2.492	0.962	0.032	0.028	345.206	0.045
New YORK	Diesel	LDDV	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.170	0.003	5.139	0.150	0.004	0.004	510.313	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.053	0.003	1.970	0.533	0.007	0.007	1499.027	0.008
	NA	MC	Motorcycles	0.033	0.013	13.727	2.332	0.233	0.234	398.286	0.027
	INA	IVIC	motorcycles	0.765	0.003	13.727	2.332	0.026	0.023	370.200	0.032

Table 5-28. On-Road Vehicle Emission Factors – 2017 (cont.)

						Emission F	actors (g/m	i)		
State	Fuel Type	Vehicle Type					nd Ozone l	-		
	•		NOx	SO <sub>2</sub>	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.353	0.002	3.908	0.397	0.009	0.008	350.135	0.026
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.606	0.003	5.930	0.528	0.011	0.009	454.765	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.478	0.005	18.878	0.986	0.024	0.021	773.560	0.045
North Carolina	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.170	0.003	2.598	0.133	0.004	0.004	345.468	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.549	0.005	5.307	0.355	0.007	0.007	510.119	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.917	0.013	1.988	0.536	0.252	0.231	1509.561	0.027
	NA	MC Motorcycles	0.738	0.003	13.756	2.642	0.027	0.024	395.142	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.390	0.002	4.792	0.502	0.017	0.015	341.203	0.026
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.648	0.003	6.555	0.594	0.020	0.017	442.483	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.516	0.005	18.731	0.915	0.042	0.038	747.587	0.044
North Dakota	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.176	0.003	2.407	0.178	0.004	0.004	331.655	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.561	0.004	4.858	0.389	0.007	0.007	490.353	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.266	0.013	2.315	0.723	0.251	0.231	1512.546	0.030
	NA	MC Motorcycles	0.848	0.003	14.588	2.201	0.030	0.026	399.363	0.054
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)  LDGT Light-Duty Trucks (0-8,500 lbs)	0.340	0.002	3.981	0.395	0.011	0.010	354.124	0.027
	Gasoline Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.579 1.527	0.003	5.808 19.840	0.505 0.987	0.013	0.012	459.458 778.436	0.028
Ohio	Diesel	LDDV Light-Duty Vehicles (8,301 + 108)	0.169	0.003	2.494	0.149	0.004	0.027	347.492	0.043
Ollo	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.109	0.005	5.132	0.149	0.004	0.007	512.892	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.222	0.003	2.058	0.572	0.259	0.238	1513.723	0.028
	NA	MC Motorcycles	0.773	0.003	14.081	2.460	0.028	0.025	397.143	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.366	0.002	4.218	0.412	0.009	0.008	351.306	0.026
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.626	0.003	6.319	0.536	0.011	0.009	456.208	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.496	0.005	19.613	0.975	0.024	0.021	778.382	0.045
Oklahoma	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.172	0.003	2.666	0.135	0.004	0.004	346.642	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.556	0.005	5.435	0.357	0.007	0.007	511.649	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.428	0.014	2.173	0.625	0.256	0.235	1541.585	0.029
	NA	MC Motorcycles	0.753	0.003	13.810	2.693	0.026	0.023	395.374	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.358	0.002	3.814	0.385	0.010	0.009	342.767	0.026
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.599	0.003	5.591	0.488	0.012	0.011	445.360	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.544	0.005	19.171	0.919	0.027	0.024	755.795	0.045
Oregon	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.173	0.003	2.422	0.149	0.004	0.004	336.594	0.008
_	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.557	0.004	4.938	0.368	0.007	0.007	497.494	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.729	0.013	2.156	0.630	0.253	0.233	1501.625	0.029
	NA	MC Motorcycles	0.841	0.003	14.036	2.329	0.028	0.025	396.875	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.341	0.002	3.784	0.378	0.009	0.008	349.931	0.027
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.585	0.003	5.642	0.490	0.011	0.010	455.184	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.514	0.005	19.358	0.966	0.026	0.023	776.591	0.045
Pacific Islands	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.171	0.003	2.574	0.137	0.004	0.004	344.793	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.557	0.004	5.283	0.364	0.007	0.007	509.557	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.439	0.013	2.135	0.608	0.257	0.236	1526.853	0.028
	NA	MC Motorcycles	0.772	0.003	13.596	2.536	0.027	0.024	396.727	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.333	0.002	3.735	0.378	0.011	0.010	351.777	0.027
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.573	0.003	5.508	0.486	0.013	0.012	457.066	0.028
Donnard	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.526	0.005	19.225	0.957	0.031	0.028	777.420	0.045
Pennsylvania	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.171	0.003	2.516	0.149	0.004	0.004	345.252 509.952	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.556	0.005	5.174	0.377	0.007	0.000	4 5 0 4 0 5 0	0.008
	Diesel NA	HDDV Heavy-Duty Vehicles (8,501 + lbs)  MC Motorcycles	6.705 0.779	0.013	2.211 13.849	2.399	0.260	0.239	397.975	0.029
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.779	0.003	4.551	0.400	0.028	0.023	372.639	0.032
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.575	0.002	7.151	0.400	0.008	0.006	485.108	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.385	0.003	21.803	1.153	0.008	0.007	837.136	0.028
Puerto Rico	Diesel	LDDV Light-Duty Vehicles (8,301 + 108)	0.165	0.003	3.146	0.102	0.019	0.017	371.006	0.040
I dello Rico	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.103	0.005	6.478	0.336	0.003	0.004	548.039	0.008
Ì		HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.921	0.014	1.924	0.459	0.262	0.241	1598.221	0.026
	NA	MC Motorcycles	0.613	0.003	13.588	3.190	0.026	0.023	393.253	0.051
	1471	1.10   1.101010   0.100	0.015	0.005	15.500	5.270	0.020	0.023	5,5.255	0.001

Table 5-28. On-Road Vehicle Emission Factors – 2017 (cont.)

						Emission F	actors (g/m	i)		
State	Fuel Type	Vehicle Type					nd Ozone l	-		
	•		NOx	SO <sub>2</sub>	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.256	0.002	3.056	0.317	0.011	0.010	354.079	0.027
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.442	0.003	4.141	0.358	0.014	0.012	461.585	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.562	0.005	20.049	0.961	0.033	0.029	786.830	0.045
Rhode Island	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.170	0.003	2.521	0.148	0.005	0.004	347.484	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.558	0.005	5.239	0.385	0.008	0.007	514.415	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.215	0.013	2.033	0.559	0.259	0.239	1516.605	0.027
	NA	MC Motorcycles	0.780	0.003	13.469	2.340	0.028	0.025	399.440	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.357	0.002	4.042	0.404	0.008	0.007	350.517	0.026
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.614	0.003	6.177	0.536	0.010	0.009	455.669 781.076	0.028
South Carolina	Gasoline Diesel	HDGV Heavy-Duty Vehicles (8,501 + lbs) LDDV Light-Duty Vehicles (Passenger Cars)	1.452 0.172	0.005	18.690 2.698	0.981	0.024	0.021	346.451	0.045
South Caronna	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.172	0.005	5.506	0.129	0.004	0.004	511.553	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.784	0.014	2.336	0.701	0.260	0.239	1566.374	0.030
	NA	MC Motorcycles	0.723	0.003	13.726	2.733	0.027	0.024	395.448	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.386	0.002	4.555	0.464	0.014	0.012	339.770	0.026
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.650	0.003	6.484	0.569	0.016	0.015	442.178	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.507	0.005	18.558	0.902	0.038	0.034	754.604	0.044
South Dakota	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.178	0.003	2.500	0.167	0.004	0.004	331.767	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.569	0.004	5.055	0.381	0.007	0.007	491.176	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.667	0.014	2.470	0.792	0.256	0.235	1543.434	0.031
	NA	MC Motorcycles	0.834	0.003	14.370	2.324	0.029	0.026	399.652	0.054
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.347	0.002	3.918	0.390	0.009	0.008	351.011	0.027
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.597	0.003	5.914	0.514	0.011	0.010	456.445	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.483	0.005	19.184	0.979	0.026	0.023	780.380	0.045
Tennessee	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.171	0.003	2.637	0.136	0.004	0.004	346.091	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.556	0.005	5.401	0.361	0.007	0.007	511.243	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.636	0.014	2.243	0.658	0.259	0.238	1548.213 396.549	0.029
	NA Gasoline	MC Motorcycles LDGV Light-Duty Vehicles (Passenger Cars)	0.744 0.320	0.003	13.839 3.778	2.638 0.365	0.028	0.025	353.077	0.052
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.556	0.002	5.788	0.303	0.007	0.007	460.067	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.443	0.005	19.290	0.992	0.022	0.020	791.476	0.045
Texas	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.173	0.003	2.849	0.121	0.005	0.004	349.918	0.008
10/11/0	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.561	0.005	5.825	0.347	0.008	0.007	517.303	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.039	0.014	2.090	0.578	0.253	0.233	1552.959	0.028
	NA	MC Motorcycles	0.704	0.003	13.123	2.778	0.026	0.023	395.495	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.352	0.002	4.026	0.401	0.012	0.010	355.543	0.027
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.610	0.003	5.934	0.513	0.014	0.013	462.835	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.634	0.005	20.564	1.005	0.034	0.030	788.556	0.045
Utah	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.176	0.003	2.557	0.150	0.005	0.004	348.880	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.576	0.005	5.294	0.385	0.008	0.007	515.911	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.667	0.013	2.111	0.597	0.261	0.240	1530.636	0.028
	NA	MC Motorcycles	0.847	0.003	14.223	2.700	0.029	0.026	398.933	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.344	0.002	3.865	0.429	0.014	0.013	338.377	0.026
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.579	0.003	5.419	0.512	0.016	0.014	439.632	0.028
37	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.501	0.005	17.784	0.883	0.036	0.032	745.242	0.044
Vermont	Diesel Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.175 0.559	0.003	2.407 4.857	0.169	0.004	0.004	330.058 488.470	0.008
		HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.253	0.004	2.323	0.380	0.007	0.007	4.540.005	0.008
	NA	MC Motorcycles	0.834	0.003	14.174	2.170	0.029	0.025	398.641	0.054
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.330	0.002	4.318	0.418	0.006	0.025	352.852	0.026
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.550	0.002	6.570	0.524	0.007	0.006	457.544	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.274	0.005	19.803	1.026	0.012	0.010	775.741	0.045
Virgin Islands	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.167	0.003	2.964	0.104	0.004	0.004	352.026	0.007
<i>5</i>	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.522	0.005	5.967	0.308	0.007	0.006	519.537	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.277	0.013	1.650	0.362	0.231	0.213	1509.863	0.025
	NA	MC Motorcycles	0.630	0.003	13.509	2.675	0.023	0.021	387.879	0.053

Table 5-28. On-Road Vehicle Emission Factors – 2017 (cont.)

				-		Emission F	actors (g/m	i)		
State	Fuel Type	Vehicle Type			Criteria l	Pollutants a	nd Ozone l	Precursors		
	• • •		NOx	SO <sub>2</sub>	СО	voc	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.346	0.002	3.888	0.383	0.010	0.008	350.149	0.027
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.598	0.003	5.836	0.501	0.012	0.010	455.665	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.497	0.005	18.972	0.951	0.028	0.024	778.626	0.045
Virginia	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.171	0.003	2.599	0.139	0.004	0.004	344.855	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.557	0.004	5.336	0.366	0.007	0.007	509.735	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.576	0.014	2.197	0.638	0.258	0.237	1537.222	0.029
	NA	MC Motorcycles	0.754	0.003	13.506	2.476	0.027	0.024	397.294	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.340	0.002	3.892	0.377	0.011	0.009	346.885	0.027
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.584	0.003	5.783	0.491	0.013	0.011	452.196	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.569	0.005	19.804	0.950	0.032	0.028	771.925	0.045
Washington	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.172	0.003	2.467	0.149	0.005	0.004	340.513	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.563	0.004	5.096	0.380	0.008	0.007	504.049	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.826	0.013	2.195	0.644	0.258	0.237	1519.567	0.029
	NA	MC Motorcycles	0.829	0.003	14.156	2.374	0.029	0.026	399.402	0.052
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.370	0.002	4.135	0.416	0.011	0.009	340.551	0.026
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.628	0.003	6.100	0.532	0.013	0.011	443.383	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.479	0.005	18.475	0.911	0.029	0.026	756.673	0.044
West Virginia	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.174	0.003	2.520	0.149	0.004	0.004	334.495	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.558	0.004	5.113	0.365	0.007	0.007	495.049	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.917	0.013	2.273	0.689	0.252	0.232	1523.167	0.029
	NA	MC Motorcycles	0.789	0.003	13.989	2.398	0.028	0.025	397.552	0.054
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.364	0.002	4.300	0.438	0.014	0.012	345.644	0.026
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.617	0.003	6.145	0.548	0.016	0.014	448.718	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.512	0.005	19.084	0.927	0.036	0.032	759.754	0.045
Wisconsin	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.173	0.003	2.449	0.163	0.004	0.004	337.682	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.557	0.004	4.991	0.384	0.007	0.007	498.919	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.726	0.013	2.169	0.643	0.252	0.232	1506.249	0.029
	NA	MC Motorcycles	0.809	0.003	14.040	2.248	0.028	0.025	398.795	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.400	0.002	4.614	0.469	0.014	0.012	341.422	0.026
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.674	0.003	6.513	0.569	0.016	0.015	444.137	0.028
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.571	0.005	18.904	0.887	0.039	0.034	758.663	0.044
Wyoming	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.180	0.003	2.484	0.170	0.004	0.004	333.143	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.580	0.004	5.039	0.387	0.007	0.007	492.864	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	8.209	0.014	2.591	0.848	0.261	0.240	1559.775	0.032
	NA	MC Motorcycles	0.888	0.003	14.411	2.387	0.029	0.026	400.317	0.054

Table 5-29. On-Road Vehicle Emission Factors – 2018

				Emission Factors (g/mi)  Criteria Pollutants and Ozone Precursors  NO SO, CO VOC PM., PM., CO.							
State	Fuel Type		Vehicle Type								
			••	NOx	SO <sub>2</sub>	СО	voc	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.301	0.002	3.760	0.362	0.007	0.007	343.985	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.519	0.003	5.578	0.472	0.009	0.008	443.629	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.267	0.005	17.361	0.896	0.020	0.018	775.477	0.045
Alabama	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.148	0.003	2.567	0.112	0.004	0.004	337.437	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.479	0.004	5.046	0.305	0.007	0.006	490.237	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.575	0.013	1.961	0.547	0.221	0.204	1524.889	0.028
	NA	MC	Motorcycles	0.710	0.003	13.477	2.726	0.026	0.023	393.965	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.328	0.002	4.376	0.441	0.016	0.014	341.006	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.549	0.003	5.758	0.513	0.019	0.017	439.542	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.397	0.005	17.970	0.834	0.043	0.038	760.534	0.044
Alaska	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.153	0.003	2.277	0.173	0.004	0.004	327.776	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.496	0.004	4.497	0.370	0.007	0.007	476.760	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.862	0.013	2.206	0.692	0.226	0.208	1511.265	0.030
	NA	MC	Motorcycles	0.873	0.003	14.420	2.010	0.030	0.027	402.249	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.299	0.002	3.688	0.354	0.007	0.006	351.325	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.524	0.003	5.418	0.449	0.008	0.007	454.728	0.027
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.433	0.005	19.129	0.965	0.020	0.018	804.192	0.045
Arizona	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.160	0.003	2.782	0.104	0.004	0.004	345.778	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.525	0.004	5.515	0.306	0.007	0.007	503.135	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.410	0.014	2.114	0.607	0.229	0.211	1580.604	0.029
	NA	MC	Motorcycles	0.828	0.003	13.041	3.240	0.026	0.023	395.068	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.313	0.002	3.975	0.365	0.008	0.007	336.769	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.538	0.003	5.811	0.466	0.010	0.009	436.109	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.287	0.005	17.674	0.848	0.022	0.020	767.426	0.044
Arkansas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.152	0.003	2.593	0.119	0.004	0.004	329.847	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.491	0.004	5.080	0.310	0.007	0.007	480.649	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.095	0.013	2.104	0.624	0.220	0.202	1532,999	0.029
	NA	MC	Motorcycles	0.750	0.003	13.591	2.578	0.027	0.023	396.167	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.308	0.002	3.759	0.364	0.011	0.010	341.749	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.529	0.003	5.269	0.446	0.013	0.012	442.393	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.406	0.005	18,469	0.870	0.031	0.027	772.813	0.045
Colorado	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.153	0.003	2.425	0.137	0.004	0.004	332.367	0.008
Colorado	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.502	0.004	4.815	0.338	0.007	0.007	484.319	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.134	0.013	1.978	0.569	0.222	0.204	1506.367	0.028
	NA	MC	Motorcycles	0.843	0.003	14.003	2.639	0.029	0.026	399.275	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.261	0.003	3.392	0.315	0.010	0.020	341.694	0.025
	Gasoline	LDGV	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.462	0.002	4.881	0.313	0.010	0.009	444.140	0.023
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.373	0.005	18.531	0.858	0.013	0.011	779.042	0.027
Connecticut	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.150	0.003	2.471	0.131	0.004	0.004	332.861	0.008
Connecticut	Diesel	LDDT	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.130	0.003	4.947	0.131	0.004	0.004	486.354	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.156	0.004	1.682	0.430	0.215	0.198	1476.335	0.008
	NA	MC	Motorcycles	0.785	0.003	13.279	2.311	0.029	0.025	400.543	0.020
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.783	0.003	3.322	0.322	0.029	0.023	345.636	0.033
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.282	0.002	4.730	0.322	0.009	0.009	444.975	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.334	0.005	18.269	0.402	0.010	0.009	769.377	0.026
Delaware	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.146	0.003	2.395	0.862	0.021	0.019	337.471	0.048
Delaware	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.140	0.003	4.728	0.123	0.004	0.004	490.116	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.639	0.004	1.561	0.365	0.007	0.198	1457.305	0.008
	NA	MC	Motorcycles	0.754	0.013	13.070	2.324	0.026	0.198	394.521	0.023
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.754	0.003	3.309	0.308	0.020	0.023	360.170	0.032
	Gasoline	LDGV	Light-Duty Venicies (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.238	0.002	4.732	0.386	0.009	0.008	465.355	0.023
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.382	0.005	19.563	0.386	0.011	0.009	811.480	0.027
District of Columbia	Diesel	LDDV	Light-Duty Vehicles (8,301 + 108)	0.144	0.003	2.471	0.948	0.023	0.021	351.991	0.047
District of Columbia	Diesel	LDDV	Light-Duty Venicies (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.144	0.005	4.971	0.120	0.004	0.004	512.613	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.847	0.003	1.700	0.330	0.007	0.007	1525.131	0.008
					0.013	13.085		0.237	0.218		0.026
	NA	MC	Motorcycles	0.720	0.003	13.085	2.551	0.026	0.023	395.336	0.050

Table 5-29. On-Road Vehicle Emission Factors – 2018 (cont.)

State   Fuel Type					Emission Factors (g/mi)								
Gasoline   LDGV   Light-Duy Vehicles (Passenger Cany   0.284   0.002   3.772   0.349   0.008   0.006   0.066   3.6140   0.025   0.026   0.026   0.007   0.006   0.006   3.6140   0.025   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.026   0.0	State	Fuel Type		Vehicle Type			Criteria l		and Ozone	Precursors			
Gracine   LOGT   Light-Duy Yorkicke (8.501 h b)   0.500   0.003   5.714   0.475   0.008   0.007   6.6221   0.027					NO <sub>x</sub>	SO <sub>2</sub>	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>	
Genotine   IDCV   Heavy-Duty Vehicles (S.5.01 + Bb)		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.284	0.002	3.772	0.349	0.006	0.006	361.460	0.025	
Piorida		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.500	0.003	5.714	0.475	0.008	0.007	466.221	0.027	
Diesel   IDDT   Light-Duty Trucks (0.4.5.00 lbs)		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.243	0.005	18.729	1.010	0.018	0.016	820.144	0.046	
Dissel   HDDV   Heavy-Duty Vehicles (\$01-1 hs)   5,123   0,014   1,953   0,512   0,233   0,215   1585,108   0,025	Florida	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.144	0.003	2.802	0.095	0.004	0.004	356.230	0.008	
NA		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.472	0.005	5.565	0.297	0.007	0.007	517.284	0.008	
Gasoline   LDGV   Light-Duy Vehicles (Passenger Cars)   0.280   0.002   3.512   0.336   0.008   0.007   339.290   0.025		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.123	0.014	1.953	0.512	0.233	0.215	1585.108	0.028	
Gasoline   IDGT   Light-Duy Trucks (0.85/00 hs)   0.488   0.003   5.286   0.433   0.010   0.008   439.098   0.026		NA	MC	Motorcycles	0.629	0.003	13.358	3.076	0.026	0.023	392.583	0.051	
Gaodine   IDGV   Heavy-Duty Vehicles (RS-01 + Ibs)   1.272   0.005   17.093   0.867   0.022   0.020   771.734   0.045		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.280	0.002	3.512	0.336	0.008	0.007	339.290	0.025	
Diesel   LDDV   Light-Daty Vehicles (Passenger Carn)   0.151   0.003   2.586   0.114   0.004   0.004   332.636   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.488	0.003	5.206	0.433	0.010	0.008	439.098	0.026	
Diesel   LDDT   Light-Duty Penkelse (S,SO)		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.272	0.005	17.093	0.867	0.022	0.020	771.784	0.045	
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5,846   0.013   2,028   0.284   0.220   0.020   1527,182   0.025	Georgia	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.151	0.003	2.586	0.114	0.004	0.004	332.636	0.008	
NA		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.487	0.004	5.082	0.308	0.007	0.007	484.402	0.008	
Gasoline   DGV   Light-Duty Vehicles (Passenger Cars)   0.285   0.002   3.845   0.346   0.006   0.005   351.388   0.025		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.846	0.013	2.028	0.584	0.220	0.202	1527.182	0.029	
Gasoline   IDGT   Light-Duty Trucks (0+8,500 lbs)   0.500   0.003   5.816   0.471   0.007   0.006   453,517   0.026		NA	MC	Motorcycles	0.727	0.003	13.442	2.616	0.027	0.024	395.713	0.053	
Hawaii   Diesel   LIDDY   Light-Duty Vehicles (R5.01 + lhs)   1.250   0.005   19.002   0.970   0.016   0.014   794.816   0.046		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.285	0.002	3.845	0.346	0.006	0.005	351.388	0.025	
Hawaii   Diesel   LIDDY   Light-Duty Vehicles (Passenger Cars)   0.144   0.003   2.688   0.089   0.004   0.004   346.611   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.500	0.003	5.816	0.471	0.007	0.006	453.517	0.026	
Diesel   IDDT   Light-Duy Trucks (0.8,500 lbs)   0.468   0.004   5.312   0.286   0.007   0.007   503,672   0.008		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.250	0.005	19.062	0.970	0.016	0.014	794.816	0.046	
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)	Hawaii	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.144	0.003	2.688	0.089	0.004	0.004	346.611	0.008	
NA   MC   Motorcycles   0.680   0.003   31.380   2.888   0.025   0.023   392.034   0.052		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.468	0.004	5.312	0.286	0.007	0.007	503.672	0.008	
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.323   0.002   3.939   0.385   0.011   0.010   338.181   0.025		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.441	0.013	1.645	0.376	0.220	0.202	1514.791	0.026	
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.550   0.003   5.514   0.470   0.013   0.011   436,182   0.026		NA	MC	Motorcycles	0.680	0.003	13.380	2.858	0.025	0.023	392.034	0.052	
Gasoline   HDGV   Heavy-Duty Vehicles (8.501 + lbs)   1.388   0.005   17.877   0.837   0.028   0.025   758.397   0.044		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.323	0.002	3.939	0.385	0.011	0.010	338.181	0.025	
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.154   0.003   2.364   0.143   0.004   0.004   328.464   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.550	0.003	5.514	0.470	0.013	0.011	436.182	0.026	
Diesel   LIDDT   Light-Duty Trucks (0-8.500 lbs)   0.499   0.004   4.644   0.334   0.007   0.006   477.745   0.008     Diesel   HIDDV   Heavy-Duty Vehicles (8.501 + lbs)   6.525   0.013   2.102   0.632   0.222   0.204   1508.266   0.029     NA		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.388	0.005	17.877	0.837	0.028	0.025	758.397	0.044	
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.525   0.013   2.102   0.632   0.222   0.204   1508.266   0.029	Idaho	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.154	0.003	2.364	0.143	0.004	0.004	328.464	0.008	
NA   MC   Motorcycles   0.862   0.003   14.024   2.434   0.028   0.025   397.679   0.053		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.499	0.004	4.644	0.334	0.007	0.006	477.745	0.008	
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.286   0.002   3.716   0.349   0.010   0.009   353.834   0.025		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.525	0.013	2.102	0.632	0.222	0.204	1508.266	0.029	
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.504   0.003   5.435   0.468   0.012   0.011   457,965   0.027		NA	MC	Motorcycles	0.862	0.003	14.024	2.434	0.028	0.025	397.679	0.053	
Bilinois   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   1.359   0.005   19.112   0.923   0.028   0.025   798.615   0.046		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.286	0.002	3.716	0.349	0.010	0.009	353.834	0.025	
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   D.146   D.003   2.447   D.130   D.004   D.004   344.659   D.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.504	0.003	5.435	0.468	0.012	0.011	457.965	0.027	
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.483   0.004   4.918   0.341   0.007   0.007   502.402   0.008		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.359	0.005	19.112	0.923	0.028	0.025	798.615	0.046	
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.065   0.013   1.719   0.430   0.229   0.210   1505.486   0.026     NA   MC   Motorcycles   0.741   0.003   13.209   2.484   0.027   0.024   398.047   0.051     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.306   0.002   3.895   0.369   0.010   0.009   345.916   0.025     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.525   0.003   5.582   0.474   0.012   0.011   445.747   0.026     Gasoline   HDGW   Heavy-Duty Vehicles (8,501 + lbs)   1.330   0.005   18.107   0.879   0.026   0.023   774.739   0.045     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.482   0.004   4.760   0.331   0.004   0.004   336.859   0.008     Diesel   LDDT   Light-Duty Vehicles (8,501 + lbs)   5.927   0.013   2.008   0.576   0.226   0.208   1515.616   0.028     NA   MC   Motorcycles   0.766   0.003   13.759   2.436   0.027   0.024   396.688   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.326   0.002   4.166   0.405   0.011   0.010   337.383   0.025     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.326   0.002   4.166   0.405   0.011   0.010   337.383   0.025     Gasoline   LDDV   Light-Duty Vehicles (Passenger Cars)   0.326   0.002   4.166   0.405   0.011   0.010   337.383   0.025     Gasoline   LDDV   Light-Duty Vehicles (Passenger Cars)   0.326   0.002   4.166   0.405   0.011   0.010   337.383   0.025     Gasoline   LDDV   Light-Duty Vehicles (Passenger Cars)   0.152   0.003   5.777   0.492   0.013   0.012   435.164   0.026     Gasoline   LDDV   Light-Duty Vehicles (Passenger Cars)   0.152   0.003   2.390   0.143   0.004   0.004   327.519   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.152   0.003   2.390   0.143   0.004   0.004   327.519   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.152   0.003   2.390   0.143   0.004   0.004   336.357   0.025     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.152   0.003   0.031   0.031   0.007   0.006   0.008   0.008   0.008   0.008	Illinois	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.146	0.003	2.447	0.130	0.004	0.004	344.659	0.008	
NA   MC   Motorcycles   0.741   0.003   13.209   2.484   0.027   0.024   398.047   0.051		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.483	0.004	4.918	0.341	0.007	0.007	502.402	0.008	
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.306   0.002   3.895   0.369   0.010   0.009   345.916   0.025		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.065	0.013	1.719	0.430	0.229	0.210	1505.486	0.026	
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.525   0.003   5.582   0.474   0.012   0.011   445.747   0.026		NA	MC	Motorcycles	0.741	0.003	13.209	2.484	0.027	0.024	398.047	0.051	
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.525   0.003   5.582   0.474   0.012   0.011   445.747   0.026		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.306	0.002	3.895	0.369	0.010	0.009	345.916	0.025	
Indiana   Diesel   LDDV   Light-Duty Vehicles (R,501 + lbs)   L330   D.005   18.107   D.879   D.026   D.023   774.739   D.045			LDGT		0.525	0.003	5.582	0.474	0.012	0.011	445.747	0.026	
Indiana   Diesel LDDV   Light-Duty Vehicles (Passenger Cars)   0.148   0.003   2.404   0.133   0.004   0.004   336.859   0.008		Gasoline			1.330	0.005	1		0.026	0.023		0.045	
Diesel HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5,927   0.013   2.008   0.576   0.226   0.208   1515.616   0.028     NA MC   Motorcycles   0.766   0.003   13.759   2.436   0.027   0.024   396.688   0.052     Gasoline LDGV   Light-Duty Vehicles (Passenger Cars)   0.326   0.002   4.166   0.405   0.011   0.010   337.383   0.025     Gasoline LDGT   Light-Duty Trucks (0-8,500 lbs)   0.551   0.003   5.777   0.492   0.013   0.012   435.164   0.026     Gasoline HDGV   Heavy-Duty Vehicles (R,501 + lbs)   1.328   0.005   17.585   0.825   0.029   0.026   757.044   0.044     Diesel LDDV   Light-Duty Vehicles (Passenger Cars)   0.152   0.003   2.390   0.143   0.004   0.004   327.519   0.008     Diesel LDDT   Light-Duty Trucks (0-8,500 lbs)   0.487   0.004   4.682   0.333   0.007   0.006   476.467   0.008     Diesel HDDV   Heavy-Duty Vehicles (R,501 + lbs)   6.383   0.013   2.132   0.647   0.221   0.204   1512.728   0.029     NA MC   Motorcycles   0.803   0.003   13.917   2.292   0.027   0.024   397.782   0.054     Gasoline LDGT   Light-Duty Trucks (0-8,500 lbs)   0.547   0.003   5.779   0.479   0.011   0.010   437.683   0.026     Gasoline LDGT   Light-Duty Trucks (0-8,500 lbs)   0.547   0.003   5.779   0.479   0.011   0.010   437.683   0.026     Gasoline HDGV   Heavy-Duty Vehicles (Passenger Cars)   0.152   0.005   17.874   0.848   0.026   0.023   764.861   0.045     Gasoline HDGV   Heavy-Duty Vehicles (Passenger Cars)   0.152   0.003   2.496   0.129   0.004   0.004   330.327   0.008     Diesel LDDT   Light-Duty Trucks (0-8,500 lbs)   0.490   0.004   4.902   0.322   0.007   0.007   480.970   0.008     Diesel LDDT   Light-Duty Vehicles (R,501 + lbs)   5.844   0.013   1.963   0.562   0.218   0.200   1505.578   0.028     Diesel LDDT   Light-Duty Vehicles (R,501 + lbs)   5.844   0.013   1.963   0.562   0.218   0.200   1505.578   0.028     Diesel LDDT   Light-Duty Vehicles (R,501 + lbs)   5.844   0.013   1.963   0.562   0.218   0.200   1505.578   0.028     Diesel LDDT   Light-Duty Vehicles (R,501 + lbs)   5.844   0.013   1.9	Indiana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.148	0.003	2.404	0.133	0.004	0.004	336.859	0.008	
NA MC   Motorcycles   0.766   0.003   13.759   2.436   0.027   0.024   396.688   0.052		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.482	0.004	4.760	0.331	0.007	0.007	489.392	0.008	
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.326   0.002   4.166   0.405   0.011   0.010   337.383   0.025		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.927	0.013	2.008	0.576	0.226	0.208	1515.616	0.028	
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.551   0.003   5.777   0.492   0.013   0.012   435.164   0.026		NA	MC	Motorcycles	0.766	0.003	13.759	2.436	0.027	0.024	396.688	0.052	
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.551   0.003   5.777   0.492   0.013   0.012   435.164   0.026		Gasoline			0.326	0.002	4.166	0.405	0.011	0.010	337.383	0.025	
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   1.328   0.005   17.585   0.825   0.029   0.026   757.044   0.044		Gasoline	LDGT		0.551	0.003	5.777	0.492	0.013	0.012	435.164	0.026	
Diesel LDDT Light-Duty Trucks (0-8,500 lbs)   0.487   0.004   4.682   0.333   0.007   0.006   476.467   0.008									-	-			
Diesel LDDT Light-Duty Trucks (0-8,500 lbs)   0.487   0.004   4.682   0.333   0.007   0.006   476.467   0.008	Iowa	-				0.003				0.004		0.008	
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6,383   0.013   2.132   0.647   0.221   0.204   1512.728   0.029     NA   MC   Motorcycles   0.803   0.003   13.917   2.292   0.027   0.024   397.782   0.054     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.319   0.002   4.027   0.378   0.009   0.008   338.571   0.025     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.547   0.003   5.779   0.479   0.011   0.010   437.683   0.026     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   1.325   0.005   17.874   0.848   0.026   0.023   764.861   0.045     Diesel   LDDT   Light-Duty Vehicles (Passenger Cars)   0.152   0.003   2.496   0.129   0.004   0.004   330.327   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.490   0.004   4.902   0.322   0.007   0.007   480.970   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.844   0.013   1.963   0.562   0.218   0.200   1505.578   0.028     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.844   0.013   1.963   0.562   0.218   0.200   1505.578   0.028     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.844   0.013   1.963   0.562   0.218   0.200   1505.578   0.028     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.844   0.013   1.963   0.562   0.218   0.200   1505.578   0.028     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.844   0.013   1.963   0.562   0.218   0.200   1505.578   0.028     Diesel   Dies		Diesel	LDDT		0.487	0.004	4.682	0.333	0.007	0.006	476.467	0.008	
NA MC   Motorcycles   0.803   0.003   13.917   2.292   0.027   0.024   397.782   0.054		-					1						
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.319   0.002   4.027   0.378   0.009   0.008   338.571   0.025		NA	MC	Motorcycles	0.803	0.003	13.917	2.292	0.027	0.024	397.782	0.054	
Gasoline         LDGT         Light-Duty Trucks (0-8,500 lbs)         0.547         0.003         5.779         0.479         0.011         0.010         437.683         0.026           Gasoline         HDGV         Heavy-Duty Vehicles (8,501 + lbs)         1.325         0.005         17.874         0.848         0.026         0.023         764.861         0.045           Kansas         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.152         0.003         2.496         0.129         0.004         0.004         330.327         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.490         0.004         4.902         0.322         0.007         0.007         480.970         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         5.844         0.013         1.963         0.562         0.218         0.200         1505.578         0.028													
Gasoline         HDGV         Heavy-Duty Vehicles (8,501 + lbs)         1.325         0.005         17.874         0.848         0.026         0.023         764.861         0.045           Kansas         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.152         0.003         2.496         0.129         0.004         0.004         330.327         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.490         0.004         4.902         0.322         0.007         0.007         480.970         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         5.844         0.013         1.963         0.562         0.218         0.200         1505.578         0.028							1		-	1			
Kansas         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.152         0.003         2.496         0.129         0.004         0.004         330.327         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.490         0.004         4.902         0.322         0.007         0.007         480.970         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         5.844         0.013         1.963         0.562         0.218         0.200         1505.578         0.028				<u> </u>									
Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.490         0.004         4.902         0.322         0.007         0.007         480.970         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         5.844         0.013         1.963         0.562         0.218         0.200         1505.578         0.028	Kansas												
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 5.844 0.013 1.963 0.562 0.218 0.200 1505.578 0.028						-	1			1			
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Table 5-29. On-Road Vehicle Emission Factors – 2018 (cont.)

				Emission Factors (g/mi)							
State	Fuel Type		Vehicle Type			Criteria l		and Ozone	Precursors		
				NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.303	0.002	3.797	0.354	0.009	0.008	335.434	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.519	0.003	5.500	0.450	0.011	0.010	434.549	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.287	0.005	17.256	0.823	0.026	0.023	764.918	0.044
Kentucky	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.153	0.003	2.517	0.128	0.004	0.004	327.516	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.494	0.004	4.943	0.321	0.007	0.007	477.432	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.603	0.014	2.245	0.693	0.224	0.206	1540.718	0.030
	NA	MC	Motorcycles	0.768	0.003	13.450	2.411	0.027	0.024	397.868	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.292	0.002	3.828	0.356	0.007	0.006	345.499	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.509	0.003	5.743	0.470	0.009	0.008	446.666	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.241	0.005	17.551	0.913	0.020	0.018	786.887	0.045
Louisiana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.149	0.003	2.723	0.106	0.004	0.004	339.739	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.483	0.004	5.357	0.301	0.007	0.007	494.117	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.646	0.014	2.040	0.580	0.222	0.205	1553.334	0.029
	NA	MC	Motorcycles	0.681	0.003	13.430	2.831	0.027	0.024	394.519	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.320	0.002	3.848	0.404	0.012	0.011	329.561	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.536	0.003	5.276	0.479	0.015	0.013	425.723	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.315	0.005	16.215	0.789	0.031	0.028	739.280	0.044
Maine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.153	0.003	2.295	0.153	0.004	0.004	318.975	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.489	0.004	4.466	0.336	0.007	0.006	465.127	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.524	0.013	2.123	0.651	0.217	0.200	1489.490	0.029
	NA	MC	Motorcycles	0.832	0.003	13.821	2.094	0.029	0.025	398.378	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.281	0.002	3.417	0.322	0.009	0.008	341.032	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.493	0.003	4.958	0.413	0.011	0.010	442.380	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.335	0.005	17.836	0.855	0.027	0.024	776.376	0.045
Maryland	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.151	0.003	2.524	0.125	0.004	0.004	333.080	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.494	0.004	5.013	0.327	0.007	0.007	485.907	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.448	0.013	1.814	0.488	0.217	0.200	1495.979	0.027
	NA	MC	Motorcycles	0.763	0.003	13.157	2.380	0.028	0.024	398.543	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.284	0.002	3.486	0.338	0.010	0.009	340.023	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.496	0.003	5.030	0.433	0.013	0.011	440.873	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.364	0.005	18.125	0.835	0.031	0.027	770.655	0.045
Massachusetts	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.150	0.003	2.421	0.136	0.004	0.004	330.744	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.494	0.004	4.818	0.339	0.007	0.007	482.528	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.597	0.013	1.830	0.502	0.218	0.200	1484.699	0.027
	NA	MC	Motorcycles	0.799	0.003	13.299	2.241	0.028	0.025	399.900	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.319	0.002	4.071	0.385	0.011	0.010	343.442	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.549	0.003	5.830	0.496	0.014	0.012	443.649	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.350	0.005	18.058	0.867	0.031	0.028	772.541	0.045
Michigan	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.150	0.003	2.397	0.141	0.004	0.004	333.601	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.489	0.004	4.754	0.341	0.007	0.007	485.512	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.048	0.013	2.008	0.583	0.224	0.206	1509.295	0.028
	NA	MC	Motorcycles	0.793	0.003	13.927	2.329	0.029	0.026	398.883	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.323	0.002	4.203	0.410	0.013	0.012	339.765	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.543	0.003	5.825	0.504	0.016	0.014	438.426	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.346	0.005	17.974	0.874	0.035	0.031	759.105	0.045
Minnesota	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.150	0.003	2.353	0.150	0.004	0.004	328.922	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.488	0.004	4.635	0.345	0.007	0.007	478.690	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.629	0.013	1.833	0.512	0.216	0.198	1471.894	0.027
	NA	MC	Motorcycles	0.810	0.003	14.239	2.297	0.030	0.026	399.109	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.301	0.002	3.758	0.364	0.007	0.006	338.744	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.516	0.003	5.550	0.466	0.009	0.008	437.339	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.244	0.005	17.045	0.875	0.019	0.017	764.509	0.045
Mississippi	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.149	0.003	2.573	0.112	0.004	0.004	332.471	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.478	0.004	5.027	0.300	0.007	0.006	483.579	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.471	0.013	1.922	0.535	0.216	0.198	1511.565	0.028
	NA	MC	Motorcycles	0.711	0.003	13.486	2.693	0.026	0.023	393.493	0.053

Table 5-29. On-Road Vehicle Emission Factors – 2018 (cont.)

	Emission Factors (g/mi) Fuel Type Vehicle Type Criteria Pollutants and Ozone Precursors										
State	Fuel Type		Vehicle Type			Criteria l	Pollutants a	and Ozone	Precursors		
				$NO_x$	SO <sub>2</sub>	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.305	0.002	3.870	0.358	0.009	0.008	332.540	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.529	0.003	5.597	0.455	0.011	0.010	431.930	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.302	0.005	17.532	0.817	0.027	0.024	760.393	0.044
Missouri	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.154	0.003	2.547	0.129	0.004	0.004	324.596	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.497	0.004	4.999	0.323	0.007	0.007	474.122	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.921	0.013	1.979	0.575	0.214	0.197	1503.319	0.028
	NA	MC	Motorcycles	0.778	0.003	13.409	2.366	0.027	0.024	398.716	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.341	0.002	4.223	0.416	0.012	0.011	331.583	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.573	0.003	5.795	0.494	0.014	0.013	428.300	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.367	0.005	17.288	0.793	0.032	0.028	746.165	0.044
Montana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.157	0.003	2.336	0.153	0.004	0.004	320.983	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.501	0.004	4.554	0.338	0.007	0.006	467.809	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.035	0.013	2.260	0.713	0.222	0.204	1514.905	0.030
	NA	MC	Motorcycles	0.880	0.003	14.128	2.268	0.028	0.025	398.791	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.328	0.002	4.179	0.399	0.011	0.010	337.000	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.560	0.003	5.885	0.493	0.013	0.012	435.824	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.337	0.005	17.582	0.824	0.030	0.027	763.504	0.044
Nebraska	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.154	0.003	2.462	0.140	0.004	0.004	327.580	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.497	0.004	4.834	0.333	0.007	0.007	477.152	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.747	0.013	2.251	0.701	0.224	0.206	1535.699	0.030
	NA	MC	Motorcycles	0.809	0.003	13.887	2.397	0.028	0.025	398.891	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.298	0.002	3.513	0.347	0.008	0.007	352.061	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.525	0.003	5.150	0.444	0.010	0.009	454.877	0.027
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.449	0.005	18.879	0.943	0.023	0.020	797.765	0.045
Nevada	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.156	0.003	2.578	0.115	0.004	0.004	344.974	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.513	0.004	5.136	0.319	0.007	0.007	501.756	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.275	0.014	2.043	0.576	0.232	0.213	1554.144	0.029
	NA	MC	Motorcycles	0.833	0.003	13.597	3.044	0.027	0.024	395.604	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.284	0.002	3.496	0.356	0.011	0.010	337.150	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.487	0.003	4.881	0.435	0.014	0.012	435.180	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.345	0.005	17.452	0.815	0.030	0.026	754.441	0.045
New Hampshire	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.151	0.003	2.337	0.144	0.004	0.004	327.134	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.487	0.004	4.595	0.337	0.007	0.007	476.190	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.761	0.013	1.877	0.530	0.216	0.199	1473.540	0.028
	NA	MC	Motorcycles	0.815	0.003	13.482	2.167	0.028	0.024	398.105	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.283	0.002	3.428	0.322	0.009	0.008	331.741	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.471	0.003	4.797	0.385	0.011	0.010	430.711	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.307	0.005	16.745	0.762	0.028	0.025	762.015	0.044
New Jersey	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.155	0.003	2.496	0.131	0.004	0.004	323.508	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.501	0.004	4.901	0.322	0.007	0.007	472.329	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.202	0.014	2.415	0.776	0.226	0.208	1557.096	0.031
	NA	MC	Motorcycles	0.801	0.003	13.136	2.167	0.027	0.024	399.320	0.055
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.323	0.002	3.816	0.377	0.009	0.008	337.047	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.556	0.003	5.484	0.466	0.011	0.009	435.774	0.026
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.382	0.005	17.544	0.841	0.024	0.022	763.918	0.044
New Mexico	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.157	0.003	2.475	0.126	0.004	0.004	329.167	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.508	0.004	4.858	0.318	0.007	0.007	479.228	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.779	0.013	2.198	0.669	0.224	0.206	1533.462	0.030
	NA	MC	Motorcycles	0.850	0.003	13.669	2.759	0.027	0.024	396.657	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.259	0.002	3.302	0.321	0.010	0.009	343.448	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.442	0.003	4.530	0.380	0.013	0.011	444.225	0.026
N7 N7 1	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.358	0.005	18.007	0.866	0.029	0.026	773.759	0.045
New York	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.149	0.003	2.402	0.134	0.004	0.004	334.267	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.487	0.004	4.778	0.336	0.007	0.007	486.922	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.438	0.013	1.798	0.482	0.220	0.202	1485.244	0.027
	NA	MC	Motorcycles	0.782	0.003	13.518	2.317	0.028	0.025	398.399	0.052

Table 5-29. On-Road Vehicle Emission Factors – 2018 (cont.)

State   Fuel Type   Vehicle Type   Criteria Pollutants and Ozone Precurso   NO <sub>x</sub>   SO <sub>2</sub>   CO   VOC   PM <sub>10</sub>   PM <sub>2.5</sub>	CO <sub>2</sub> 341.679 441.373 770.580 334.490 486.649 1495.540 395.259 333.088 429.592 744.494	NH <sub>3</sub> 0.025 0.026 0.045 0.008 0.008 0.027 0.053 0.025
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.300   0.002   3.677   0.355   0.008   0.007	341.679 441.373 770.580 334.490 486.649 1495.540 395.259 333.088 429.592 744.494	0.025 0.026 0.045 0.008 0.008 0.027 0.053
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.521   0.003   5.442   0.466   0.010   0.009	441.373 770.580 334.490 486.649 1495.540 395.259 333.088 429.592 744.494	0.026 0.045 0.008 0.008 0.027 0.053
North Carolina   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   1.297   0.005   17.411   0.887   0.022   0.019	770.580 334.490 486.649 1495.540 395.259 333.088 429.592 744.494	0.045 0.008 0.008 0.027 0.053
North Carolina   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.149   0.003   2.505   0.118   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.00	334.490 486.649 1495.540 395.259 333.088 429.592 744.494	0.008 0.008 0.027 0.053
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.482   0.004   4.934   0.312   0.007   0.007   0.007	486.649 1495.540 395.259 333.088 429.592 744.494	0.008 0.027 0.053
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.323   0.013   1.817   0.485   0.217   0.200	1495.540 395.259 333.088 429.592 744.494	0.027 0.053
NA         MC         Motorcycles         0.735         0.003         13.554         2.626         0.027         0.024           Gasoline         LDGV         Light-Duty Vehicles (Passenger Cars)         0.335         0.002         4.465         0.453         0.015         0.014           Gasoline         LDGT         Light-Duty Trucks (0-8,500 lbs)         0.559         0.003         5.999         0.530         0.018         0.016           Gasoline         HDGV         Heavy-Duty Vehicles (8,501 + lbs)         1.331         0.005         17.180         0.826         0.038         0.033           North Dakota         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.154         0.003         2.320         0.162         0.004         0.004	395.259 333.088 429.592 744.494	0.053
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.335   0.002   4.465   0.453   0.015   0.014	333.088 429.592 744.494	
Gasoline         LDGT         Light-Duty Trucks (0-8,500 lbs)         0.559         0.003         5.999         0.530         0.018         0.016           Gasoline         HDGV         Heavy-Duty Vehicles (8,501 + lbs)         1.331         0.005         17.180         0.826         0.038         0.033           North Dakota         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.154         0.003         2.320         0.162         0.004         0.004	429.592 744.494	0.025
Gasoline         HDGV   Heavy-Duty Vehicles (8,501 + lbs)         1.331         0.005         17.180         0.826         0.038         0.033           North Dakota         Diesel         LDDV   Light-Duty Vehicles (Passenger Cars)         0.154         0.003         2.320         0.162         0.004         0.004	744.494	0.027
North Dakota Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.154 0.003 2.320 0.162 0.004 0.004	_	0.026
	321.188	0.044
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.493   0.004   4.517   0.346   0.007   0.006	467.901	0.008
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 6.618 0.013 2.147 0.666 0.218 0.201	1497.514	0.030
NA MC Motorcycles 0.845 0.003 14.347 2.185 0.029 0.026	399.480	0.054
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.291 0.002 3.737 0.355 0.010 0.009	345.601	0.025
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.500 0.003 5.331 0.449 0.012 0.011	445.974	0.026
Gasoline HDGV Heavy-Duty Vehicles (8,501 + lbs) 1.341 0.005 18.281 0.888 0.027 0.024	775.400	0.045
Ohio Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.148 0.003 2.404 0.133 0.004 0.004	336.483	0.008
Diesel         LDDT Light-Duty Trucks (0-8,500 lbs)         0.483         0.004         4.770         0.333         0.007         0.007	489.360	0.008
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 5.605 0.013 1.884 0.520 0.223 0.206	1499.697	0.028
NA MC Motorcycles 0.770 0.003 13.865 2.444 0.028 0.025	397.256	0.052
Gasoline         LDGV Light-Duty Vehicles (Passenger Cars)         0.313         0.002         3.979         0.369         0.008         0.007	342.827	0.025
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.540 0.003 5.813 0.475 0.010 0.009	442.777	0.026
Gasoline HDGV Heavy-Duty Vehicles (8,501 + lbs) 1.314 0.005 18.129 0.878 0.022 0.020	775.378	0.045
Oklahoma         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.151         0.003         2.570         0.119         0.004         0.004	335.628	0.008
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.488 0.004 5.056 0.314 0.007 0.007	488.116	0.008
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 5.819 0.013 2.001 0.571 0.221 0.203	1526.926	0.028
NA         MC         Motorcycles         0.750         0.003         13.607         2.677         0.026         0.023           Gasoline         LDGV Light-Duty Vehicles (Passenger Cars)         0.306         0.002         3.584         0.345         0.009         0.008	395.493 334.527	0.053
Gasoline LDGT Light-Duty Venicles (rassenger cars) 0.300 0.002 3.334 0.343 0.009 0.008  Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.516 0.003 5.124 0.432 0.011 0.010	432.286	0.025
Gasoline HDGV Heavy-Duty Vehicles (8,501 + lbs) 1.357 0.005 17.674 0.827 0.025 0.022	752.766	0.026
Oregon         Diesel         LDDV Light-Duty Vehicles (Passenger Cars)         0.151         0.003         2.335         0.133         0.004         0.004	325.921	0.008
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.490 0.004 4.591 0.325 0.007 0.007	474.646	0.008
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 6.094 0.013 1.987 0.576 0.219 0.201	1487.188	0.028
NA MC Motorcycles 0.838 0.003 13.825 2.316 0.028 0.024	396.993	0.053
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.291 0.002 3.564 0.339 0.008 0.007	341.489	0.025
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.504 0.003 5.184 0.434 0.010 0.009	441.794	0.026
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   1.329   0.005   17.868   0.870   0.024   0.021	773.576	0.045
Pacific Islands Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.150 0.003 2.482 0.122 0.004 0.004	333.844	0.008
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.489 0.004 4.914 0.320 0.007 0.007	486.158	0.008
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 5.821 0.013 1.963 0.554 0.222 0.204	1512.446	0.028
NA MC Motorcycles 0.769 0.003 13.394 2.521 0.027 0.024	396.844	0.053
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.284 0.002 3.504 0.338 0.010 0.009	343.315	0.025
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.492 0.003 5.043 0.431 0.012 0.011	443.655	0.026
Gasoline HDGV   Heavy-Duty Vehicles (8,501 + lbs)   1.340   0.005   17.717   0.861   0.028   0.025	774.364 334.312	0.045
		0.008
Diesel LDDT Light-Duty Trucks (0-8,500 lbs)   0.488   0.004   4.811   0.333   0.007   0.007	486.573 1517.428	0.008
NA MC Motorcycles 0.776 0.003 13.639 2.384 0.028 0.025	398.089	0.029
Gasoline LDGV Light-Duty Vehicles (Passenger Cars) 0.278 0.002 4.302 0.356 0.006 0.005	363.562	0.033
Gasoline LDGT Light-Duty Trucks (0-8,500 lbs) 0.494 0.003 6.584 0.498 0.007 0.007	470.734	0.023
Gasoline HDGV Heavy-Duty Vehicles (8,501 + lbs) 1.216 0.006 20.194 1.039 0.018 0.016	834.231	0.027
Puerto Rico Diesel LDDV Light-Duty Vehicles (Passenger Cars) 0.144 0.003 3.036 0.087 0.004 0.004	359.172	0.008
Diesel LDDT Light-Duty Trucks (0-8,500 lbs) 0.473 0.005 6.031 0.292 0.007 0.007	522.805	0.008
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 4,396 0.014 1.743 0.410 0.226 0.208	1584.210	0.026
NA MC Motorcycles 0.610 0.003 13.397 3.168 0.026 0.023	393.369	0.051

Table 5-29. On-Road Vehicle Emission Factors – 2018 (cont.)

State	Fuel Type	Vehicle Type	Emission Factors (g/mi)							
			Criteria Pollutants and Ozone Precursors							
	**		NOx	SO <sub>2</sub>	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
Rhode Island	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.223	0.002	2.897	0.288	0.010	0.009	345.555	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.385	0.003	3.868	0.324	0.013	0.011	448.044	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.372	0.005	18.527	0.865	0.030	0.026	783.790	0.045
	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.149	0.003	2.431	0.133	0.004	0.004	336.469	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.490	0.004	4.872	0.340	0.007	0.007	490.868	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.592	0.013	1.859	0.506	0.224	0.206	1502.675	0.027
	NA	MC Motorcycles	0.777	0.003	13.264	2.325	0.028	0.025	399.552	0.052
South Carolina	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.304	0.002	3.810	0.361	0.008	0.007	342.047	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.528	0.003	5.679	0.474	0.009	0.008	442.238	0.026
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.273	0.005	17.217	0.884	0.022	0.019	778.058	0.045
	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.151	0.003	2.602	0.114	0.004	0.004	335.435	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.488	0.004	5.123	0.308	0.007	0.007	488.028	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.169	0.014	2.163	0.643	0.225	0.207	1551.198	0.030
	NA	MC Motorcycles	0.720	0.003	13.526	2.716	0.027	0.024	395.567	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.331	0.002	4.254	0.417	0.013	0.011	331.663	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.561	0.003	5.937	0.506	0.015	0.013	429.263	0.026
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.322	0.005	17.007	0.813	0.034	0.030	751.509	0.044
South Dakota	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.156	0.003	2.411	0.151	0.004	0.004	321.272	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.501	0.004	4.705	0.339	0.007	0.007	468.690	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.009	0.013	2.302	0.731	0.222	0.204	1527.871	0.031
	NA	MC Motorcycles	0.831	0.003	14.139	2.309	0.029	0.026	399.772	0.055
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.295	0.002	3.684	0.349	0.008	0.007	342.541	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.513	0.003	5.424	0.454	0.010	0.009	443.013	0.026
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.301	0.005	17.669	0.881	0.024	0.021	777.355	0.045
Tennessee	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.150	0.003	2.543	0.120	0.004	0.004	335.098	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.488	0.004	5.025	0.318	0.007	0.007	487.762	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.019	0.013	2.070	0.602	0.224	0.206	1533.409	0.029
	NA	MC Motorcycles	0.741	0.003	13.634	2.622	0.028	0.024	396.666	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.272	0.002	3.566	0.326	0.007	0.006	344.527	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.478	0.003	5.323	0.427	0.009	0.008	446.488	0.026
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.267	0.005	17.824	0.893	0.021	0.018	788.510	0.045
Texas	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.151	0.003	2.750	0.106	0.004	0.004	338.771	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.493	0.004	5.424	0.304	0.007	0.007	493.509	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.452	0.014	1.918	0.526	0.219	0.201	1538.403	0.028
	NA	MC Motorcycles	0.701	0.003	12.933	2.760	0.026	0.023	395.615	0.053
Utah	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.301	0.002	3.783	0.360	0.011	0.009	346.986	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.526	0.003	5.451	0.456	0.013	0.012	449.260	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.436	0.005	18.969	0.905	0.031	0.027	785.506	0.045
	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.154	0.003	2.466	0.134	0.004	0.004	337.825	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.506	0.004	4.923	0.340	0.007	0.007	492.287	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.014	0.013	1.936	0.543	0.225	0.207	1516.427	0.028
	NA	MC Motorcycles	0.844	0.003	14.005	2.685	0.029	0.026	399.044	0.052
Vermont	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.293	0.002	3.602	0.385	0.013	0.011	330.306	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.496	0.003	4.938	0.454	0.015	0.013	426.794	0.026
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.317	0.005	16,360	0.796	0.032	0.029	742.170	0.044
	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.154	0.003	2.320	0.153	0.004	0.004	319.623	0.008
		LDDT Light-Duty Trucks (0-8,500 lbs)	0.491	0.004	4.517	0.337	0.007	0.006	466.080	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.608	0.013	2.156	0.667	0.218	0.201	1497.277	0.030
	NA	MC Motorcycles	0.831	0.003	13.953	2.155	0.029	0.025	398.759	0.054
Virgin Islands	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.281	0.002	4.074	0.372	0.005	0.005	344.279	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.473	0.003	6.041	0.461	0.006	0.006	443.987	0.026
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.119	0.005	18.375	0.926	0.011	0.010	772.913	0.045
	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.146	0.003	2.854	0.089	0.004	0.004	340.779	0.007
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.458	0.004	5.548	0.267	0.006	0.006	495.397	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	3.801	0.013	1.483	0.321	0.199	0.183	1496.156	0.025
	NA	MC Motorcycles	0.628	0.003	13.316	2.654	0.023	0.021	388.004	0.053
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Table 5-29. On-Road Vehicle Emission Factors – 2018 (cont.)

					I	Emission Fa	actors (g/m	i)		
State	Fuel Type	Vehicle Type			Criteria F	ollutants a	nd Ozone I	Precursors		
	"		NO <sub>x</sub>	SO <sub>2</sub>	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.296	0.002	3.663	0.344	0.009	0.008	341.706	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.515	0.003	5.366	0.445	0.011	0.010	442.266	0.026
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.314	0.005	17.497	0.856	0.025	0.022	775.598	0.045
Virginia	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.150	0.003	2.507	0.123	0.004	0.004	333.906	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.490	0.004	4.964	0.322	0.007	0.007	486.342	800.0
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.957	0.013	2.025	0.583	0.223	0.205	1522.598	0.029
	NA	MC Motorcycles	0.751	0.003	13.305	2.460	0.027	0.024	397.410	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.292	0.002	3.662	0.339	0.010	0.008	338.542	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.505	0.003	5.311	0.436	0.012	0.011	438.929	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.379	0.005	18.249	0.855	0.029	0.025	768.870	0.045
Washington	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.151	0.003	2.379	0.134	0.004	0.004	329.716	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.495	0.004	4.740	0.336	0.007	0.007	480.968	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.184	0.013	2.023	0.589	0.223	0.205	1505.080	0.029
	NA	MC Motorcycles	0.826	0.003	13.943	2.361	0.029	0.026	399.517	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.317	0.002	3.886	0.373	0.010	0.008	332.377	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.542	0.003	5.600	0.471	0.012	0.010	430.376	0.026
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.298	0.005	17.000	0.821	0.027	0.023	753.637	0.044
West Virginia	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.152	0.003	2.430	0.133	0.004	0.004	323.884	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.490	0.004	4.757	0.323	0.007	0.007	472.325	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.291	0.013	2.105	0.633	0.218	0.201	1508.213	0.029
	NA	MC Motorcycles	0.786	0.003	13.777	2.384	0.028	0.025	397.672	0.054
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.312	0.002	4.015	0.393	0.012	0.011	337.374	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.532	0.003	5.616	0.486	0.015	0.013	435.599	0.026
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.327	0.005	17.547	0.835	0.032	0.028	756.689	0.045
Wisconsin	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.151	0.003	2.361	0.147	0.004	0.004	327.000	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.489	0.004	4.641	0.340	0.007	0.007	476.060	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.095	0.013	2.000	0.588	0.218	0.201	1491.732	0.029
	NA	MC Motorcycles	0.806	0.003	13.816	2.233	0.028	0.025	398.910	0.054
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.344	0.002	4.330	0.423	0.012	0.011	333.276	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.583	0.003	5.984	0.507	0.015	0.013	431.170	0.026
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.380	0.005	17.386	0.800	0.035	0.031	755.535	0.044
Wyoming	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.158	0.003	2.396	0.153	0.004	0.004	322.611	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.510	0.004	4.689	0.343	0.007	0.007	470.324	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	7.521	0.014	2.420	0.785	0.227	0.208	1543.911	0.031
	NA	MC Motorcycles	0.885	0.003	14.184	2.374	0.029	0.026	400.436	0.055

Table 5-30. On-Road Vehicle Emission Factors – 2019

State							Emission F	actors (g/m	ıi)		
State	Fuel Type		Vehicle Type			Criteria	Pollutants a	and Ozone l	Precursors		
	• •		•	NO <sub>x</sub>	SO <sub>2</sub>	со	voc	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.257	0.002	3.550	0.325	0.007	0.006	334.919	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.448	0.003	5.138	0.419	0.009	0.008	430.827	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.115	0.005	16.079	0.812	0.019	0.017	772.599	0.045
Alabama	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.138	0.003	2.565	0.106	0.004	0.004	326.960	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.420	0.004	4.693	0.268	0.007	0.006	468.644	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.053	0.013	1.810	0.500	0.192	0.177	1511.472	0.028
	NA	MC LDGV	Motorcycles	0.707	0.003	13.296 4.115	2.711 0.401	0.026	0.023	394.070 332.171	0.053
	Gasoline Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.283	0.002	5.313	0.461	0.014	0.013	427.045	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.233	0.005	16.654	0.758	0.039	0.010	757.524	0.023
Alaska	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.142	0.003	2.276	0.166	0.004	0.004	317.726	0.008
riusku	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.435	0.003	4.182	0.332	0.007	0.004	455.971	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.271	0.013	2.056	0.639	0.197	0.181	1497,414	0.030
	NA	MC	Motorcycles	0.870	0.003	14.207	1.996	0.030	0.026	402.347	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.254	0.002	3.495	0.318	0.006	0.006	342.036	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.451	0.003	5.008	0.400	0.008	0.007	441.579	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.261	0.005	17.810	0.876	0.019	0.017	801.289	0.045
Arizona	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.148	0.003	2.779	0.097	0.004	0.004	335.014	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.461	0.004	5.135	0.268	0.007	0.007	481.011	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.830	0.014	1.959	0.557	0.199	0.183	1566.687	0.029
	NA	MC	Motorcycles	0.825	0.003	12.875	3.221	0.026	0.023	395.173	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.268	0.002	3.759	0.328	0.007	0.006	327.919	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.466	0.003	5.364	0.415	0.009	0.008	423.551	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.135	0.005	16.393	0.771	0.021	0.019	764.535	0.044
Arkansas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.142	0.003	2.591	0.112	0.004	0.004	319.611	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.431	0.004	4.730	0.274	0.007	0.006	459.523	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.557	0.013	1.956	0.574	0.191	0.176	1519.068	0.029
	NA	MC	Motorcycles	0.748	0.003	13.406	2.563	0.027	0.023	396.275	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.266	0.002	3.546	0.330	0.010	0.009	332.803	0.024
	Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs)	0.459 1.240	0.003	4.868 17.106	0.401	0.012	0.011	429.712 769.881	0.025
6.11	Gasoline Diesel	LDDV	Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars)	0.143	0.003	2.423	0.790	0.029	0.025	322.099	0.045
Colorado	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.143	0.003	4.480	0.300	0.004	0.004	463.117	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.564	0.004	1.828	0.521	0.193	0.178	1493.071	0.008
	NA	MC	Motorcycles	0.840	0.003	13.808	2.625	0.029	0.025	399.376	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.225	0.003	3,205	0.286	0.009	0.008	332,735	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.400	0.002	4.507	0.351	0.009	0.010	431.399	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.211	0.005	17.203	0.778	0.012	0.025	776.149	0.045
Connecticut	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.139	0.003	2.469	0.125	0.004	0.004	322.560	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.435	0.004	4.606	0.301	0.007	0.007	465.081	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.624	0.013	1.535	0.389	0.187	0.172	1463.838	0.026
	NA	MC	Motorcycles	0.782	0.003	13.094	2.298	0.028	0.025	400.644	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.240	0.002	3.133	0.291	0.008	0.007	336.549	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.418	0.003	4.351	0.358	0.010	0.009	432.167	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.176	0.005	16.987	0.781	0.020	0.018	766.516	0.046
Delaware	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.136	0.003	2.393	0.118	0.004	0.004	327.024	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.415	0.004	4.393	0.283	0.007	0.006	468.545	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.128	0.013	1.411	0.325	0.187	0.172	1445.250	0.025
	NA	MC	Motorcycles	0.752	0.003	12.890	2.310	0.025	0.023	394.621	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.220	0.002	3.128	0.278	0.008	0.007	350.671	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.386	0.003	4.378	0.347	0.010	0.009	451.938	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.219	0.005	18.193	0.858	0.022	0.019	808.594	0.047
District of Columbia	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.133	0.003	2.469	0.113	0.004	0.004	341.090	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.416	0.004	4.617	0.291	0.007	0.007	490.096	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.313	0.013	1.537	0.358	0.205	0.189	1513.013	0.026
	NA	MC	Motorcycles	0.718	0.003	12.906	2.535	0.026	0.023	395.429	0.050

Table 5-30. On-Road Vehicle Emission Factors – 2019 (cont.)

							Emission F	actors (g/m	ıi)		
State	Fuel Type		Vehicle Type			Criteria	Pollutants a		Precursors		
				NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.241	0.002	3.567	0.312	0.006	0.005	351.878	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.430	0.003	5.265	0.421	0.008	0.007	452.710	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.094	0.005	17.367	0.915	0.017	0.015	817.264	0.046
Florida	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.134	0.003	2.799	0.088	0.004	0.004	345.135	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.414	0.004	5.176	0.259	0.007	0.006	494.491	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.623	0.014	1.793	0.465	0.203	0.186	1571.779	0.028
	NA	MC	Motorcycles	0.627	0.003	13.184	3.057	0.026	0.023	392.684	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.240	0.002	3.316	0.301	0.007	0.006	330.360	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.421	0.003	4.796	0.385	0.009	0.008	426.441	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.120	0.005	15.818	0.786	0.021	0.018	768.899	0.045
Georgia	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.140	0.003	2.584	0.108	0.004	0.004	322.308	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.428	0.004	4.731	0.271	0.007	0.006	463.103	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.315	0.013	1.879	0.536	0.191	0.176	1513.517	0.029
	NA	MC	Motorcycles	0.725	0.003	13.262	2.600	0.027	0.024	395.819	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.242	0.002	3.639	0.309	0.005	0.005	342.073	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.431	0.003	5.362	0.417	0.007	0.006	440.369	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.102	0.005	17.734	0.880	0.015	0.013	791.990	0.046
Hawaii	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.134	0.003	2.685	0.083	0.004	0.004	335.809	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.411	0.004	4.941	0.249	0.007	0.006	481.445	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	3.964	0.013	1.492	0.336	0.190	0.175	1502.295	0.026
	NA	MC	Motorcycles	0.678	0.003	13.209	2.840	0.025	0.023	392.137	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.278	0.002	3.706	0.347	0.010	0.009	329.346	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.475	0.003	5.074	0.420	0.012	0.011	423.685	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.224	0.005	16.551	0.759	0.026	0.023	755.463	0.044
Idaho	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.143	0.003	2.363	0.136	0.004	0.004	318.330	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.437	0.004	4.318	0.297	0.007	0.006	456.795	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.946	0.013	1.953	0.582	0.194	0.178	1494.594	0.029
	NA	MC	Motorcycles	0.859	0.003	13.827	2.421	0.028	0.024	397.782	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.244	0.002	3.490	0.314	0.009	0.008	344.537	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.434	0.003	4.982	0.416	0.011	0.010	444.807	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.198	0.005	17.742	0.835	0.026	0.023	795.706	0.046
Illinois	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.135	0.003	2.446	0.124	0.004	0.004	334.002	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.423	0.004	4.572	0.302	0.007	0.007	480.388	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.529	0.013	1.563	0.387	0.198	0.182	1493.154	0.026
	NA	MC	Motorcycles	0.739	0.003	13.021	2,469	0.026	0.023	398.142	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.263	0.002	3.663	0.332	0.009	0.008	336.845	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.454	0.003	5.135	0.422	0.011	0.010	432.945	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.173	0.005	16.756	0.796	0.024	0.021	771.810	0.045
Indiana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.138	0.003	2.403	0.126	0.004	0.004	326.450	0.008
- Indiana	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.422	0.004	4.424	0.293	0.007	0.006	467.913	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.376	0.013	1.855	0.527	0.197	0.181	1502.307	0.028
	NA	MC	Motorcycles	0.764	0.003	13.564	2.422	0.027	0.024	396.788	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.281	0.002	3.927	0.366	0.010	0.009	328.577	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.477	0.003	5.329	0.441	0.012	0.011	422.704	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.171	0.005	16.304	0.750	0.027	0.024	754.109	0.044
Iowa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.141	0.003	2.388	0.136	0.004	0.004	317.417	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.428	0.004	4.355	0.296	0.007	0.006	455.574	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.824	0.013	1.983	0.596	0.193	0.178	1498.916	0.029
	NA	MC	Motorcycles	0.800	0.003	13.717	2.278	0.027	0.024	397.886	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.002	3.802	0.341	0.008	0.007	329.695	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.473	0.003	5.332	0.427	0.011	0.009	425.110	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.169	0.005	16.586	0.770	0.024	0.021	761.963	0.045
Kansas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.141	0.003	2.495	0.122	0.004	0.004	320.101	0.008
- 200110000	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.430	0.003	4.562	0.122	0.007	0.004	459.852	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.304	0.013	1.815	0.515	0.189	0.174	1492.157	0.028
	NA	MC	Motorcycles	0.778	0.003	13.510	2.463	0.027	0.024	397.004	0.054
	11/1	IVIC	1.10101030103	0.770	0.005	15.510	2.403	0.027	0.024	377.00 <del>1</del>	0.054

Table 5-30. On-Road Vehicle Emission Factors – 2019 (cont.)

State				Emission Factors (g/mi)							
State	Fuel Type		Vehicle Type				Pollutants a				
	•		•	NO <sub>x</sub>	SO <sub>2</sub>	со	voc	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.260	0.002	3.578	0.318	0.008	0.007	326.641	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.449	0.003	5.063	0.401	0.010	0.009	422.064	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.134	0.005	15.954	0.747	0.024	0.021	761.992	0.044
Kentucky	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.143	0.003	2.515	0.121	0.004	0.004	317.375	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.434	0.004	4.603	0.284	0.007	0.007	456.492	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.043	0.013	2.096	0.640	0.195	0.179	1526.486	0.030
	NA	MC	Motorcycles	0.765	0.003	13.263	2.398	0.027	0.024	397.974	0.055
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.249	0.002	3.619	0.319	0.007	0.006	336.379	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.439	0.003	5.296	0.417	0.008	0.007	433.762	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.092	0.005	16.254	0.829	0.019	0.017	784.005	0.045
Louisiana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.139	0.003	2.721	0.099	0.004	0.004	329.169	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.424	0.004	4.988	0.264	0.007	0.006	472.366	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.131	0.013	1.888	0.532	0.194	0.178	1539.557	0.029
	NA	MC	Motorcycles	0.678	0.003	13.252	2.800	0.027	0.024	394.626	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.275	0.002	3.613	0.365	0.011	0.010	320.991	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.464	0.003	4.852	0.429	0.014	0.012	413.560	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.158	0.005	14.983	0.716	0.029	0.025	736.358	0.044
Maine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.143	0.003	2.294	0.146	0.004	0.004	309.155	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.430	0.004	4.154	0.299	0.007	0.006	444.742	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.957	0.013	1.977	0.601	0.189	0.174	1475.700	0.029
	NA	MC	Motorcycles	0.830	0.003	13.623	2.076	0.028	0.025	398.483	0.055
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.239	0.002	3.223	0.291	0.008	0.007	332.076	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.423	0.003	4.561	0.368	0.010	0.009	429.664	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.177	0.005	16.540	0.775	0.025	0.022	773.487	0.045
Maryland	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.140	0.003	2.522	0.118	0.004	0.004	322.758	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.434	0.004	4.667	0.289	0.007	0.007	464.609	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.914	0.013	1.666	0.444	0.189	0.173	1483.033	0.027
	NA	MC	Motorcycles	0.761	0.003	12.976	2.366	0.028	0.024	398.646	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.241	0.002	3.267	0.303	0.009	0.008	331.122	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.425	0.003	4.594	0.385	0.012	0.011	428.237	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.203	0.005	16.819	0.757	0.028	0.025	767.745	0.045
Massachusetts	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.140	0.003	2.420	0.129	0.004	0.004	320.522	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.434	0.004	4.484	0.301	0.007	0.007	461.412	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.052	0.013	1.682	0.458	0.189	0.174	1471.799	0.027
	NA	MC	Motorcycles	0.796	0.003	13.111	2.228	0.028	0.025	400.002	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.002	3.825	0.347	0.010	0.009	334.459	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.475	0.003	5.362	0.443	0.013	0.011	430.939	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.190	0.005	16.696	0.785	0.029	0.025	769.600	0.045
Michigan	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.139	0.003	2.395	0.134	0.004	0.004	323.305	0.008
-	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.429	0.004	4.422	0.303	0.007	0.007	464.252	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.489	0.013	1.858	0.535	0.195	0.179	1495.955	0.028
	NA	MC	Motorcycles	0.791	0.003	13.727	2.315	0.029	0.025	398.983	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.278	0.002	3.937	0.370	0.012	0.011	330.910	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.472	0.003	5.347	0.451	0.015	0.013	425.898	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.187	0.005	16.577	0.792	0.032	0.028	756.179	0.045
Minnesota	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.140	0.003	2.352	0.142	0.004	0.004	318.788	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.428	0.004	4.310	0.307	0.007	0.006	457.731	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.084	0.013	1.687	0.468	0.187	0.172	1458.980	0.027
	NA	MC	Motorcycles	0.807	0.003	14.025	2.282	0.029	0.026	399.210	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.257	0.002	3.548	0.327	0.007	0.006	329.822	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.445	0.003	5.115	0.414	0.008	0.007	424.720	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.095	0.005	15.788	0.795	0.018	0.016	761.654	0.045
Mississippi	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.139	0.003	2.571	0.106	0.004	0.004	322.143	0.008
**	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.420	0.004	4.677	0.263	0.007	0.006	462.258	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.959	0.013	1.774	0.489	0.188	0.173	1498.140	0.028
	NA	MC	Motorcycles	0.708	0.003	13.306	2.677	0.026	0.023	393.600	0.054

Table 5-30. On-Road Vehicle Emission Factors – 2019 (cont.)

							Emission F	actors (g/m	ni)		
State	Fuel Type		Vehicle Type			Criteria	Pollutants a	and Ozone	Precursors		
				NOx	SO <sub>2</sub>	CO	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.262	0.002	3.652	0.323	0.008	0.007	323.831	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.457	0.003	5.157	0.406	0.010	0.009	419.531	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.148	0.005	16.260	0.742	0.025	0.022	757.505	0.044
Missouri	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.143	0.003	2.546	0.122	0.004	0.004	314.539	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.437	0.004	4.657	0.286	0.007	0.007	453.338	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.383	0.013	1.834 13.223	0.528	0.186 0.027	0.171 0.024	1489.744	0.028
	NA Gasoline	MC LDGV	Motorcycles	0.775	0.003	3.971	2.352 0.376	0.027	0.024	398.823 322.959	0.055
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.293	0.002	5.339	0.376	0.011	0.010	416.064	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.206	0.005	15.987	0.720	0.013	0.012	743.217	0.023
Montana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.146	0.003	2.335	0.146	0.004	0.004	311.101	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.440	0.004	4.237	0.302	0.007	0.006	447.320	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.445	0.013	2.112	0.660	0.193	0.178	1500.724	0.030
	NA	MC	Motorcycles	0.877	0.003	13.926	2.255	0.028	0.025	398.896	0.055
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.283	0.002	3.943	0.360	0.010	0.009	328.197	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.485	0.003	5.432	0.441	0.012	0.011	423.340	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.179	0.005	16.290	0.749	0.028	0.025	760.553	0.044
Nebraska	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.143	0.003	2.460	0.133	0.004	0.004	317.465	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.437	0.004	4.500	0.296	0.007	0.006	456.255	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.175	0.013	2.102	0.648	0.195	0.180	1521.503	0.030
	NA	MC	Motorcycles	0.806	0.003	13.689	2.384	0.028	0.024	398.996	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.253	0.002	3.318	0.312	0.007	0.006	342.775	0.024
	Gasoline Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.450 1.277	0.003	4.738 17.535	0.394 0.855	0.009	0.008	441.754 794.851	0.025 0.045
Nevada	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.145	0.003	2.576	0.855	0.021	0.019	334.271	0.045
Nevada	Diesel	LDDT	Light-Duty Venicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.143	0.003	4.776	0.109	0.004	0.004	479.711	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.689	0.004	1.886	0.526	0.201	0.185	1540.689	0.028
	NA	MC	Motorcycles	0.830	0.003	13.418	3.028	0.027	0.024	395.705	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.242	0.002	3.273	0.321	0.010	0.009	328.348	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.417	0.003	4.461	0.387	0.013	0.011	422.722	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.186	0.005	16.183	0.739	0.027	0.024	751.530	0.045
New Hampshire	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.140	0.003	2.336	0.137	0.004	0.004	317.045	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.427	0.004	4.273	0.299	0.007	0.006	455.314	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.214	0.013	1.730	0.485	0.188	0.173	1460.505	0.028
	NA	MC	Motorcycles	0.812	0.003	13.289	2.154	0.027	0.024	398.207	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.242	0.002	3.236	0.291	0.008	0.007	323.059	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.406	0.003	4.420	0.343	0.011	0.009	418.349	0.025
N. T	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.152	0.005	15.495 2.494	0.692	0.026	0.023	759.066	0.044
New Jersey	Diesel Diesel	LDDV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.144 0.441	0.003	4.566	0.124 0.285	0.004	0.004	313.493 451.642	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.620	0.004	2.266	0.283	0.198	0.007	1542.376	0.008
	NA	MC	Motorcycles	0.798	0.003	12.954	2.155	0.198	0.182	399,428	0.055
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.756	0.003	3.604	0.340	0.027	0.024	328.206	0.033
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.480	0.002	5.057	0.416	0.010	0.009	423.247	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.218	0.005	16.264	0.764	0.023	0.020	760.998	0.044
New Mexico	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.146	0.003	2.473	0.119	0.004	0.004	318.976	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.446	0.004	4.521	0.281	0.007	0.006	458.185	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.194	0.013	2.048	0.618	0.195	0.179	1519.413	0.030
	NA	MC	Motorcycles	0.847	0.003	13.480	2.745	0.027	0.024	396.763	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.223	0.002	3.115	0.291	0.009	0.008	334.446	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.382	0.003	4.192	0.342	0.012	0.010	431.478	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.197	0.005	16.696	0.785	0.027	0.024	770.852	0.045
New York	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.138	0.003	2.401	0.127	0.004	0.004	323.936	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.427	0.004	4.444	0.298	0.007	0.007	465.584	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.898	0.013	1.648	0.438	0.191	0.176	1472.508	0.027
	NA	MC	Motorcycles	0.779	0.003	13.328	2.303	0.028	0.025	398.499	0.053

Table 5-30. On-Road Vehicle Emission Factors – 2019 (cont.)

			Vehicle Type  Emission Factors (g/mi)  Criteria Pollutants and Ozone Precursors  NO SO CO VOC PM. PM. CO.							
State	Fuel Type	Vehicle Type								
	• •	•	NO <sub>x</sub>	SO <sub>2</sub>	СО	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.256	0.002	3.468	0.319	0.007	0.007	332.688	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.449	0.003	5.009	0.414	0.009	0.008	428.656	0.025
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.142	0.005	16.126	0.804	0.021	0.018	767.709	0.045
North Carolina	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.138	0.003	2.503	0.111	0.004	0.004	324.116	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.423	0.004	4.590	0.275	0.007	0.006	465.243	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.801	0.013	1.668	0.441	0.189	0.174	1482.582	0.027
	NA	MC Motorcycles	0.733	0.003	13.371	2.611	0.027	0.024	395.363	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.289	0.002	4.172	0.410	0.014	0.012	324.452	0.023
	Gasoline Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)  HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.485 1.173	0.003	5.508 15.823	0.475 0.750	0.016	0.015	417.352 741.542	0.025
North Dakota	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.144	0.003	2.319	0.750	0.034	0.030	311.321	0.044
North Dakota	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.144	0.003	4.202	0.309	0.004	0.004	447.426	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.047	0.004	2.001	0.615	0.190	0.175	1483.638	0.029
	NA	MC Motorcycles	0.842	0.003	14.126	2.171	0.029	0.026	399.584	0.055
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.250	0.002	3.516	0.319	0.009	0.008	336.538	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.432	0.003	4.907	0.401	0.012	0.010	433.169	0.025
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.183	0.005	16.916	0.805	0.025	0.022	772.484	0.045
Ohio	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	2.402	0.126	0.004	0.004	326.084	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.423	0.004	4.434	0.295	0.007	0.006	467.893	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.062	0.013	1.732	0.473	0.194	0.179	1486.741	0.028
	NA	MC Motorcycles	0.768	0.003	13.669	2.430	0.028	0.025	397.355	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.268	0.002	3.760	0.332	0.007	0.007	333.809	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.467	0.003	5.363	0.423	0.009	0.008	430.022	0.025
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.158	0.005	16.827	0.798	0.021	0.018	772.483	0.045
Oklahoma	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.140	0.003	2.568	0.112	0.004	0.004	325.217	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.429	0.004	4.705	0.276	0.007	0.006	466.654	0.008
		HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.283	0.013	1.850	0.523	0.192	0.177	1513.384	0.028
	NA Gasoline	MC Motorcycles  LDGV Light-Duty Vehicles (Passenger Cars)	0.748 0.262	0.003	13.421 3.376	2.662 0.311	0.026	0.023	395.597 325.765	0.054
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.202	0.002	4.711	0.385	0.010	0.007	419.873	0.024
		HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.196	0.005	16.368	0.750	0.023	0.020	749.868	0.045
Oregon	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.141	0.003	2.334	0.126	0.004	0.004	315.847	0.008
Olegon.	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.430	0.004	4.270	0.288	0.007	0.006	453.808	0.008
		HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.536	0.013	1.839	0.528	0.190	0.175	1473.856	0.028
	NA	MC Motorcycles	0.836	0.003	13.637	2.304	0.027	0.024	397.097	0.054
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.249	0.002	3.365	0.305	0.008	0.007	332.511	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.435	0.003	4.778	0.387	0.010	0.009	429.077	0.025
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.171	0.005	16.565	0.789	0.023	0.020	770.673	0.045
Pacific Islands	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.139	0.003	2.480	0.115	0.004	0.004	323.499	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.429	0.004	4.572	0.283	0.007	0.007	464.815	0.008
		HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.277	0.013	1.813	0.507	0.193	0.178	1499.137	0.028
	NA	MC Motorcycles	0.766	0.003	13.212	2.507	0.027	0.024	396.944	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.242	0.002	3.295	0.304	0.009	0.008	334.316	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.423	0.003	4.631	0.384	0.011	0.010	430.921	0.025
D 1		HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.181	0.005	16.398	0.780	0.026	0.023	771.433	0.045
Pennsylvania	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.139	0.003	2.424 4.475	0.127 0.295	0.004	0.004	323.978	0.008
	Diesel Diesel	LDDT Light-Duty Trucks (0-8,500 lbs) HDDV Heavy-Duty Vehicles (8,501 + lbs)	0.428 5.517	0.004	1.886	0.710	0.007 0.196	0.400	465.246 1503.991	0.008
	NA	MC Motorcycles	0.773	0.013	13.448	2.370	0.190	0.180	398.190	0.029
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.773	0.003	4.076	0.318	0.028	0.025	353.911	0.033
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.426	0.002	6.079	0.441	0.007	0.005	457.079	0.024
		HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.072	0.006	18.789	0.942	0.017	0.015	831.383	0.046
Puerto Rico	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.134	0.003	3.033	0.081	0.004	0.004	347.957	0.008
		LDDT Light-Duty Trucks (0-8,500 lbs)	0.415	0.004	5.617	0.254	0.007	0.007	499.783	0.008
						1				
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	3.935	0.014	1.585	0.367	0.196	0.180	1571.241	0.026

Table 5-30. On-Road Vehicle Emission Factors – 2019 (cont.)

State	Fuel Type	Vehicle Type								
	• •	••	NO <sub>x</sub>	SO <sub>2</sub>	СО	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.194	0.002	2.749	0.263	0.009	0.008	336.492	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.336	0.003	3.617	0.295	0.012	0.010	435.186	0.025
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.210	0.005	17.197	0.784	0.028	0.024	780.871	0.045
Rhode Island	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.138	0.003	2.430	0.126	0.004	0.004	326.066	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.430	0.004	4.532	0.302	0.007	0.007	469.385	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.045	0.013	1.708	0.461	0.195	0.179	1489.804	0.027
	NA	MC Motorcycles	0.775	0.003	13.078	2.312	0.028	0.025	399.651	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.260	0.002	3.599	0.324	0.007	0.006	333.039	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.456	0.003	5.235	0.421	0.009	0.008	429.486 775.152	0.025
South Carolina	Gasoline Diesel	HDGV Heavy-Duty Vehicles (8,501 + lbs) LDDV Light-Duty Vehicles (Passenger Cars)	1.121 0.140	0.005	15.928 2.600	0.802	0.021	0.018	325.021	0.045
South Caronna	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.140	0.003	4.769	0.107	0.004	0.004	466.571	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.628	0.004	2.011	0.592	0.196	0.180	1537.184	0.000
	NA	MC Motorcycles	0.718	0.003	13.345	2.701	0.027	0.024	395.673	0.054
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.285	0.002	3.984	0.376	0.011	0.010	323.035	0.023
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.486	0.003	5.454	0.452	0.014	0.012	417.000	0.025
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.165	0.005	15.650	0.738	0.031	0.028	748.554	0.044
South Dakota	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.145	0.003	2.410	0.144	0.004	0.004	311.373	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.440	0.004	4.380	0.302	0.007	0.006	448.184	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.429	0.013	2.154	0.678	0.194	0.178	1513.508	0.030
	NA	MC Motorcycles	0.828	0.003	13.928	2.295	0.029	0.026	399.878	0.055
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.252	0.002	3.472	0.313	0.008	0.007	333.534	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.442	0.003	4.990	0.403	0.010	0.009	430.258	0.025
_	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.146	0.005	16.344	0.799	0.023	0.020	774.445	0.045
Tennessee	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.140	0.003	2.542	0.114	0.004	0.004	324.709	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.429	0.004	4.677	0.281	0.007	0.007	466.344	0.008
	Diesel NA	HDDV Heavy-Duty Vehicles (8,501 + lbs)  MC Motorcycles	5.475	0.013	1.919	0.553 2.607	0.195	0.179	1519.736 396.770	0.029
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.739 0.232	0.003	13.448 3.373	0.292	0.028	0.024	335.434	0.053
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.232	0.002	4.908	0.292	0.008	0.007	433.594	0.024
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.116	0.005	16.538	0.810	0.019	0.007	785.640	0.025
Texas	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.141	0.003	2.747	0.100	0.004	0.004	328.227	0.008
10/11/0	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.433	0.004	5.052	0.267	0.007	0.007	471.807	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.936	0.013	1.769	0.480	0.190	0.175	1524.947	0.028
	NA	MC Motorcycles	0.699	0.003	12.761	2.743	0.026	0.023	395.722	0.054
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.258	0.002	3.564	0.324	0.009	0.008	337.887	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.454	0.003	5.022	0.408	0.012	0.011	436.368	0.025
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.266	0.005	17.577	0.821	0.028	0.025	782.573	0.045
Utah	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.143	0.003	2.464	0.127	0.004	0.004	327.381	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.444	0.004	4.579	0.301	0.007	0.007	470.734	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.440	0.013	1.784	0.496	0.196	0.180	1503.300	0.028
	NA	MC Motorcycles	0.842	0.003	13.810	2.670	0.029	0.025	399.144	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.251	0.002	3.367	0.347	0.011	0.010	321.719	0.023
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.426	0.003	4.514	0.403	0.014	0.012	414.604	0.025
37	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.160	0.005	15.115	0.723	0.030	0.026	739.240	0.044
Vermont	Diesel Diesel	LDDV Light-Duty Vehicles (Passenger Cars) LDDT Light-Duty Trucks (0-8,500 lbs)	0.143 0.432	0.003	2.319 4.203	0.146	0.004	0.004	309.783 445.663	0.008
		HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.040	0.004	2.010	0.616	0.007	0.006	1483.377	0.008
	NA	MC Motorcycles	0.828	0.013	13.752	2.142	0.028	0.175	398.865	0.055
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.240	0.002	3.852	0.333	0.005	0.004	335.160	0.023
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.407	0.003	5.570	0.408	0.006	0.005	431.111	0.025
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.987	0.005	17.123	0.842	0.011	0.010	770.146	0.045
Virgin Islands	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.136	0.003	2.851	0.083	0.004	0.004	330.128	0.007
<i>5</i>	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.402	0.004	5.162	0.233	0.006	0.006	473.392	0.008
İ	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	3.383	0.013	1.339	0.285	0.173	0.159	1483.465	0.025
	NA	MC Motorcycles	0.626	0.003	13.145	2.634	0.023	0.021	388.114	0.054

Table 5-30. On-Road Vehicle Emission Factors – 2019 (cont.)

				Emission Factors (g/mi)								
State	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone l	Precursors			
				NO <sub>x</sub>	SO <sub>2</sub>	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
	Gasoline	LDGV L	ight-Duty Vehicles (Passenger Cars)	0.254	0.002	3.459	0.310	0.008	0.007	332.729	0.024	
	Gasoline	LDGT L	ight-Duty Trucks (0-8,500 lbs)	0.445	0.003	4.947	0.397	0.010	0.009	429.544	0.025	
	Gasoline	HDGV H	leavy-Duty Vehicles (8,501 + lbs)	1.157	0.005	16.207	0.776	0.023	0.021	772.688	0.045	
Virginia	Diesel	LDDV L	ight-Duty Vehicles (Passenger Cars)	0.140	0.003	2.505	0.117	0.004	0.004	323.560	0.008	
	Diesel	LDDT L	ight-Duty Trucks (0-8,500 lbs)	0.430	0.004	4.619	0.285	0.007	0.007	465.004	0.008	
	Diesel	HDDV H	Heavy-Duty Vehicles (8,501 + lbs)	5.411	0.013	1.874	0.535	0.194	0.179	1509.090	0.028	
	NA	MC M	Motorcycles	0.748	0.003	13.123	2.446	0.027	0.024	397.514	0.053	
	Gasoline	LDGV L	ight-Duty Vehicles (Passenger Cars)	0.252	0.002	3.454	0.305	0.009	0.008	329.670	0.024	
	Gasoline	LDGT L	ight-Duty Trucks (0-8,500 lbs)	0.438	0.003	4.893	0.389	0.011	0.010	426.333	0.025	
	Gasoline	HDGV H	leavy-Duty Vehicles (8,501 + lbs)	1.216	0.005	16.893	0.775	0.027	0.023	765.945	0.045	
Washington	Diesel	LDDV L	ight-Duty Vehicles (Passenger Cars)	0.140	0.003	2.378	0.127	0.004	0.004	319.522	0.008	
	Diesel	LDDT L	ight-Duty Trucks (0-8,500 lbs)	0.435	0.004	4.410	0.298	0.007	0.007	459.913	0.008	
	Diesel	HDDV H	Jeavy-Duty Vehicles (8,501 + lbs)	5.618	0.013	1.874	0.541	0.194	0.179	1491.701	0.028	
	NA	MC M	Motorcycles	0.824	0.003	13.752	2.348	0.029	0.025	399.619	0.054	
	Gasoline	LDGV L	ight-Duty Vehicles (Passenger Cars)	0.259	0.002	3.584	0.319	0.008	0.007	323.411	0.023	
	Gasoline	LDGT L	ight-Duty Trucks (0-8,500 lbs)	0.469	0.003	5.157	0.420	0.011	0.010	418.027	0.025	
	Gasoline	HDGV H	leavy-Duty Vehicles (8,501 + lbs)	1.144	0.005	15.709	0.745	0.025	0.022	750.732	0.044	
West Virginia	Diesel	LDDV L	ight-Duty Vehicles (Passenger Cars)	0.142	0.003	2.429	0.126	0.004	0.004	313.867	0.008	
	Diesel	LDDT L	ight-Duty Trucks (0-8,500 lbs)	0.431	0.004	4.428	0.286	0.007	0.006	451.602	0.008	
	Diesel	HDDV H	leavy-Duty Vehicles (8,501 + lbs)	5.739	0.013	1.958	0.584	0.190	0.175	1494.405	0.029	
	NA	MC M	Intorcycles	0.784	0.003	13.585	2.370	0.028	0.025	397.778	0.055	
	Gasoline	LDGV L	ight-Duty Vehicles (Passenger Cars)	0.268	0.002	3.759	0.354	0.011	0.010	328.577	0.024	
	Gasoline	LDGT L	ight-Duty Trucks (0-8,500 lbs)	0.459	0.003	5.149	0.434	0.013	0.012	423.142	0.025	
	Gasoline	HDGV H	leavy-Duty Vehicles (8,501 + lbs)	1.170	0.005	16.201	0.758	0.029	0.026	753.758	0.044	
Wisconsin	Diesel	LDDV L	ight-Duty Vehicles (Passenger Cars)	0.141	0.003	2.360	0.140	0.004	0.004	316.920	0.008	
	Diesel	LDDT L	ight-Duty Trucks (0-8,500 lbs)	0.429	0.004	4.317	0.303	0.007	0.006	455.210	0.008	
	Diesel	HDDV H	leavy-Duty Vehicles (8,501 + lbs)	5.539	0.013	1.853	0.540	0.190	0.175	1478.325	0.028	
	NA	MC M	Aotorcycles	0.804	0.003	13.611	2.219	0.028	0.025	399.013	0.054	
	Gasoline	LDGV L	ight-Duty Vehicles (Passenger Cars)	0.297	0.002	4.073	0.383	0.011	0.010	324.608	0.024	
	Gasoline	LDGT L	ight-Duty Trucks (0-8,500 lbs)	0.506	0.003	5.516	0.455	0.014	0.012	418.858	0.025	
	Gasoline	HDGV H	leavy-Duty Vehicles (8,501 + lbs)	1.216	0.005	16.063	0.727	0.032	0.028	752.551	0.044	
Wyoming	Diesel	LDDV L	ight-Duty Vehicles (Passenger Cars)	0.148	0.003	2.395	0.146	0.004	0.004	312.677	0.008	
	Diesel	LDDT L	ight-Duty Trucks (0-8,500 lbs)	0.449	0.004	4.365	0.306	0.007	0.006	449.768	0.008	
	Diesel	HDDV H	leavy-Duty Vehicles (8,501 + lbs)	6.914	0.013	2.271	0.728	0.198	0.182	1529.275	0.031	
	NA	MC M	Motorcycles	0.882	0.003	13.981	2.361	0.029	0.025	400.541	0.055	

Table 5-31. On-Road Vehicle Emission Factors – 2020

							Emission I	actors (g/m	ni)		
State	Fuel Type		Vehicle Type			Criteria	Pollutants	and Ozone	Precursors		
	71		<b></b>	NO <sub>x</sub>	SO <sub>2</sub>	СО	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.221	0.002	3.370	0.294	0.006	0.006	325.374	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.389	0.003	4.772	0.376	0.008	0.007	418.504	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.983	0.005	14.997	0.739	0.018	0.016	770.173	0.045
Alabama	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.131	0.003	2.585	0.101	0.004	0.004	316.802	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.371	0.004	4.398	0.237	0.007	0.006	448.891	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.584	0.013	1.678	0.458	0.167	0.154	1498.941	0.028
	NA	MC	Motorcycles	0.706	0.003	13.124	2.697	0.026	0.023	394.164	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.247	0.002	3.890	0.367	0.013	0.011	322.866	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.415	0.003	4.941	0.420	0.016	0.014	415.017	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.089	0.005	15.554	0.691	0.035	0.031	754.980	0.044
Alaska	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.135	0.003	2.293	0.160	0.004	0.004	307.975	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.385	0.004	3.918	0.299	0.007	0.006	436.957	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.739	0.013	1.925	0.593	0.172	0.158	1484.506	0.030
	NA	MC	Motorcycles	0.868	0.003	14.015	1.986	0.030	0.026	402.436	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.218	0.002	3.331	0.288	0.006	0.005	332.256	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.390	0.003	4.666	0.359	0.008	0.007	428.921	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.111	0.005	16.711	0.799	0.018	0.016	798.850	0.045
Arizona	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.141	0.003	2.801	0.093	0.004	0.004	324.580	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.407	0.004	4.816	0.236	0.007	0.006	460.765	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.310	0.014	1.824	0.513	0.173	0.160	1553.691	0.029
	NA	MC	Motorcycles	0.823	0.003	12.727	3.206	0.026	0.023	395.267	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.233	0.002	3.574	0.298	0.007	0.006	318.599	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.406	0.003	4.991	0.373	0.009	0.008	411.462	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.002	0.005	15.314	0.703	0.020	0.017	762.096	0.044
Arkansas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.135	0.003	2.610	0.108	0.004	0.004	309.688	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.381	0.004	4.437	0.243	0.007	0.006	440.199	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.075	0.013	1.826	0.531	0.167	0.153	1506.057	0.029
	NA	MC	Motorcycles	0.746	0.003	13.231	2.551	0.026	0.023	396.372	0.055
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.232	0.002	3.362	0.301	0.009	0.008	323.384	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.402	0.003	4.534	0.363	0.011	0.010	417.507	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.095	0.005	15.968	0.719	0.026	0.023	767.415	0.045
Colorado	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.135	0.003	2.442	0.125	0.004	0.004	312.138	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.390	0.004	4.199	0.268	0.007	0.006	443.722	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.052	0.013	1.697	0.480	0.168	0.155	1480.669	0.028
	NA	MC	Motorcycles	0.838	0.003	13.632	2.615	0.029	0.025	399.467	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.196	0.002	3.043	0.261	0.008	0.007	323.303	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.349	0.003	4.191	0.319	0.011	0.010	419.136	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.070	0.005	16.085	0.708	0.027	0.023	773.724	0.045
Connecticut	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.133	0.003	2.488	0.120	0.004	0.004	312.569	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.385	0.004	4.319	0.268	0.007	0.007	445.618	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.146	0.013	1.407	0.353	0.162	0.149	1452.173	0.026
	NA	MC	Motorcycles	0.780	0.003	12.920	2.289	0.028	0.025	400.734	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.207	0.002	2.968	0.265	0.007	0.006	326.984	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.361	0.003	4.030	0.322	0.009	0.008	419.840	0.024
D 1	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.039	0.005	15.907	0.711	0.018	0.016	764.108	0.045
Delaware	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.129	0.003	2.412	0.113	0.004	0.004	316.891	0.008
	Diesel Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.366 3.671	0.004	4.112 1.280	0.251	0.007	0.006	448.814 1433.990	0.008
	-		Heavy-Duty Vehicles (8,501 + lbs)	0.751	0.013		2.300	0.162	0.149	394.711	0.025
	NA Gasoline	MC LDGV	Motorcycles Light-Duty Vehicles (Passenger Cars)	0.751	0.003	12.721 2.971	0.254	0.025	0.022	340.675	0.053
	Gasoline	LDGV		0.190	0.002	4.077	0.254	0.007	0.006	439.030	0.023
	Gasoline	HDGV	Light-Duty Trucks (0-8,500 lbs)	1.076	0.003	17.040	0.313	0.009	0.008	806.186	0.024
District of Columbia		LDDV	Heavy-Duty Vehicles (8,501 + lbs)	0.126	0.005	2,489	0.779	0.020	0.018	330.514	0.047
District of Columbia	Diesel Diesel	LDDV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.126	0.003	4.320	0.109	0.004	0.004	469.489	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	3.837	0.004	1.396	0.238	0.007	0.163	1501.720	0.008
	NA	MC		0.716	0.013	12.738	2.525	0.177	0.163	395.513	0.026
L	INA	MC	Motorcycles	0.710	0.003	12.738	2.323	0.020	0.023	393.313	0.051

Table 5-31. On-Road Vehicle Emission Factors – 2020 (cont.)

							Emission F	actors (g/m	ni)		
State	Fuel Type		Vehicle Type			Criteria	Pollutants :	and Ozone	Precursors		
				$NO_x$	SO <sub>2</sub>	co	VOC	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	$NH_3$
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.207	0.002	3.392	0.282	0.006	0.005	341.791	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.373	0.003	4.889	0.376	0.007	0.006	439.705	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.964	0.005	16.217	0.832	0.016	0.014	814.851	0.046
Florida	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.127	0.003	2.822	0.084	0.004	0.004	334.379	800.0
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.365	0.004	4.850	0.227	0.007	0.006	473.628	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.175	0.014	1.653	0.423	0.176	0.162	1559.331	0.028
	NA	MC	Motorcycles	0.626	0.003	13.017	3.040	0.026	0.023	392.775	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.207	0.002	3.148	0.273	0.007	0.006	320.956	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.366	0.003	4.453	0.345	0.009	0.008	414.257	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.988	0.005	14.742	0.716	0.020	0.017	766.469	0.044
Georgia	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.133	0.003	2.604	0.103	0.004	0.004	312.295	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.378	0.004	4.437	0.240	0.007	0.006	443.620	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.839	0.013	1.748	0.494	0.167	0.153	1500.756	0.028
	NA	MC	Motorcycles	0.723	0.003	13.090	2.588	0.027	0.024	395.915	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.208	0.002	3.467	0.280	0.005	0.005	332.267	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.374	0.003	4.989	0.373	0.007	0.006	427.713	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.972	0.005	16.626	0.801	0.015	0.013	789.621	0.046
Hawaii	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.127	0.003	2.707	0.079	0.004	0.004	325.337	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.362	0.004	4.629	0.218	0.007	0.006	461.106	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	3.537	0.013	1.358	0.300	0.165	0.152	1490.613	0.026
	NA	MC	Motorcycles	0.676	0.003	13.057	2.824	0.025	0.023	392.231	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.241	0.002	3.506	0.316	0.009	0.008	320.042	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.413	0.002	4.709	0.378	0.011	0.010	411.658	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.080	0.005	15.443	0.691	0.024	0.021	752.986	0.044
Idaho	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.136	0.003	2.381	0.131	0.004	0.004	308.501	0.008
Idano	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.387	0.003	4.046	0.266	0.007	0.004	437.634	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.426	0.004	1.822	0.538	0.169	0.155	1481.841	0.008
	NA	MC	Motorcycles	0.857	0.013	13.650	2.411	0.109	0.133	397.874	0.029
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.837	0.003	3.297	0.284	0.027	0.024	334.752	0.034
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.210	0.002	4.605	0.284	0.008	0.007	432.145	0.023
				1.058	0.005		0.373	0.010	0.009		0.024
****	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)			16.595				793.273	
Illinois	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.128	0.003	2.465	0.119	0.004	0.004	323.662	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.373	0.004	4.281	0.269	0.007	0.006	460.243	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.048	0.013	1.427	0.349	0.172	0.158	1481.655	0.026
	NA	MC	Motorcycles	0.737	0.003	12.849	2.458	0.026	0.023	398.228	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.228	0.002	3.466	0.302	0.008	0.007	327.295	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.396	0.003	4.764	0.380	0.010	0.009	420.624	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.035	0.005	15.624	0.724	0.023	0.020	769.345	0.045
Indiana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.131	0.003	2.421	0.121	0.004	0.004	316.352	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.373	0.004	4.143	0.261	0.007	0.006	448.263	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.881	0.013	1.721	0.484	0.171	0.157	1489.893	0.028
	NA	MC	Motorcycles	0.762	0.003	13.385	2.411	0.027	0.024	396.878	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.245	0.002	3.720	0.334	0.009	0.008	319.303	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.417	0.003	4.954	0.398	0.012	0.010	410.710	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.035	0.005	15.225	0.683	0.025	0.022	751.628	0.044
Iowa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.134	0.003	2.407	0.131	0.004	0.004	307.618	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.378	0.004	4.081	0.265	0.007	0.006	436.466	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.321	0.013	1.853	0.552	0.168	0.155	1486.029	0.029
	NA	MC	Motorcycles	0.798	0.003	13.529	2.267	0.027	0.024	397.979	0.055
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.238	0.002	3.609	0.311	0.008	0.007	320.349	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.413	0.003	4.959	0.385	0.010	0.009	413.007	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.033	0.005	15.501	0.702	0.022	0.019	759.519	0.044
Kansas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.134	0.003	2.514	0.118	0.004	0.004	310.186	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.381	0.004	4.277	0.254	0.007	0.006	440.536	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.819	0.013	1.685	0.474	0.165	0.152	1479.624	0.028
	NA	MC	Motorcycles	0.776	0.003	13.329	2.451	0.027	0.024	397.098	0.054

Table 5-31. On-Road Vehicle Emission Factors – 2020 (cont.)

							Emission I	actors (g/m	ni)		
State	Fuel Type		Vehicle Type			Criteria	Pollutants	and Ozone	Precursors		
			•	NO <sub>x</sub>	SO <sub>2</sub>	СО	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.225	0.002	3.392	0.289	0.007	0.006	317.382	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.391	0.003	4.701	0.360	0.009	0.008	410.045	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.001	0.005	14.863	0.681	0.022	0.020	759.523	0.044
Kentucky	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.136	0.003	2.534	0.116	0.004	0.004	307.541	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.385	0.004	4.317	0.252	0.007	0.006	437.340	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.540	0.013	1.965	0.594	0.170	0.156	1513.206	0.030
	NA	MC	Motorcycles	0.763	0.003	13.092	2.387	0.027	0.024	398.071	0.055
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.215	0.002	3.440	0.289	0.006	0.005	326.776	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.381	0.003	4.923	0.373	0.008	0.007	421.339	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.963	0.005	15.157	0.755	0.018	0.016	781.577	0.045
Louisiana	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.132	0.003	2.742	0.095	0.004	0.004	318.924	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.375	0.004	4.678	0.233	0.007	0.006	452.465	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.669 0.677	0.013	1.756	0.489 2.785	0.168	0.155	1526.684 394.722	0.028
	NA	MC LDGV	Motorcycles	0.677	0.003	13.083 3.410		0.027	0.024	311.964	0.034
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.239	0.002	4.497	0.333	0.010	0.009	401.851	0.022
	Gasoline Gasoline	HDGV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	1.022	0.003	13.943	0.652	0.013	0.011	733.884	0.024
Maine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.136	0.003	2.311	0.032	0.026	0.023	299.631	0.044
Manie	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.130	0.003	3.893	0.140	0.004	0.004	426.102	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.449	0.004	1.849	0.557	0.165	0.152	1462.835	0.008
	NA	MC	Motorcycles	0.828	0.013	13.435	2.066	0.103	0.025	398.578	0.025
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.828	0.003	3.056	0.264	0.008	0.023	322.647	0.033
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.365	0.002	4.228	0.331	0.010	0.007	417.424	0.023
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.039	0.005	15.448	0.705	0.023	0.003	771.061	0.024
Maryland	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.133	0.003	2.541	0.113	0.004	0.004	312.748	0.008
iviai y iana	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.384	0.004	4.376	0.257	0.007	0.007	445.124	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.435	0.013	1.537	0.406	0.164	0.151	1470.947	0.027
	NA	MC	Motorcycles	0.759	0.003	12.806	2.356	0.027	0.024	398.739	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.208	0.002	3.078	0.275	0.009	0.008	321.751	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.367	0.003	4.228	0.344	0.011	0.010	416.075	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.063	0.005	15.719	0.689	0.026	0.023	765.298	0.045
Massachusetts	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.133	0.003	2.438	0.125	0.004	0.004	310.607	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.383	0.004	4.203	0.269	0.007	0.007	442.096	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.563	0.013	1.553	0.419	0.164	0.151	1459.762	0.027
	NA	MC	Motorcycles	0.794	0.003	12.935	2.220	0.028	0.025	400.093	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.238	0.002	3.616	0.315	0.009	0.008	325.001	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.415	0.003	4.974	0.399	0.012	0.010	418.705	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.051	0.005	15.554	0.714	0.026	0.023	767.124	0.045
Michigan	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.132	0.003	2.414	0.129	0.004	0.004	313.317	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.379	0.004	4.143	0.271	0.007	0.006	444.804	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.988	0.013	1.726	0.492	0.170	0.156	1483.515	0.028
	NA	MC	Motorcycles	0.789	0.003	13.542	2.305	0.029	0.025	399.073	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.242	0.002	3.710	0.337	0.011	0.010	321.584	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.412	0.003	4.950	0.406	0.014	0.012	413.839	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.047	0.005	15.407	0.721	0.029	0.026	753.712	0.045
Minnesota	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.133	0.003	2.370	0.137	0.004	0.004	308.959	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.378	0.004	4.038	0.275	0.007	0.006	438.560	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.596	0.013	1.558	0.429	0.163	0.150	1446.926	0.027
	NA	MC	Motorcycles	0.805	0.003	13.829	2.271	0.029	0.026	399.300	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.222	0.002	3.369	0.296	0.006	0.006	320.428	0.022
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.387	0.003	4.752	0.371	0.008	0.007	412.572	0.024
3.6	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.965	0.005	14.725	0.724	0.017	0.015	759.241	0.044
Mississippi	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.132	0.003	2.591	0.101	0.004	0.004	312.132	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.371	0.004	4.384	0.233	0.007	0.006	442.757	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.500	0.013	1.645	0.449	0.163	0.150	1485.593	0.028
	NA	MC	Motorcycles	0.707	0.003	13.134	2.664	0.026	0.023	393.696	0.054

Table 5-31. On-Road Vehicle Emission Factors – 2020 (cont.)

			Emission Factors (g/mi)								
State	Fuel Type	Vehicle Type			Criteria	Pollutants	and Ozone	Precursors			
	71	31	NO <sub>x</sub>	SO <sub>2</sub>	СО	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.227	0.002	3.465	0.293	0.007	0.007	314.657	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.398	0.003	4.790	0.365	0.010	0.009	407.594	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.014	0.005	15.190	0.677	0.023	0.020	755.070	0.044	
Missouri	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.136	0.003	2.565	0.117	0.004	0.004	304.789	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.387	0.004	4.370	0.254	0.007	0.006	434.328	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.900	0.013	1.707	0.487	0.162	0.149	1477.065	0.028	
	NA	MC Motorcycles	0.774	0.003	13.048	2.342	0.027	0.024	398.920	0.055	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.257	0.002	3.756	0.343	0.010	0.009	313.875	0.022	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.434	0.003	4.961	0.400	0.012	0.011	404.284	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.065	0.005	14.900	0.657	0.026	0.023	740.723	0.044	
Montana	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.139	0.003	2.353	0.141	0.004	0.004	301.516	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.389	0.004	3.971	0.270	0.007	0.006	428.585	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.915	0.013	1.983	0.614	0.169	0.155	1487.496	0.030	
	NA	MC Motorcycles	0.875	0.003	13.744	2.246	0.028	0.025	398.991	0.055	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.246	0.002	3.739	0.328	0.009	0.008	318.926	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.424	0.003	5.053	0.398	0.011	0.010	411.323	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.041	0.005	15.203	0.683	0.026	0.023	758.061	0.044	
Nebraska	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.136	0.003	2.479	0.128	0.004	0.004	307.655	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.386	0.004	4.220	0.264	0.007	0.006	437.142	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.662	0.013	1.971	0.601	0.171	0.157	1508.259	0.030	
	NA	MC Motorcycles	0.804	0.003	13.503	2.373	0.027	0.024	399.090	0.055	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.217	0.002	3.152	0.282	0.007	0.006	333.001	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.387	0.003	4.397	0.353	0.009	0.008	429.124	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.126	0.005	16.414	0.778	0.020	0.018	792.406	0.045	
Nevada	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	2.597	0.104	0.004	0.004	323.890	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.397	0.004	4.475	0.248	0.007	0.006	459.539	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.163	0.013	1.750	0.483	0.175	0.161	1528.139	0.028	
	NA	MC Motorcycles	0.828	0.003	13.258	3.015	0.027	0.023	395.795	0.053	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)  LDGT Light-Duty Trucks (0-8.500 lbs)	0.209	0.002	3.081 4.108	0.291	0.009	0.008	319.080 410.732	0.023	
	Gasoline Gasoline	5	1.048	0.003	15.113	0.673	0.012	0.010	749.074	0.024	
Mana Hannahina	Diesel		0.133	0.003	-	0.073	0.025	0.022	307.258	0.043	
New Hampshire	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.133	0.003	2.354 4.003	0.132	0.004	0.004	436.221	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.722	0.004	1.602	0.208	0.163	0.000	1448.339	0.008	
	NA	MC Motorcycles	0.810	0.003	13.108	2.145	0.103	0.130	398.299	0.028	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.209	0.002	3.068	0.266	0.008	0.024	313.914	0.023	
	Gasoline	LDGT Light-Duty Venicles (Fassenger Cars)	0.353	0.002	4.101	0.309	0.010	0.007	406.448	0.023	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.017	0.005	14.444	0.630	0.024	0.003	756.575	0.024	
New Jersey	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.138	0.003	2.513	0.120	0.004	0.004	303.783	0.008	
11cw seisey	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.390	0.004	4.285	0.254	0.007	0.006	432.722	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.097	0.013	2.135	0.671	0.173	0.159	1528.646	0.031	
	NA	MC Motorcycles	0.796	0.003	12.783	2.146	0.027	0.024	399.526	0.056	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.239	0.002	3.421	0.309	0.007	0.006	318.896	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.418	0.003	4.700	0.374	0.009	0.008	411.188	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.076	0.005	15.187	0.696	0.021	0.019	758.535	0.044	
New Mexico	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.139	0.003	2.492	0.115	0.004	0.004	309.094	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.394	0.004	4.238	0.250	0.007	0.006	438.938	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.669	0.013	1.917	0.572	0.170	0.156	1506.304	0.030	
	NA	MC Motorcycles	0.845	0.003	13.302	2.734	0.027	0.023	396.858	0.055	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.193	0.002	2.954	0.265	0.008	0.007	324.970	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.333	0.003	3.906	0.311	0.011	0.010	419.211	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.057	0.005	15.590	0.714	0.025	0.022	768.410	0.045	
New York	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.131	0.003	2.419	0.123	0.004	0.004	313.914	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.378	0.004	4.163	0.266	0.007	0.006	446.063	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.413	0.013	1.518	0.400	0.166	0.153	1460.624	0.027	
	NA	MC Motorcycles	0.777	0.003	13.149	2.293	0.028	0.025	398.589	0.053	

Table 5-31. On-Road Vehicle Emission Factors – 2020 (cont.)

			Emission Factors (g/mi)								
State	Fuel Type	Vehicle Type			Criteria P	Pollutants a	nd Ozone l	Precursors			
			NO <sub>x</sub>	SO <sub>2</sub>	CO	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.221	0.002	3.289	0.289	0.007	0.006	323.223	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.391	0.003	4.648	0.371	0.009	0.008	416.415	0.024	
North Carolina	Gasoline Diesel	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.007	0.005	15.041 2.522	0.732	0.019	0.017	765.293 314.055	0.045	
North Carolina	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)  LDDT Light-Duty Trucks (0-8,500 lbs)	0.131	0.003	4.301	0.106	0.004	0.004	445.662	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.333	0.004	1.538	0.403	0.164	0.000	1470.480	0.003	
	NA	MC Motorcycles	0.731	0.003	13.197	2.599	0.027	0.024	395.457	0.054	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.252	0.002	3.923	0.373	0.012	0.011	315.355	0.022	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.424	0.003	5.101	0.429	0.015	0.013	405.567	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.035	0.005	14.684	0.684	0.031	0.028	739.043	0.044	
North Dakota	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	2.337	0.149	0.004	0.004	301.750	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.004	3.938	0.278	0.007	0.006	428.704	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.533	0.013	1.873	0.570	0.166	0.153	1470.692	0.029	
	NA	MC Motorcycles	0.840	0.003	13.926	2.160	0.029	0.026	399.677	0.055	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.217	0.002	3.327	0.290	0.008	0.007	326.998	0.023	
	Gasoline Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs) HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.377 1.044	0.003	4.554 15.772	0.361 0.732	0.011	0.010	420.846 770.032	0.024	
Ohio	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.130	0.003	2.421	0.732	0.023	0.021	315.997	0.043	
Onio	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.374	0.004	4.153	0.263	0.007	0.006	448.254	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.575	0.013	1.600	0.433	0.169	0.155	1474.653	0.027	
	NA	MC Motorcycles	0.766	0.003	13.488	2.419	0.028	0.025	397.445	0.053	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.232	0.002	3.573	0.301	0.007	0.006	324.314	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.407	0.003	4.987	0.380	0.009	0.008	417.745	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.023	0.005	15.732	0.727	0.020	0.017	770.045	0.045	
Oklahoma	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.133	0.003	2.588	0.108	0.004	0.004	315.123	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.379	0.004	4.410	0.245	0.007	0.006	447.020	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.802	0.013	1.719	0.481	0.167	0.154	1500.738	0.028	
	NA	MC Motorcycles	0.746	0.003	13.246	2.649	0.026	0.023	395.692	0.054	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.227	0.002	3.198	0.283	0.008	0.007	316.539	0.023	
	Gasoline Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs) HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.388 1.056	0.003	4.368 15.279	0.345 0.683	0.010	0.009	407.927 747.425	0.024	
Oregon	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.134	0.003	2.351	0.083	0.021	0.004	306.075	0.008	
Oregon	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.380	0.004	4.000	0.257	0.007	0.006	434.750	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.034	0.013	1.710	0.487	0.166	0.152	1461.419	0.028	
	NA	MC Motorcycles	0.833	0.003	13.467	2.294	0.027	0.024	397.191	0.054	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.215	0.002	3.194	0.277	0.007	0.006	323.058	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.378	0.003	4.438	0.348	0.009	0.008	416.837	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.033	0.005	15.471	0.718	0.021	0.019	768.230	0.045	
Pacific Islands	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.132	0.003	2.499	0.111	0.004	0.004	313.466	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.379	0.004	4.285	0.251	0.007	0.006	445.290	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)  MC Motorcycles	4.788	0.013	1.681	0.465	0.168	0.154	1486.718	0.028	
	NA Gasoline		0.764	0.003	13.043 3.115	2.496 0.276	0.027	0.024	397.033 324.843	0.054	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)  LDGT Light-Duty Trucks (0-8,500 lbs)	0.209	0.002	4.287	0.276	0.008	0.007	418.665	0.023	
		HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.042	0.005	15.289	0.710	0.024	0.021	768.967	0.045	
Pennsylvania	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.132	0.003	2.443	0.122	0.004	0.004	313.955	0.008	
, 2		LDDT Light-Duty Trucks (0-8,500 lbs)	0.379	0.004	4.193	0.263	0.007	0.006	445.736	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.018	0.013	1.753	0.500	0.170	0.157	1491.459	0.028	
	NA	MC Motorcycles	0.771	0.003	13.268	2.360	0.028	0.025	398.282	0.054	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.203	0.002	3.886	0.287	0.005	0.005	343.750	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.370	0.003	5.663	0.394	0.007	0.006	443.933	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.945	0.006	17.615	0.858	0.016	0.015	829.002	0.046	
Puerto Rico	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.127	0.003	3.057	0.076	0.004	0.004	337.089	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)  HDDV Heavy-Duty Vehicles (8,501 + lbs)	0.366	0.004	5.269	0.222	0.007	0.007	478.707	0.008	
	Diesel NA	MC Motorcycles	3.522 0.607	0.014	1.448 13.076	0.330 3.129	0.170 0.026	0.156 0.023	1559.112 393.565	0.026 0.052	
	INA	IVIC IVIOLOTCYCIES	0.007	0.003	15.070	3.129	0.020	0.023	373.303	0.032	

Table 5-31. On-Road Vehicle Emission Factors – 2020 (cont.)

			Emission Factors (g/mi)								
State	Fuel Type	Vehicle Type				Pollutants a					
	J	J. J. J. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. L. J. J. L. J. L. J. L. J. L. J. J. L. J. L. J. L. J. L. J. J. L. J. L. J. L. J. J. L. J. J. L. J. J. J. L. J. J. J. L. J. J. J. J. J. J. J. L. J. J. J. J. J. J. J. J. J. J. J. J. J.	NO <sub>x</sub>	SO <sub>2</sub>	СО	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.170	0.002	2.616	0.242	0.008	0.007	326.950	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.295	0.003	3.395	0.270	0.011	0.010	422.812	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.069	0.005	16.078	0.713	0.026	0.023	778.423	0.045	
Rhode Island	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.131	0.003	2.449	0.121	0.004	0.004	315.974	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.380	0.004	4.247	0.269	0.007	0.007	449.729	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.553	0.013	1.575	0.421	0.169	0.155	1477.801	0.027	
	NA	MC Motorcycles	0.773	0.003	12.904	2.303	0.028	0.024	399.740	0.053	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.224	0.002	3.418	0.293	0.007	0.006	323.554	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.397	0.003	4.865	0.377	0.008	0.007	417.210	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.988	0.005	14.840	0.730	0.019	0.017	772.703	0.044	
South Carolina	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.133	0.003	2.620	0.102	0.004	0.004	314.924	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.378	0.004	4.471	0.240	0.007	0.006	446.943	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.142	0.013	1.878	0.547	0.171	0.157	1524.102	0.029	
	NA	MC Motorcycles	0.716	0.003	13.172	2.687	0.027	0.024	395.768	0.054	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.249	0.002	3.754	0.342	0.010	0.009	313.947	0.022	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.425	0.003	5.054	0.407	0.013	0.011	405.194	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.027	0.005	14.514	0.673	0.029	0.025	746.054	0.044	
South Dakota	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.139	0.003	2.428	0.139	0.004	0.004	301.773	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.390	0.004	4.108	0.270	0.007	0.006	429.431	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.907	0.013	2.025	0.630	0.169	0.156	1500.109	0.030	
	NA	MC Motorcycles	0.826	0.003	13.737	2.285	0.029	0.026	399.973	0.056	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.217	0.002	3.292	0.283	0.007	0.006	324.051	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.383	0.003	4.629	0.361	0.009	0.008	417.982	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.011	0.005	15.230	0.727	0.021	0.019	771.997	0.045	
Tennessee	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.133	0.003	2.561	0.109	0.004	0.004	314.635	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.379	0.004	4.384	0.249	0.007	0.006	446.751	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.987	0.013	1.786	0.510	0.170	0.156	1506.976	0.029	
	NA	MC Motorcycles	0.737	0.003	13.274	2.595	0.028	0.024	396.864	0.054	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.200	0.002	3.208	0.265	0.006	0.005	325.859	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.357	0.003	4.561	0.340	0.008	0.007	421.180	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.984	0.005	15.455	0.737	0.018	0.016	783.227	0.045	
Texas	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.134	0.003	2.768	0.095	0.004	0.004	318.007	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.383	0.004	4.740	0.236	0.007	0.006	451.951	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.473	0.013	1.638	0.440	0.165	0.152	1512.371	0.028	
	NA	MC Motorcycles	0.697	0.003	12.599	2.730	0.026	0.023	395.818	0.054	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.223	0.002	3.377	0.295	0.009	0.008	328.308	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.395	0.003	4.664	0.367	0.011	0.010	423.961	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.118	0.005	16.415	0.747	0.026	0.023	780.112	0.045	
Utah	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.135	0.003	2.483	0.122	0.004	0.004	317.249	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.392	0.004	4.291	0.269	0.007	0.006	451.014	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.925	0.013	1.651	0.455	0.170	0.157	1491.057	0.028	
	NA	MC Motorcycles	0.839	0.003	13.635	2.659	0.029	0.025	399.234	0.053	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.217	0.002	3.165	0.315	0.010	0.009	312.674	0.022	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.368	0.003	4.158	0.362	0.013	0.011	402.869	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.024	0.005	14.063	0.659	0.027	0.024	736.759	0.044	
Vermont	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.136	0.003	2.336	0.141	0.004	0.004	300.241	0.008	
		LDDT Light-Duty Trucks (0-8,500 lbs)	0.382	0.004	3.939	0.270	0.007	0.006	426.994	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.529	0.013	1.882	0.571	0.166	0.153	1470.408	0.029	
	NA	MC Motorcycles	0.826	0.003	13.561	2.132	0.028	0.025	398.960	0.055	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.206	0.002	3.666	0.301	0.005	0.004	325.555	0.022	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.353	0.003	5.183	0.364	0.006	0.005	418.710	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.870	0.005	16.072	0.769	0.010	0.009	767.799	0.045	
Virgin Islands	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.129	0.003	2.873	0.078	0.004	0.004	319.813	0.007	
. Ingini Iomindo	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.355	0.004	4.837	0.203	0.006	0.006	453.267	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	3.008	0.013	1.213	0.253	0.150	0.138	1471.551	0.025	
	NA	MC Motorcycles	0.624	0.003	12.992	2.616	0.023	0.021	388.214	0.054	
		-									

Table 5-31. On-Road Vehicle Emission Factors – 2020 (cont.)

			Emission Factors (g/mi)								
State	Fuel Type	Vehicle Type			Criteria F	ollutants a	nd Ozone I	Precursors			
		••	NOx	SO <sub>2</sub>	СО	VOC	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.220	0.002	3.283	0.282	0.007	0.006	323.276	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.388	0.003	4.597	0.358	0.009	0.008	417.298	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.021	0.005	15.119	0.706	0.022	0.019	770.239	0.045	
Virginia	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.133	0.003	2.524	0.112	0.004	0.004	313.527	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.380	0.004	4.330	0.253	0.007	0.006	445.483	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.921	0.013	1.743	0.493	0.169	0.155	1496.485	0.028	
	NA	MC Motorcycles	0.747	0.003	12.951	2.436	0.027	0.024	397.607	0.054	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.219	0.002	3.276	0.278	0.008	0.007	320.329	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.382	0.003	4.545	0.351	0.010	0.009	414.211	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.074	0.005	15.763	0.705	0.025	0.022	763.488	0.045	
Washington	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.133	0.003	2.396	0.122	0.004	0.004	309.634	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.384	0.004	4.133	0.266	0.007	0.007	440.653	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.110	0.013	1.743	0.498	0.169	0.156	1479.227	0.028	
	NA	MC Motorcycles	0.821	0.003	13.581	2.339	0.029	0.025	399.711	0.054	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.236	0.002	3.466	0.305	0.008	0.007	314.522	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.409	0.003	4.789	0.378	0.010	0.009	406.139	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.009	0.005	14.624	0.679	0.023	0.020	748.279	0.044	
West Virginia	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.135	0.003	2.447	0.121	0.004	0.004	304.155	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.381	0.004	4.152	0.255	0.007	0.006	432.651	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.243	0.013	1.829	0.540	0.166	0.153	1481.519	0.029	
	NA	MC Motorcycles	0.782	0.003	13.406	2.378	0.028	0.024	397.874	0.055	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.232	0.002	3.541	0.322	0.010	0.009	319.312	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.400	0.003	4.761	0.390	0.012	0.011	411.151	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.032	0.005	15.074	0.690	0.027	0.024	751.284	0.044	
Wisconsin	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.134	0.003	2.378	0.135	0.004	0.004	307.143	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.380	0.004	4.045	0.271	0.007	0.006	436.141	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.040	0.013	1.724	0.498	0.166	0.152	1465.817	0.028	
	NA	MC Motorcycles	0.801	0.003	13.425	2.209	0.028	0.025	399.105	0.054	
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.259	0.002	3.854	0.349	0.010	0.009	315.478	0.023	
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.442	0.003	5.129	0.411	0.013	0.011	407.005	0.024	
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.074	0.005	14.959	0.663	0.029	0.026	750.027	0.044	
Wyoming	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.141	0.003	2.413	0.141	0.004	0.004	303.043	0.008	
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.397	0.004	4.094	0.274	0.007	0.006	430.968	0.008	
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	6.368	0.013	2.139	0.679	0.173	0.159	1515.628	0.031	
	NA	MC Motorcycles	0.879	0.003	13.798	2.352	0.028	0.025	400.636	0.055	

Table 5-32 EMFAC County-Specific On-Road Vehicle Composite EFs – 2014 POV

		Emission Factors (g/mi)								
County	Vehicle Type			Criteria P	ollutants a	nd Ozone I	recursors		1	
		NO <sub>x</sub>	SO <sub>2</sub>	со	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
ALAMEDA	All Vehicles	0.288	0.004	3.168	0.415	0.047	0.021	372.008	0.034	
ALPINE	All Vehicles	0.400	0.004	4.063	0.478	0.047	0.020	348.801	0.034	
AMADOR	All Vehicles	0.431	0.003	4.141	0.563	0.047	0.021	333.920	0.034	
BUTTE	All Vehicles	0.428	0.004	4.205	0.576	0.048	0.021	376.202	0.034	
CALAVERAS	All Vehicles	0.448	0.004	4.486	0.616	0.048	0.021	369.333	0.034	
COLUSA	All Vehicles	0.336	0.004	3.390	0.459	0.047	0.020	367.639	0.034	
CONTRA COSTA	All Vehicles	0.268	0.004	3.086	0.404	0.047	0.020	370.287	0.034	
DEL NORTE	All Vehicles	0.548	0.004	4.909	0.639	0.049	0.023	387.989	0.034	
EL DORADO	All Vehicles	0.291	0.004	3.446	0.479	0.047	0.020	376.175	0.034	
FRESNO	All Vehicles	0.285	0.004	3.195	0.445	0.046	0.020	365.534	0.034	
GLENN	All Vehicles	0.366	0.004	3.721	0.509	0.047	0.021	381.224	0.034	
HUMBOLDT	All Vehicles	0.512	0.004	4.690	0.594	0.048	0.022	361.879	0.034	
IMPERIAL	All Vehicles	0.474	0.004	4.479	0.571	0.046	0.020	367.940	0.034	
INYO	All Vehicles	0.385	0.004	3.852	0.532	0.047	0.020	385.586	0.034	
KERN	All Vehicles	0.284	0.004	3.207	0.435	0.046	0.020	396.999	0.034	
KINGS	All Vehicles	0.336	0.004	3.381	0.452	0.047	0.020	367.574	0.034	
LAKE	All Vehicles	0.501	0.004	4.807	0.675	0.048	0.022	373.733	0.034	
LASSEN	All Vehicles	0.454	0.004	4.575	0.595	0.048	0.021	397.968	0.034	
LOS ANGELES	All Vehicles	0.278	0.004	3.179	0.430	0.047	0.021	401.496	0.034	
MADERA	All Vehicles	0.305	0.004	3.421	0.463	0.047	0.020	380.647	0.034	
MARIN	All Vehicles	0.269	0.004	3.061	0.409	0.047	0.020	374.358	0.034	
MARIPOSA	All Vehicles	0.515	0.004	4.988	0.682	0.049	0.023	385.298	0.034	
MENDOCINO	All Vehicles	0.490	0.004	4.529	0.584	0.048	0.021	360.352	0.034	
MERCED	All Vehicles	0.314	0.004	3.426	0.447	0.047	0.020	376.925	0.034	
MODOC	All Vehicles	0.504	0.005	5.057	0.640	0.048	0.022	442.791	0.034	
MONO	All Vehicles	0.420	0.004	4.253	0.514	0.047	0.020	374.635	0.034	
MONTEREY	All Vehicles	0.401	0.004	3.918	0.484	0.048	0.021	397.504	0.034	
NAPA	All Vehicles	0.289	0.004	3.248	0.419	0.047	0.020	357.479	0.034	
NEVADA	All Vehicles	0.406	0.004	4.016	0.523	0.047	0.021	357.534	0.034	

						actors (g/m			
County	Vehicle Type			Criteria P	ollutants a	nd Ozone I	Precursors		
		NOx	SO <sub>2</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>
ORANGE	All Vehicles	0.231	0.004	2.725	0.379	0.046	0.020	379.627	0.034
PLACER	All Vehicles	0.267	0.004	3.101	0.407	0.046	0.020	364.621	0.034
PLUMAS	All Vehicles	0.503	0.004	5.063	0.653	0.048	0.022	417.414	0.03
RIVERSIDE	All Vehicles	0.252	0.004	2.887	0.399	0.046	0.020	367.792	0.03
SACRAMENTO	All Vehicles	0.289	0.004	3.248	0.442	0.047	0.020	374.672	0.03
SAN BENITO	All Vehicles	0.334	0.004	3.325	0.414	0.046	0.020	356.356	0.03
SAN BERNARDINO	All Vehicles	0.289	0.004	3.170	0.398	0.046	0.020	373.142	0.03
SAN DIEGO	All Vehicles	0.271	0.004	2.994	0.392	0.046	0.020	388.423	0.03
SAN FRANCISCO	All Vehicles	0.256	0.004	2.990	0.411	0.047	0.021	406.615	0.03
SAN JOAQUIN	All Vehicles	0.296	0.004	3.249	0.434	0.046	0.020	374.762	0.03
SAN LUIS OBISPO	All Vehicles	0.354	0.004	3.475	0.462	0.046	0.020	358.551	0.03
SAN MATEO	All Vehicles	0.238	0.004	2.684	0.354	0.046	0.020	359.145	0.03
SANTA BARBARA	All Vehicles	0.374	0.003	3.464	0.447	0.047	0.020	346.520	0.03
SANTA CLARA	All Vehicles	0.270	0.004	2.991	0.399	0.046	0.020	365.035	0.03
SANTA CRUZ	All Vehicles	0.438	0.004	4.193	0.544	0.048	0.021	384.400	0.03
SHASTA	All Vehicles	0.384	0.004	3.875	0.538	0.047	0.021	387.548	0.03
SIERRA	All Vehicles	0.455	0.004	4.595	0.578	0.048	0.021	426.004	0.03
SISKIYOU	All Vehicles	0.470	0.004	4.653	0.596	0.048	0.021	414.004	0.03
SOLANO	All Vehicles	0.277	0.004	3.124	0.402	0.046	0.020	383.393	0.03
SONOMA	All Vehicles	0.330	0.004	3.595	0.477	0.047	0.021	381.442	0.03
STANISLAUS	All Vehicles	0.309	0.004	3.487	0.484	0.047	0.020	384.539	0.03
SUTTER	All Vehicles	0.360	0.004	3.574	0.518	0.046	0.020	354.787	0.03
ТЕНАМА	All Vehicles	0.400	0.004	3.926	0.524	0.047	0.021	383.573	0.03
TRINITY	All Vehicles	0.598	0.005	5.700	0.737	0.050	0.024	454.297	0.03
TULARE	All Vehicles	0.316	0.004	3.401	0.487	0.047	0.020	368.515	0.03
TUOLUMNE	All Vehicles	0.518	0.004	5.001	0.666	0.048	0.022	386.662	0.03
VENTURA	All Vehicles	0.263	0.004	3.026	0.434	0.046	0.020	367.427	0.03
YOLO	All Vehicles	0.276	0.004	3.145	0.421	0.046	0.020	372.194	0.03
YUBA	All Vehicles	0.395	0.004	3.816	0.503	0.047	0.020	366.379	0.03

Table 5-33 EMFAC County-Specific On-Road Vehicle Composite EFs – 2015 POV

		Emission Factors (g/mi) e Criteria Pollutants and Ozone Precursors								
County	Vehicle Type	NO	60							
ALAMEDA	All Vehicles	NO <sub>x</sub> 2.940	SO <sub>2</sub> 0.256	0.004	0.392	PM <sub>10</sub> 0.046	PM <sub>2.5</sub>	CO <sub>2</sub> 365.980	0.032	
ALPINE	All Vehicles	3.732	0.365	0.003	0.451	0.046	0.020	342.378	0.032	
AMADOR	All Vehicles	3.838	0.398	0.003	0.533	0.047	0.020	328.671	0.032	
BUTTE	All Vehicles	3.837	0.388	0.004	0.535	0.047	0.021	370.101	0.032	
CALAVERAS	All Vehicles	4.164	0.414	0.004	0.589	0.047	0.021	363.345	0.032	
COLUSA	All Vehicles	3.086	0.304	0.004	0.427	0.046	0.020	360.531	0.032	
CONTRA COSTA	All Vehicles	2.877	0.246	0.004	0.387	0.046	0.020	363.452	0.032	
DEL NORTE	All Vehicles	4.524	0.504	0.004	0.603	0.049	0.022	382.411	0.032	
EL DORADO	All Vehicles	3.200	0.268	0.004	0.459	0.047	0.020	369.223	0.032	
FRESNO	All Vehicles	2.942	0.258	0.004	0.417	0.046	0.020	359.400	0.032	
GLENN	All Vehicles	3.385	0.330	0.004	0.474	0.047	0.020	374.031	0.032	
HUMBOLDT	All Vehicles	4.331	0.472	0.004	0.562	0.048	0.021	357.162	0.032	
IMPERIAL	All Vehicles	4.170	0.442	0.004	0.537	0.046	0.019	355.653	0.032	
INYO	All Vehicles	3.539	0.351	0.004	0.505	0.047	0.020	378.437	0.032	
KERN	All Vehicles	2.944	0.256	0.004	0.407	0.046	0.020	389.413	0.032	
KINGS	All Vehicles	3.075	0.301	0.004	0.420	0.046	0.020	360.072	0.032	
LAKE	All Vehicles	4.426	0.459	0.004	0.636	0.048	0.021	368.267	0.032	
LASSEN	All Vehicles	4.194	0.414	0.004	0.561	0.047	0.021	391.150	0.032	
LOS ANGELES	All Vehicles	2.920	0.253	0.004	0.405	0.047	0.020	394.799	0.032	
MADERA	All Vehicles	3.164	0.277	0.004	0.435	0.047	0.020	379.702	0.032	
MARIN	All Vehicles	2.821	0.246	0.004	0.387	0.046	0.020	367.430	0.032	
MARIPOSA	All Vehicles	4.595	0.474	0.004	0.642	0.049	0.022	379.022	0.032	
MENDOCINO	All Vehicles	4.180	0.451	0.004	0.553	0.048	0.021	355.263	0.032	
MERCED	All Vehicles	3.156	0.285	0.004	0.417	0.047	0.020	372.194	0.032	
MODOC	All Vehicles	4.612	0.458	0.004	0.599	0.048	0.021	434.927	0.032	
MONO	All Vehicles	3.917	0.383	0.004	0.486	0.047	0.020	367.604	0.032	
MONTEREY	All Vehicles	3.581	0.365	0.004	0.452	0.047	0.021	390.855	0.032	
NAPA	All Vehicles	2.991	0.264	0.004	0.392	0.046	0.020	351.180	0.032	
NEVADA	All Vehicles	3.724	0.372	0.004	0.496	0.047	0.020	351.839	0.032	

	l	Emission Factors (g/mi)								
County	Vehicle Type			Criteria		and Ozone				
•		NOx	SO <sub>2</sub>	со	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
ORANGE	All Vehicles	0.210	0.004	2.521	0.359	0.046	0.020	371.207	0.032	
PLACER	All Vehicles	0.242	0.004	2.880	0.386	0.046	0.020	357.602	0.032	
PLUMAS	All Vehicles	0.464	0.014	4.666	0.626	0.057	0.031	406.173	0.032	
RIVERSIDE	All Vehicles	0.228	0.004	2.669	0.379	0.046	0.019	358.445	0.032	
SACRAMENTO	All Vehicles	0.262	0.004	3.007	0.417	0.046	0.020	368.187	0.032	
SAN BENITO	All Vehicles	0.300	0.004	3.065	0.391	0.046	0.020	349.357	0.032	
SAN BERNARDINO	All Vehicles	0.261	0.004	2.924	0.376	0.046	0.020	365.829	0.032	
SAN DIEGO	All Vehicles	0.248	0.004	2.793	0.374	0.046	0.020	381.009	0.032	
SAN FRANCISCO	All Vehicles	0.232	0.004	2.774	0.393	0.047	0.021	398.259	0.032	
SAN JOAQUIN	All Vehicles	0.267	0.004	3.008	0.409	0.046	0.020	369.551	0.032	
SAN LUIS OBISPO	All Vehicles	0.321	0.004	3.210	0.438	0.046	0.020	352.219	0.032	
SAN MATEO	All Vehicles	0.213	0.004	2.455	0.331	0.046	0.020	351.088	0.032	
SANTA BARBARA	All Vehicles	0.337	0.003	3.200	0.422	0.046	0.020	342.155	0.032	
SANTA CLARA	All Vehicles	0.243	0.004	2.756	0.376	0.046	0.020	358.357	0.032	
SANTA CRUZ	All Vehicles	0.395	0.004	3.855	0.512	0.047	0.021	378.307	0.032	
SHASTA	All Vehicles	0.343	0.004	3.549	0.504	0.047	0.020	380.240	0.032	
SIERRA	All Vehicles	0.412	0.004	4.237	0.547	0.047	0.021	418.676	0.032	
SISKIYOU	All Vehicles	0.425	0.004	4.283	0.562	0.047	0.021	406.864	0.032	
SOLANO	All Vehicles	0.251	0.004	2.896	0.380	0.046	0.020	376.168	0.032	
SONOMA	All Vehicles	0.297	0.004	3.313	0.449	0.047	0.020	374.885	0.032	
STANISLAUS	All Vehicles	0.278	0.004	3.220	0.455	0.046	0.020	377.428	0.032	
SUTTER	All Vehicles	0.320	0.003	3.252	0.483	0.046	0.020	347.755	0.032	
TEHAMA	All Vehicles	0.358	0.004	3.596	0.490	0.047	0.020	376.447	0.032	
TRINITY	All Vehicles	0.544	0.005	5.262	0.695	0.050	0.023	447.510	0.032	
TULARE	All Vehicles	0.281	0.004	3.103	0.451	0.046	0.020	358.865	0.032	
TUOLUMNE	All Vehicles	0.473	0.004	4.635	0.629	0.048	0.021	380.703	0.032	
VENTURA	All Vehicles	0.239	0.004	2.817	0.415	0.046	0.020	362.553	0.032	
YOLO	All Vehicles	0.250	0.004	2.914	0.397	0.046	0.020	365.603	0.032	
YUBA	All Vehicles	0.353	0.004	3.495	0.470	0.046	0.020	359.676	0.032	

Table 5-34 EMFAC County-Specific On-Road Vehicle Composite EFs – 2016 POV

		Emission Factors (g/mi)							
County	Vehicle Type	NO	60		Pollutants a			CO	NH <sub>3</sub> <sup>1</sup>
AT A A STORY	All Vehicles	NO <sub>x</sub>	SO <sub>2</sub>	CO	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	
ALAMEDA		0.229	0.004	2.683	0.362	0.046	0.020	358.128	0.030
ALPINE	All Vehicles	0.326	0.003	3.444	0.426	0.046	0.020	334.827	0.030
AMADOR	All Vehicles	0.360	0.003	3.567	0.504	0.047	0.020	322.329	0.030
BUTTE	All Vehicles	0.346	0.004	3.530	0.498	0.047	0.020	364.402	0.030
CALAVERAS	All Vehicles	0.374	0.004	3.846	0.555	0.047	0.021	356.195	0.030
COLUSA	All Vehicles	0.269	0.004	2.826	0.397	0.046	0.020	352.128	0.030
CONTRA COSTA	All Vehicles	0.220	0.004	2.627	0.357	0.046	0.020	355.362	0.030
DEL NORTE	All Vehicles	0.454	0.004	4.185	0.570	0.048	0.022	375.692	0.030
EL DORADO	All Vehicles	0.243	0.004	2.987	0.439	0.046	0.020	361.046	0.030
FRESNO	All Vehicles	0.231	0.004	2.720	0.391	0.046	0.019	351.464	0.030
GLENN	All Vehicles	0.292	0.004	3.098	0.442	0.047	0.020	365.596	0.030
HUMBOLDT	All Vehicles	0.426	0.004	4.016	0.532	0.047	0.021	351.397	0.030
IMPERIAL	All Vehicles	0.405	0.004	3.919	0.506	0.046	0.019	347.364	0.030
INYO	All Vehicles	0.313	0.004	3.267	0.478	0.046	0.020	370.062	0.030
KERN	All Vehicles	0.228	0.004	2.705	0.380	0.046	0.020	379.997	0.030
KINGS	All Vehicles	0.266	0.004	2.817	0.391	0.046	0.020	351.862	0.030
LAKE	All Vehicles	0.411	0.004	4.091	0.599	0.047	0.021	361.638	0.030
LASSEN	All Vehicles	0.370	0.004	3.867	0.530	0.047	0.020	383.135	0.030
LOS ANGELES	All Vehicles	0.226	0.004	2.698	0.381	0.047	0.020	385.904	0.030
MADERA	All Vehicles	0.247	0.004	2.915	0.405	0.046	0.020	371.257	0.030
MARIN	All Vehicles	0.222	0.004	2.615	0.365	0.046	0.020	359.230	0.030
MARIPOSA	All Vehicles	0.427	0.004	4.250	0.605	0.048	0.021	371.581	0.030
MENDOCINO	All Vehicles	0.406	0.004	3.873	0.523	0.047	0.021	349.125	0.030
MERCED	All Vehicles	0.254	0.004	2.911	0.387	0.046	0.020	364.401	0.030
MODOC	All Vehicles	0.407	0.004	4.229	0.561	0.048	0.021	425.697	0.030
MONO	All Vehicles	0.342	0.004	3.626	0.460	0.047	0.020	359.408	0.030
MONTEREY	All Vehicles	0.325	0.004	3.288	0.421	0.047	0.020	382.996	0.030
NAPA	All Vehicles	0.236	0.004	2.753	0.367	0.046	0.020	343.647	0.030
NEVADA	All Vehicles	0.335	0.004	3.452	0.471	0.047	0.020	345.031	0.030

						Factors (g/n			
County	Vehicle Type	NO	60		Pollutants			CC	NIVY 1
		NOx	SO <sub>2</sub>	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
ORANGE	All Vehicles	0.191	0.004	2.340	0.342	0.046	0.020	362.248	0.030
PLACER	All Vehicles	0.220	0.003	2.676	0.366	0.046	0.019	349.344	0.030
PLUMAS	All Vehicles	0.414	0.004	4.290	0.582	0.047	0.021	402.245	0.030
RIVERSIDE	All Vehicles	0.209	0.004	2.477	0.360	0.046	0.020	350.353	0.030
SACRAMENTO	All Vehicles	0.237	0.004	2.782	0.394	0.046	0.020	360.399	0.030
SAN BENITO	All Vehicles	0.270	0.003	2.825	0.368	0.046	0.020	341.278	0.030
SAN BERNARDINO	All Vehicles	0.235	0.004	2.702	0.355	0.046	0.020	357.551	0.030
SAN DIEGO	All Vehicles	0.228	0.004	2.607	0.357	0.046	0.020	372.277	0.030
SAN FRANCISCO	All Vehicles	0.210	0.004	2.578	0.375	0.046	0.021	388.621	0.030
SAN JOAQUIN	All Vehicles	0.241	0.004	2.779	0.384	0.046	0.020	361.647	0.030
SAN LUIS OBISPO	All Vehicles	0.290	0.003	2.965	0.415	0.046	0.020	344.767	0.030
SAN MATEO	All Vehicles	0.193	0.003	2.261	0.311	0.046	0.020	342.097	0.030
SANTA BARBARA	All Vehicles	0.304	0.003	2.940	0.395	0.046	0.020	334.921	0.030
SANTA CLARA	All Vehicles	0.220	0.004	2.542	0.354	0.046	0.020	350.448	0.030
SANTA CRUZ	All Vehicles	0.356	0.004	3.541	0.482	0.047	0.021	371.036	0.030
SHASTA	All Vehicles	0.306	0.004	3.253	0.472	0.046	0.020	371.641	0.030
SIERRA	All Vehicles	0.373	0.004	3.902	0.518	0.047	0.021	409.975	0.030
SISKIYOU	All Vehicles	0.382	0.004	3.938	0.530	0.047	0.021	398.395	0.030
SOLANO	All Vehicles	0.228	0.004	2.702	0.362	0.046	0.020	370.812	0.030
SONOMA	All Vehicles	0.268	0.004	3.050	0.421	0.046	0.020	366.804	0.030
STANISLAUS	All Vehicles	0.250	0.004	2.971	0.427	0.046	0.020	369.576	0.030
SUTTER	All Vehicles	0.284	0.003	2.963	0.451	0.046	0.020	339.556	0.030
TEHAMA	All Vehicles	0.320	0.004	3.293	0.458	0.046	0.020	368.052	0.030
TRINITY	All Vehicles	0.493	0.004	4.852	0.655	0.049	0.023	439.383	0.030
TULARE	All Vehicles	0.251	0.004	2.844	0.420	0.046	0.020	351.087	0.030
TUOLUMNE	All Vehicles	0.431	0.004	4.285	0.593	0.047	0.021	373.533	0.030
VENTURA	All Vehicles	0.217	0.004	2.613	0.395	0.046	0.020	354.155	0.030
YOLO	All Vehicles	0.226	0.004	2.699	0.375	0.046	0.020	357.764	0.030
YUBA	All Vehicles	0.316	0.004	3.199	0.439	0.046	0.020	351.733	0.030

Table 5-35 EMFAC County-Specific On-Road Vehicle Composite EFs – 2017 POV

		Emission Factors (g/mi)  Criteria Pollutants and Ozone Precursors								
County	Vehicle Type	NO <sub>x</sub>	SO <sub>2</sub>	Criteria	Pollutants a ROG	PM <sub>10</sub>	Precursors PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
ALAMEDA	All Vehicles	0.208	0.004	2.485	0.341	0.046	0.020	349.704	0.028	
ALPINE	All Vehicles	0.295	0.003	3.184	0.404	0.046	0.020	326.797	0.028	
AMADOR	All Vehicles	0.329	0.003	3.313	0.480	0.046	0.020	315.330	0.028	
BUTTE	All Vehicles	0.310	0.004	3.239	0.465	0.047	0.020	356.249	0.028	
CALAVERAS	All Vehicles	0.412	0.004	4.117	0.623	0.047	0.021	357.504	0.028	
COLUSA	All Vehicles	0.241	0.003	2.598	0.372	0.046	0.020	343.336	0.028	
CONTRA COSTA	All Vehicles	0.200	0.004	2.435	0.337	0.046	0.020	346.714	0.028	
DEL NORTE	All Vehicles	0.412	0.004	3.875	0.542	0.048	0.021	368.258	0.028	
EL DORADO	All Vehicles	0.223	0.004	2.797	0.422	0.046	0.020	352.262	0.028	
FRESNO	All Vehicles	0.209	0.003	2.520	0.368	0.046	0.019	342.940	0.028	
GLENN	All Vehicles	0.261	0.004	2.844	0.415	0.046	0.020	356.628	0.028	
HUMBOLDT	All Vehicles	0.388	0.004	3.726	0.507	0.047	0.020	344.935	0.028	
IMPERIAL	All Vehicles	0.376	0.003	3.688	0.481	0.046	0.019	338.622	0.028	
INYO	All Vehicles	0.283	0.004	3.023	0.455	0.046	0.020	361.136	0.028	
KERN	All Vehicles	0.206	0.004	2.504	0.358	0.046	0.020	370.185	0.028	
KINGS	All Vehicles	0.238	0.003	2.592	0.367	0.046	0.019	343.176	0.028	
LAKE	All Vehicles	0.372	0.004	3.779	0.568	0.047	0.020	354.325	0.028	
LASSEN	All Vehicles	0.335	0.004	3.575	0.503	0.047	0.020	374.494	0.028	
LOS ANGELES	All Vehicles	0.205	0.004	2.501	0.361	0.047	0.020	376.522	0.028	
MADERA	All Vehicles	0.222	0.004	2.691	0.379	0.046	0.020	362.193	0.028	
MARIN	All Vehicles	0.202	0.004	2.431	0.347	0.046	0.020	350.547	0.028	
MARIPOSA	All Vehicles	0.389	0.004	3.935	0.573	0.048	0.021	363.410	0.028	
MENDOCINO	All Vehicles	0.369	0.003	3.592	0.498	0.047	0.020	342.315	0.028	
MERCED	All Vehicles	0.229	0.004	2.685	0.362	0.046	0.020	355.912	0.028	
MODOC	All Vehicles	0.367	0.004	3.886	0.529	0.048	0.021	415.786	0.028	
MONO	All Vehicles	0.309	0.004	3.364	0.438	0.046	0.020	350.671	0.028	
MONTEREY	All Vehicles	0.294	0.004	3.023	0.395	0.047	0.020	374.527	0.028	
NAPA	All Vehicles	0.214	0.003	2.546	0.345	0.046	0.020	335.536	0.028	

					Emission F					
County	Vehicle Type	NO <sub>x</sub>	SO <sub>2</sub>	Co	Pollutants a	PM <sub>10</sub>	Precursors PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
ORANGE	All Vehicles	0.175	0.004	2.186	0.327	0.046	0.020	352.941	0.028	
PLACER	All Vehicles	0.201	0.003	2.498	0.350	0.046	0.019	340.521	0.028	
PLUMAS	All Vehicles	0.376	0.004	3.966	0.553	0.047	0.021	393.311	0.028	
RIVERSIDE	All Vehicles	0.189	0.003	2.305	0.343	0.046	0.019	341.359	0.028	
SACRAMENTO	All Vehicles	0.216	0.004	2.584	0.374	0.046	0.020	351.965	0.028	
SAN BENITO	All Vehicles	0.243	0.003	2.616	0.349	0.046	0.019	332.819	0.028	
SAN BERNARDINO	All Vehicles	0.213	0.003	2.507	0.336	0.046	0.019	348.769	0.028	
SAN DIEGO	All Vehicles	0.209	0.004	2.442	0.341	0.046	0.020	363.007	0.028	
SAN FRANCISCO	All Vehicles	0.192	0.004	2.411	0.360	0.046	0.021	378.693	0.028	
SAN JOAQUIN	All Vehicles	0.218	0.004	2.577	0.362	0.046	0.020	353.131	0.028	
SAN LUIS OBISPO	All Vehicles	0.263	0.003	2.754	0.396	0.046	0.020	336.772	0.028	
SAN MATEO	All Vehicles	0.176	0.003	2.106	0.294	0.046	0.020	333.003	0.028	
SANTA BARBARA	All Vehicles	0.274	0.003	2.714	0.373	0.046	0.020	327.189	0.028	
SANTA CLARA	All Vehicles	0.200	0.003	2.357	0.335	0.046	0.019	342.009	0.028	
SANTA CRUZ	All Vehicles	0.322	0.004	3.265	0.455	0.047	0.020	363.166	0.028	
SHASTA	All Vehicles	0.274	0.004	2.999	0.446	0.046	0.020	362.451	0.028	
SIERRA	All Vehicles	0.338	0.004	3.609	0.492	0.047	0.021	400.540	0.028	
SISKIYOU	All Vehicles	0.345	0.004	3.637	0.502	0.047	0.020	389.230	0.028	
SOLANO	All Vehicles	0.207	0.004	2.509	0.343	0.046	0.020	361.706	0.028	
SONOMA	All Vehicles	0.242	0.004	2.820	0.398	0.046	0.020	358.298	0.028	
STANISLAUS	All Vehicles	0.226	0.004	2.749	0.402	0.046	0.020	361.000	0.028	
SUTTER	All Vehicles	0.254	0.003	2.717	0.424	0.046	0.019	330.907	0.028	
ТЕНАМА	All Vehicles	0.286	0.004	3.030	0.431	0.046	0.020	359.082	0.028	
TRINITY	All Vehicles	0.448	0.004	4.490	0.621	0.049	0.022	430.371	0.028	
TULARE	All Vehicles	0.226	0.003	2.620	0.393	0.046	0.020	342.724	0.028	
TUOLUMNE	All Vehicles	0.393	0.004	3.972	0.562	0.047	0.021	365.594	0.028	
VENTURA	All Vehicles	0.198	0.003	2.436	0.378	0.046	0.020	345.329	0.028	
YOLO	All Vehicles	0.205	0.003	2.511	0.356	0.046	0.019	349.364	0.028	

Table 5-36 EMFAC County-Specific On-Road Vehicle Composite EFs – 2018 POV

	******	Emission Factors (g/mi) e Criteria Pollutants and Ozone Precursors								
County	Vehicle Type	NO <sub>x</sub>	SO <sub>2</sub>	CO	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
ALAMEDA	All Vehicles	0.190	0.003	2.317	0.324	0.046	0.020	341.055	0.027	
ALPINE	All Vehicles	0.268	0.003	2.965	0.388	0.046	0.020	318.712	0.027	
AMADOR	All Vehicles	0.302	0.003	3.093	0.461	0.046	0.020	308.066	0.027	
BUTTE	All Vehicles	0.280	0.004	2.993	0.441	0.046	0.020	347.719	0.027	
CALAVERAS	All Vehicles	0.312	0.003	3.327	0.510	0.047	0.020	340.309	0.027	
COLUSA	All Vehicles	0.218	0.003	2.410	0.353	0.046	0.020	334.476	0.027	
CONTRA COSTA	All Vehicles	0.183	0.003	2.274	0.322	0.046	0.019	337.829	0.027	
DEL NORTE	All Vehicles	0.376	0.004	3.607	0.521	0.048	0.021	360.503	0.027	
EL DORADO	All Vehicles	0.206	0.003	2.637	0.411	0.046	0.020	343.416	0.027	
FRESNO	All Vehicles	0.190	0.003	2.355	0.351	0.046	0.019	335.287	0.027	
GLENN	All Vehicles	0.236	0.004	2.632	0.395	0.046	0.020	347.516	0.027	
HUMBOLDT	All Vehicles	0.355	0.003	3.477	0.489	0.047	0.020	338.158	0.027	
IMPERIAL	All Vehicles	0.350	0.003	3.479	0.460	0.046	0.019	329.852	0.027	
INYO	All Vehicles	0.257	0.004	2.816	0.438	0.046	0.020	352.162	0.027	
KERN	All Vehicles	0.187	0.004	2.335	0.341	0.046	0.019	359.721	0.027	
KINGS	All Vehicles	0.214	0.003	2.389	0.347	0.046	0.019	330.835	0.027	
LAKE	All Vehicles	0.337	0.004	3.508	0.544	0.047	0.020	346.669	0.027	
LASSEN	All Vehicles	0.304	0.004	3.328	0.484	0.047	0.020	365.710	0.027	
LOS ANGELES	All Vehicles	0.187	0.004	2.338	0.346	0.047	0.020	367.169	0.027	
MADERA	All Vehicles	0.203	0.004	2.535	0.363	0.046	0.020	359.972	0.027	
MARIN	All Vehicles	0.186	0.003	2.279	0.333	0.046	0.020	341.723	0.027	
MARIPOSA	All Vehicles	0.356	0.004	3.666	0.550	0.048	0.021	355.067	0.027	
MENDOCINO	All Vehicles	0.337	0.003	3.351	0.479	0.047	0.020	335.274	0.027	
MERCED	All Vehicles	0.208	0.004	2.500	0.343	0.046	0.020	349.520	0.027	
MODOC	All Vehicles	0.332	0.004	3.598	0.504	0.047	0.021	405.722	0.027	
MONO	All Vehicles	0.281	0.003	3.144	0.421	0.046	0.020	341.926	0.027	
MONTEREY	All Vehicles	0.266	0.004	2.799	0.373	0.047	0.020	365.846	0.027	
NAPA	All Vehicles	0.196	0.003	2.370	0.328	0.046	0.019	327.148	0.027	
NEVADA	All Vehicles	0.279	0.003	3.012	0.435	0.046	0.020	329.818	0.027	

		Emission Factors (g/mi)									
County	Vehicle Type	***	70		ollutants a			90	3 mm 1		
		NO <sub>x</sub>	SO <sub>2</sub>	со	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>		
ORANGE	All Vehicles	0.162	0.003	2.060	0.316	0.046	0.020	343.626	0.027		
PLACER	All Vehicles	0.184	0.003	2.349	0.338	0.046	0.019	331.683	0.027		
PLUMAS	All Vehicles	0.343	0.004	3.694	0.532	0.047	0.021	384.280	0.027		
RIVERSIDE	All Vehicles	0.173	0.003	2.163	0.330	0.046	0.019	332.538	0.027		
SACRAMENTO	All Vehicles	0.197	0.003	2.417	0.359	0.046	0.020	343.287	0.027		
SAN BENITO	All Vehicles	0.221	0.003	2.441	0.334	0.046	0.019	324.298	0.027		
SAN BERNARDINO	All Vehicles	0.194	0.003	2.342	0.322	0.046	0.019	339.885	0.027		
SAN DIEGO	All Vehicles	0.193	0.004	2.302	0.330	0.046	0.020	353.604	0.027		
SAN FRANCISCO	All Vehicles	0.177	0.004	2.274	0.349	0.046	0.021	368.766	0.027		
SAN JOAQUIN	All Vehicles	0.198	0.003	2.399	0.345	0.046	0.019	343.228	0.027		
SAN LUIS OBISPO	All Vehicles	0.240	0.003	2.569	0.372	0.046	0.020	328.475	0.027		
SAN MATEO	All Vehicles	0.162	0.003	1.983	0.282	0.046	0.020	324.534	0.027		
SANTA BARBARA	All Vehicles	0.249	0.003	2.526	0.356	0.046	0.020	319.386	0.027		
SANTA CLARA	All Vehicles	0.183	0.003	2.203	0.320	0.046	0.019	333.410	0.027		
SANTA CRUZ	All Vehicles	0.292	0.004	3.031	0.435	0.047	0.020	355.047	0.027		
SHASTA	All Vehicles	0.247	0.004	2.787	0.428	0.046	0.020	353.091	0.027		
SIERRA	All Vehicles	0.308	0.004	3.359	0.473	0.047	0.021	390.946	0.027		
SISKIYOU	All Vehicles	0.313	0.004	3.381	0.481	0.047	0.020	379.874	0.027		
SOLANO	All Vehicles	0.189	0.004	2.351	0.328	0.046	0.020	352.393	0.027		
SONOMA	All Vehicles	0.220	0.003	2.625	0.380	0.046	0.020	349.470	0.027		
STANISLAUS	All Vehicles	0.206	0.004	2.575	0.386	0.046	0.020	356.411	0.027		
SUTTER	All Vehicles	0.228	0.003	2.514	0.404	0.046	0.019	322.122	0.027		
ТЕНАМА	All Vehicles	0.258	0.004	2.810	0.411	0.046	0.020	349.921	0.027		
TRINITY	All Vehicles	0.408	0.004	4.178	0.595	0.048	0.022	421.089	0.027		
TULARE	All Vehicles	0.204	0.003	2.422	0.371	0.046	0.019	332.379	0.027		
TUOLUMNE	All Vehicles	0.359	0.004	3.700	0.538	0.047	0.021	357.351	0.027		
VENTURA	All Vehicles	0.182	0.003	2.288	0.365	0.046	0.020	336.376	0.027		
YOLO	All Vehicles	0.188	0.003	2.352	0.341	0.046	0.019	340.735	0.027		
YUBA	All Vehicles	0.255	0.003	2.722	0.394	0.046	0.020	334.388	0.027		

Table 5-37 EMFAC County-Specific On-Road Vehicle Composite EFs – 2019 POV

		Emission Factors (g/mi) Criteria Pollutants and Ozone Precursors								
County	Vehicle Type	NOx	SO <sub>2</sub>	Criteria F	Pollutants a ROG	nd Ozone l PM <sub>10</sub>	Precursors PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
ALAMEDA	All Vehicles	0.175	0.003	2.172	0.310	0.046	0.020	332.181	0.026	
ALPINE	All Vehicles	0.244	0.003	2.778	0.373	0.046	0.020	310.524	0.026	
AMADOR	All Vehicles	0.277	0.003	2.896	0.444	0.046	0.020	300.537	0.026	
BUTTE	All Vehicles	0.254	0.003	2.781	0.420	0.046	0.020	338.850	0.026	
CALAVERAS	All Vehicles	0.286	0.003	3.114	0.493	0.047	0.020	332.062	0.026	
COLUSA	All Vehicles	0.199	0.003	2.251	0.337	0.046	0.019	325.543	0.026	
CONTRA COSTA	All Vehicles	0.169	0.003	2.136	0.308	0.046	0.019	328.751	0.026	
DEL NORTE	All Vehicles	0.345	0.004	3.373	0.503	0.047	0.021	352.458	0.026	
EL DORADO	All Vehicles	0.191	0.003	2.489	0.399	0.046	0.020	331.463	0.026	
FRESNO	All Vehicles	0.174	0.003	2.210	0.336	0.046	0.019	326.427	0.026	
GLENN	All Vehicles	0.214	0.003	2.453	0.378	0.046	0.020	338.303	0.026	
HUMBOLDT	All Vehicles	0.377	0.004	3.720	0.532	0.047	0.020	349.509	0.026	
IMPERIAL	All Vehicles	0.326	0.003	3.300	0.441	0.046	0.019	320.861	0.026	
INYO	All Vehicles	0.235	0.003	2.638	0.423	0.046	0.020	343.099	0.026	
KERN	All Vehicles	0.172	0.004	2.196	0.326	0.046	0.020	350.033	0.026	
KINGS	All Vehicles	0.195	0.003	2.234	0.332	0.046	0.019	322.134	0.026	
LAKE	All Vehicles	0.307	0.003	3.268	0.524	0.047	0.020	338.703	0.026	
LASSEN	All Vehicles	0.278	0.004	3.117	0.467	0.047	0.020	356.782	0.026	
LOS ANGELES	All Vehicles	0.172	0.004	2.196	0.332	0.047	0.020	356.518	0.026	
MADERA	All Vehicles	0.186	0.004	2.370	0.346	0.046	0.020	350.357	0.026	
MARIN	All Vehicles	0.172	0.003	2.150	0.320	0.046	0.020	332.762	0.026	
MARIPOSA	All Vehicles	0.326	0.004	3.429	0.530	0.047	0.021	346.520	0.026	
MENDOCINO	All Vehicles	0.309	0.003	3.140	0.463	0.047	0.020	327.967	0.026	
MERCED	All Vehicles	0.189	0.003	2.331	0.325	0.046	0.020	340.343	0.026	
MODOC	All Vehicles	0.302	0.004	3.353	0.483	0.047	0.021	395.516	0.026	
MONO	All Vehicles	0.257	0.003	2.954	0.406	0.046	0.020	333.108	0.026	
MONTEREY	All Vehicles	0.243	0.004	2.605	0.355	0.047	0.020	356.947	0.026	
NAPA	All Vehicles	0.180	0.003	2.219	0.313	0.046	0.019	318.536	0.026	
NEVADA	All Vehicles	0.256	0.003	2.838	0.423	0.046	0.020	321.898	0.026	

					Emission I	Factors (g/n	ni)		
County	Vehicle Type					and Ozone			
		NO <sub>x</sub>	SO <sub>2</sub>	со	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
ORANGE	All Vehicles	0.151	0.003	1.960	0.308	0.046	0.020	335.775	0.026
PLACER	All Vehicles	0.171	0.003	2.225	0.328	0.046	0.019	322.992	0.026
PLUMAS	All Vehicles	0.314	0.004	3.458	0.513	0.047	0.021	375.075	0.026
RIVERSIDE	All Vehicles	0.160	0.003	2.042	0.319	0.046	0.019	323.584	0.026
SACRAMENTO	All Vehicles	0.181	0.003	2.269	0.344	0.046	0.020	332.731	0.026
SAN BENITO	All Vehicles	0.202	0.003	2.291	0.321	0.046	0.019	315.727	0.026
SAN BERNARDINO	All Vehicles	0.178	0.003	2.192	0.308	0.046	0.019	329.505	0.026
SAN DIEGO	All Vehicles	0.180	0.003	2.182	0.319	0.046	0.020	344.064	0.026
SAN FRANCISCO	All Vehicles	0.164	0.004	2.160	0.340	0.046	0.021	358.866	0.026
SAN JOAQUIN	All Vehicles	0.181	0.003	2.251	0.330	0.046	0.019	334.305	0.026
SAN LUIS OBISPO	All Vehicles	0.222	0.003	2.427	0.370	0.046	0.020	320.450	0.026
SAN MATEO	All Vehicles	0.151	0.003	1.885	0.272	0.046	0.020	316.188	0.026
SANTA BARBARA	All Vehicles	0.228	0.003	2.365	0.341	0.046	0.020	311.466	0.026
SANTA CLARA	All Vehicles	0.169	0.003	2.073	0.308	0.046	0.019	324.649	0.026
SANTA CRUZ	All Vehicles	0.266	0.003	2.829	0.417	0.047	0.020	346.656	0.026
SHASTA	All Vehicles	0.224	0.003	2.608	0.412	0.046	0.020	343.616	0.026
SIERRA	All Vehicles	0.281	0.004	3.145	0.456	0.047	0.021	381.151	0.026
SISKIYOU	All Vehicles	0.285	0.004	3.161	0.463	0.047	0.020	370.334	0.026
SOLANO	All Vehicles	0.174	0.003	2.215	0.315	0.046	0.020	342.928	0.026
SONOMA	All Vehicles	0.201	0.003	2.456	0.363	0.046	0.020	340.382	0.026
STANISLAUS	All Vehicles	0.188	0.003	2.410	0.369	0.046	0.020	347.090	0.026
SUTTER	All Vehicles	0.207	0.003	2.344	0.386	0.046	0.019	313.097	0.026
ТЕНАМА	All Vehicles	0.234	0.003	2.622	0.393	0.046	0.020	340.603	0.026
TRINITY	All Vehicles	0.373	0.004	3.905	0.573	0.048	0.022	411.521	0.026
TULARE	All Vehicles	0.186	0.003	2.261	0.354	0.046	0.019	323.711	0.026
TUOLUMNE	All Vehicles	0.329	0.004	3.458	0.518	0.047	0.020	348.802	0.026
VENTURA	All Vehicles	0.168	0.003	2.166	0.355	0.046	0.020	328.350	0.026
YOLO	All Vehicles	0.173	0.003	2.211	0.328	0.046	0.019	330.564	0.026
YUBA	All Vehicles	0.231	0.003	2.524	0.375	0.046	0.020	322.431	0.026

Table 5-38 EMFAC County-Specific On-Road Vehicle Composite EFs – 2020 POV

		Emission Factors (g/mi) e Criteria Pollutants and Ozone Precursors								
County	Vehicle Type	NO <sub>x</sub>	SO <sub>2</sub>	Criteria I CO	Pollutants a ROG	nd Ozone I PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
ALAMEDA	All Vehicles	0.161	0.003	2.052	0.298	0.046	0.019	323.262	0.025	
ALPINE	All Vehicles	0.225	0.003	2.622	0.361	0.046	0.019	302.405	0.025	
AMADOR	All Vehicles	0.255	0.003	2.725	0.430	0.046	0.019	292.946	0.025	
BUTTE	All Vehicles	0.232	0.003	2.604	0.403	0.046	0.020	329.933	0.025	
CALAVERAS	All Vehicles	0.263	0.003	2.930	0.478	0.047	0.020	323.791	0.025	
COLUSA	All Vehicles	0.182	0.003	2.122	0.323	0.046	0.019	316.734	0.025	
CONTRA COSTA	All Vehicles	0.156	0.003	2.021	0.297	0.046	0.019	319.704	0.025	
DEL NORTE	All Vehicles	0.316	0.004	3.173	0.488	0.047	0.021	344.329	0.025	
EL DORADO	All Vehicles	0.178	0.003	2.376	0.391	0.046	0.020	322.764	0.025	
FRESNO	All Vehicles	0.161	0.003	2.088	0.323	0.046	0.019	317.630	0.025	
GLENN	All Vehicles	0.196	0.003	2.307	0.364	0.046	0.020	329.197	0.025	
HUMBOLDT	All Vehicles	0.300	0.003	3.069	0.460	0.047	0.020	323.801	0.025	
IMPERIAL	All Vehicles	0.306	0.003	3.146	0.426	0.046	0.019	312.184	0.025	
INYO	All Vehicles	0.216	0.003	2.490	0.410	0.046	0.020	334.125	0.025	
KERN	All Vehicles	0.159	0.003	2.083	0.315	0.046	0.020	340.570	0.025	
KINGS	All Vehicles	0.180	0.003	2.108	0.319	0.046	0.019	313.565	0.025	
LAKE	All Vehicles	0.280	0.003	3.061	0.507	0.047	0.020	330.605	0.025	
LASSEN	All Vehicles	0.256	0.004	2.939	0.453	0.047	0.020	347.909	0.025	
LOS ANGELES	All Vehicles	0.160	0.004	2.085	0.321	0.047	0.020	347.205	0.025	
MADERA	All Vehicles	0.171	0.003	2.232	0.331	0.046	0.020	340.794	0.025	
MARIN	All Vehicles	0.160	0.003	2.043	0.310	0.046	0.020	323.860	0.025	
MARIPOSA	All Vehicles	0.299	0.003	3.224	0.513	0.047	0.021	337.958	0.025	
MENDOCINO	All Vehicles	0.284	0.003	2.957	0.450	0.046	0.020	320.539	0.025	
MERCED	All Vehicles	0.174	0.003	2.189	0.309	0.046	0.020	331.137	0.025	
MODOC	All Vehicles	0.276	0.004	3.148	0.466	0.047	0.021	385.400	0.025	
MONO	All Vehicles	0.236	0.003	2.795	0.394	0.046	0.020	324.390	0.025	
MONTEREY	All Vehicles	0.222	0.004	2.442	0.339	0.047	0.020	348.001	0.025	
NAPA	All Vehicles	0.166	0.003	2.093	0.300	0.046	0.019	309.901	0.025	
NEVADA	All Vehicles	0.236	0.003	2.691	0.413	0.046	0.020	313.959	0.025	

						Factors (g/n			
County	Vehicle Type	NO	I 60			and Ozone			NIVY 1
		NO <sub>x</sub>	SO <sub>2</sub>	со	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
ORANGE	All Vehicles	0.141	0.003	1.875	0.300	0.046	0.020	326.573	0.025
PLACER	All Vehicles	0.159	0.003	2.119	0.320	0.046	0.019	314.190	0.025
PLUMAS	All Vehicles	0.289	0.004	3.257	0.498	0.047	0.020	365.930	0.025
RIVERSIDE	All Vehicles	0.149	0.003	1.942	0.309	0.046	0.019	314.831	0.025
SACRAMENTO	All Vehicles	0.168	0.003	2.148	0.333	0.046	0.020	323.854	0.025
SAN BENITO	All Vehicles	0.186	0.003	2.165	0.309	0.046	0.019	307.278	0.025
SAN BERNARDINO	All Vehicles	0.165	0.003	2.075	0.298	0.046	0.019	320.647	0.025
SAN DIEGO	All Vehicles	0.168	0.003	2.083	0.311	0.046	0.020	334.614	0.025
SAN FRANCISCO	All Vehicles	0.153	0.003	2.066	0.332	0.046	0.021	349.137	0.025
SAN JOAQUIN	All Vehicles	0.167	0.003	2.126	0.317	0.046	0.019	325.394	0.025
SAN LUIS OBISPO	All Vehicles	0.205	0.003	2.299	0.360	0.046	0.020	312.262	0.025
SAN MATEO	All Vehicles	0.141	0.003	1.806	0.265	0.046	0.020	308.054	0.025
SANTA BARBARA	All Vehicles	0.209	0.003	2.229	0.328	0.046	0.019	303.576	0.025
SANTA CLARA	All Vehicles	0.156	0.003	1.966	0.297	0.046	0.019	315.926	0.025
SANTA CRUZ	All Vehicles	0.244	0.003	2.657	0.402	0.046	0.020	338.172	0.025
SHASTA	All Vehicles	0.205	0.003	2.460	0.400	0.046	0.020	334.277	0.025
SIERRA	All Vehicles	0.258	0.004	2.963	0.442	0.047	0.020	371.386	0.025
SISKIYOU	All Vehicles	0.261	0.004	2.974	0.447	0.047	0.020	360.828	0.025
SOLANO	All Vehicles	0.161	0.003	2.101	0.304	0.046	0.020	333.533	0.025
SONOMA	All Vehicles	0.185	0.003	2.313	0.350	0.046	0.020	331.248	0.025
STANISLAUS	All Vehicles	0.173	0.003	2.271	0.355	0.046	0.020	337.741	0.025
SUTTER	All Vehicles	0.189	0.003	2.206	0.372	0.046	0.019	304.388	0.025
TEHAMA	All Vehicles	0.214	0.003	2.467	0.379	0.046	0.020	331.395	0.025
TRINITY	All Vehicles	0.343	0.004	3.670	0.554	0.048	0.021	401.881	0.025
TULARE	All Vehicles	0.171	0.003	2.128	0.339	0.046	0.019	315.104	0.025
TUOLUMNE	All Vehicles	0.302	0.003	3.249	0.500	0.047	0.020	340.189	0.025
VENTURA	All Vehicles	0.156	0.003	2.062	0.346	0.046	0.020	319.365	0.025
YOLO	All Vehicles	0.160	0.003	2.097	0.317	0.046	0.019	321.777	0.025
YUBA	All Vehicles	0.211	0.003	2.370	0.361	0.046	0.019	313.668	0.025

 $Table \ 5\text{--}39 \ EMFAC \ County\text{--}Specific \ On-Road \ Vehicle \ Composite \ EFs-2014 \ GOV$ 

	****** ***	Emission Factors (g/mi) e Criteria Pollutants and Ozone Precursors								
County	Vehicle Type	NOx	SO <sub>2</sub>	Criteria P CO	ollutants a	nd Ozone I PM <sub>10</sub>	Precursors PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
ALAMEDA	All Vehicles	1.969	0.005	1.883	0.286	0.095	0.057	507.527	0.028	
ALPINE	All Vehicles	2.554	0.007	2.429	0.340	0.108	0.065	731.306	0.028	
AMADOR	All Vehicles	2.687	0.006	2.819	0.463	0.127	0.084	564.843	0.028	
BUTTE	All Vehicles	2.762	0.007	2.699	0.418	0.119	0.076	725.772	0.028	
CALAVERAS	All Vehicles	2.671	0.006	3.073	0.487	0.123	0.081	612.955	0.028	
COLUSA	All Vehicles	2.532	0.007	2.055	0.331	0.115	0.073	723.169	0.028	
CONTRA COSTA	All Vehicles	2.606	0.007	1.677	0.272	0.127	0.078	725.281	0.028	
DEL NORTE	All Vehicles	2.733	0.006	3.433	0.506	0.134	0.091	578.934	0.028	
EL DORADO	All Vehicles	2.299	0.006	1.999	0.308	0.107	0.065	585.188	0.028	
FRESNO	All Vehicles	2.648	0.008	1.865	0.324	0.115	0.072	791.440	0.028	
GLENN	All Vehicles	2.603	0.007	2.365	0.379	0.121	0.079	716.237	0.028	
HUMBOLDT	All Vehicles	2.849	0.006	3.045	0.461	0.127	0.085	643.585	0.028	
IMPERIAL	All Vehicles	2.429	0.007	2.134	0.350	0.102	0.061	745.149	0.028	
INYO	All Vehicles	2.513	0.007	2.385	0.385	0.115	0.070	714.642	0.028	
KERN	All Vehicles	2.515	0.008	1.798	0.303	0.106	0.064	812.197	0.028	
KINGS	All Vehicles	2.720	0.008	2.138	0.346	0.110	0.069	799.808	0.028	
LAKE	All Vehicles	2.959	0.006	3.198	0.523	0.135	0.092	613.284	0.028	
LASSEN	All Vehicles	2.511	0.006	2.876	0.432	0.113	0.070	589.524	0.028	
LOS ANGELES	All Vehicles	2.540	0.007	2.033	0.278	0.124	0.076	762.717	0.028	
MADERA	All Vehicles	2.662	0.008	2.151	0.351	0.111	0.069	776.644	0.028	
MARIN	All Vehicles	2.805	0.007	1.770	0.291	0.152	0.093	716.140	0.028	
MARIPOSA	All Vehicles	2.767	0.006	3.554	0.546	0.134	0.091	569.860	0.028	
MENDOCINO	All Vehicles	2.911	0.007	3.094	0.473	0.129	0.087	684.645	0.028	
MERCED	All Vehicles	2.725	0.008	2.087	0.338	0.112	0.069	808.771	0.028	
MODOC	All Vehicles	2.652	0.006	3.217	0.459	0.111	0.069	645.929	0.028	
MONO	All Vehicles	2.643	0.007	2.507	0.363	0.112	0.069	726.471	0.028	
MONTEREY	All Vehicles	2.689	0.007	2.457	0.366	0.130	0.083	731.714	0.028	
NAPA	All Vehicles	2.622	0.007	1.889	0.306	0.119	0.075	706.929	0.028	
NEVADA	All Vehicles	2.682	0.007	2.417	0.362	0.112	0.071	687.499	0.028	

		Emission Factors (g/mi)								
County	Vehicle Type	NO	I 60		ollutants a				NITY I	
		NOx	SO <sub>2</sub>	CO	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>	
ORANGE	All Vehicles	2.158	0.007	1.575	0.219	0.118	0.072	689.720	0.028	
PLACER	All Vehicles	2.338	0.007	1.690	0.263	0.108	0.065	700.437	0.028	
PLUMAS	All Vehicles	2.698	0.006	3.296	0.468	0.116	0.074	636.714	0.028	
RIVERSIDE	All Vehicles	2.301	0.007	1.582	0.231	0.105	0.063	717.765	0.028	
SACRAMENTO	All Vehicles	2.698	0.007	2.041	0.305	0.124	0.078	708.338	0.028	
SAN BENITO	All Vehicles	2.663	0.008	1.997	0.324	0.111	0.070	778.919	0.02	
SAN BERNARDINO	All Vehicles	2.351	0.007	1.805	0.254	0.106	0.063	727.081	0.02	
SAN DIEGO	All Vehicles	2.517	0.007	1.762	0.277	0.122	0.075	740.805	0.02	
SAN FRANCISCO	All Vehicles	3.145	0.008	1.920	0.310	0.176	0.110	808.988	0.02	
SAN JOAQUIN	All Vehicles	2.616	0.007	1.889	0.309	0.116	0.072	752.476	0.02	
SAN LUIS OBISPO	All Vehicles	2.577	0.006	2.143	0.334	0.120	0.077	638.727	0.02	
SAN MATEO	All Vehicles	2.419	0.007	1.523	0.254	0.144	0.089	700.048	0.02	
SANTA BARBARA	All Vehicles	2.715	0.007	2.200	0.354	0.137	0.087	683.239	0.02	
SANTA CLARA	All Vehicles	2.643	0.007	1.755	0.285	0.127	0.080	735.165	0.02	
SANTA CRUZ	All Vehicles	3.067	0.007	2.730	0.420	0.153	0.102	691.711	0.02	
SHASTA	All Vehicles	2.722	0.007	2.381	0.381	0.116	0.075	733.390	0.02	
SIERRA	All Vehicles	2.561	0.006	2.925	0.404	0.113	0.071	620.179	0.02	
SISKIYOU	All Vehicles	2.762	0.008	2.930	0.437	0.117	0.075	780.622	0.02	
SOLANO	All Vehicles	2.547	0.007	1.733	0.281	0.113	0.069	755.036	0.02	
SONOMA	All Vehicles	2.542	0.007	2.103	0.341	0.125	0.082	682.636	0.02	
STANISLAUS	All Vehicles	2.600	0.007	2.011	0.331	0.113	0.071	757.916	0.02	
SUTTER	All Vehicles	2.529	0.007	2.193	0.352	0.108	0.067	731.102	0.02	
ТЕНАМА	All Vehicles	2.744	0.007	2.498	0.390	0.117	0.075	750.215	0.02	
TRINITY	All Vehicles	3.045	0.008	4.021	0.580	0.140	0.098	779.780	0.02	
TULARE	All Vehicles	2.680	0.007	2.151	0.366	0.122	0.079	746.046	0.02	
TUOLUMNE	All Vehicles	2.787	0.006	3.318	0.496	0.130	0.086	598.207	0.02	
VENTURA	All Vehicles	2.336	0.006	1.693	0.246	0.113	0.070	654.116	0.02	
YOLO	All Vehicles	2.293	0.007	1.708	0.274	0.115	0.071	710.822	0.02	
YUBA	All Vehicles	2.660	0.006	2.567	0.392	0.124	0.078	615.294	0.02	

Table 5-40 EMFAC County-Specific On-Road Vehicle Composite EFs – 2015 GOV

		Emission Factors (g/mi)  Criteria Pollutants and Ozone Precursors								
County	Vehicle Type	NOx	SO <sub>2</sub>	Criteria P	ROG	nd Ozone I PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
ALAMEDA	All Vehicles	1.559	2.386	0.007	0.249	0.113	0.067	769.302	0.027	
ALPINE	All Vehicles	2.186	2.295	0.007	0.308	0.098	0.056	727.768	0.027	
AMADOR	All Vehicles	2.561	2.487	0.006	0.423	0.113	0.071	566.064	0.027	
BUTTE	All Vehicles	2.418	2.491	0.007	0.370	0.106	0.064	723.588	0.027	
CALAVERAS	All Vehicles	2.810	2.489	0.006	0.450	0.112	0.070	614.843	0.027	
COLUSA	All Vehicles	1.813	2.276	0.007	0.291	0.103	0.061	720.133	0.027	
CONTRA COSTA	All Vehicles	1.489	2.300	0.007	0.237	0.115	0.066	717.466	0.027	
DEL NORTE	All Vehicles	3.159	2.589	0.006	0.472	0.125	0.083	578.060	0.027	
EL DORADO	All Vehicles	1.829	2.138	0.006	0.285	0.100	0.059	586.753	0.027	
FRESNO	All Vehicles	1.651	2.331	0.008	0.285	0.102	0.060	784.048	0.027	
GLENN	All Vehicles	2.086	2.343	0.007	0.332	0.107	0.066	714.457	0.027	
HUMBOLDT	All Vehicles	2.777	2.639	0.006	0.422	0.114	0.072	646.537	0.027	
IMPERIAL	All Vehicles	1.913	2.089	0.007	0.317	0.092	0.051	734.520	0.027	
INYO	All Vehicles	2.152	2.281	0.007	0.351	0.105	0.061	713.375	0.027	
KERN	All Vehicles	1.584	2.230	0.008	0.267	0.096	0.054	805.293	0.027	
KINGS	All Vehicles	1.874	2.389	0.008	0.302	0.097	0.056	792.031	0.027	
LAKE	All Vehicles	2.891	2.727	0.006	0.477	0.122	0.079	615.050	0.027	
LASSEN	All Vehicles	2.636	2.377	0.006	0.404	0.107	0.064	588.415	0.027	
LOS ANGELES	All Vehicles	1.800	2.184	0.007	0.242	0.111	0.064	750.638	0.027	
MADERA	All Vehicles	1.925	2.359	0.008	0.311	0.099	0.058	775.915	0.027	
MARIN	All Vehicles	1.586	2.489	0.007	0.258	0.138	0.081	706.431	0.027	
MARIPOSA	All Vehicles	3.252	2.605	0.006	0.504	0.122	0.080	568.547	0.027	
MENDOCINO	All Vehicles	2.800	2.643	0.007	0.428	0.113	0.072	685.827	0.027	
MERCED	All Vehicles	1.862	2.407	0.008	0.298	0.100	0.058	802.730	0.027	
MODOC	All Vehicles	2.937	2.488	0.006	0.425	0.104	0.062	644.799	0.027	
MONO	All Vehicles	2.268	2.384	0.007	0.330	0.101	0.059	724.622	0.027	
MONTEREY	All Vehicles	2.204	2.412	0.007	0.324	0.116	0.070	727.979	0.027	
NAPA	All Vehicles	1.689	2.333	0.007	0.269	0.106	0.063	703.350	0.027	
NEVADA	All Vehicles	2.200	2.451	0.007	0.329	0.101	0.061	689.003	0.027	

		Emission Factors (g/mi)									
County	Vehicle Type	N/O			Pollutants a				1		
		NO <sub>x</sub>	SO <sub>2</sub>	СО	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>		
ORANGE	All Vehicles	1.864	0.006	1.407	0.193	0.108	0.062	680.025	0.027		
PLACER	All Vehicles	2.080	0.007	1.510	0.234	0.099	0.057	697.032	0.027		
PLUMAS	All Vehicles	2.683	0.180	3.144	0.602	0.271	0.235	566.120	0.027		
RIVERSIDE	All Vehicles	1.995	0.007	1.415	0.205	0.096	0.054	709.946	0.027		
SACRAMENTO	All Vehicles	2.421	0.007	1.844	0.274	0.114	0.068	704.663	0.027		
SAN BENITO	All Vehicles	2.369	0.007	1.761	0.283	0.098	0.058	773.128	0.027		
SAN BERNARDINO	All Vehicles	2.057	0.007	1.621	0.228	0.097	0.055	721.775	0.027		
SAN DIEGO	All Vehicles	2.221	0.007	1.589	0.246	0.111	0.064	733.003	0.027		
SAN FRANCISCO	All Vehicles	2.722	0.008	1.696	0.269	0.157	0.094	790.627	0.027		
SAN JOAQUIN	All Vehicles	2.307	0.007	1.671	0.272	0.104	0.061	748.198	0.027		
SAN LUIS OBISPO	All Vehicles	2.373	0.006	1.935	0.301	0.110	0.067	638.613	0.027		
SAN MATEO	All Vehicles	2.057	0.007	1.323	0.217	0.129	0.075	683.162	0.027		
SANTA BARBARA	All Vehicles	2.436	0.007	1.990	0.314	0.124	0.075	681.262	0.027		
SANTA CLARA	All Vehicles	2.306	0.007	1.558	0.249	0.113	0.067	725.023	0.027		
SANTA CRUZ	All Vehicles	2.753	0.007	2.449	0.372	0.137	0.086	687.496	0.027		
SHASTA	All Vehicles	2.466	0.007	2.114	0.338	0.105	0.063	731.299	0.027		
SIERRA	All Vehicles	2.410	0.006	2.687	0.377	0.106	0.065	618.934	0.027		
SISKIYOU	All Vehicles	2.489	0.008	2.643	0.396	0.105	0.064	778.608	0.027		
SOLANO	All Vehicles	2.270	0.007	1.548	0.251	0.103	0.059	748.594	0.027		
SONOMA	All Vehicles	2.256	0.007	1.875	0.300	0.111	0.068	679.698	0.027		
STANISLAUS	All Vehicles	2.300	0.007	1.808	0.293	0.102	0.060	753.405	0.027		
SUTTER	All Vehicles	2.248	0.007	1.936	0.312	0.098	0.057	727.063	0.027		
ТЕНАМА	All Vehicles	2.472	0.007	2.213	0.345	0.104	0.063	747.933	0.027		
TRINITY	All Vehicles	2.763	0.008	3.660	0.527	0.124	0.082	780.165	0.027		
TULARE	All Vehicles	2.334	0.007	1.881	0.316	0.106	0.063	739.233	0.027		
TUOLUMNE	All Vehicles	2.594	0.006	3.044	0.457	0.118	0.075	597.700	0.027		
VENTURA	All Vehicles	2.058	0.006	1.529	0.221	0.103	0.060	652.943	0.027		
YOLO	All Vehicles	2.010	0.007	1.521	0.242	0.105	0.061	706.654	0.027		
YUBA	All Vehicles	2.452	0.006	2.298	0.353	0.114	0.068	614.424	0.027		
	1	1	1			l	1				

Table 5-41 EMFAC County-Specific On-Road Vehicle Composite EFs – 2016 GOV

G .	X 1 1 1 70	Emission Factors (g/mi) Criteria Pollutants and Ozone Precursors								
County	Vehicle Type	NO <sub>x</sub>	SO <sub>2</sub>	CO	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
ALAMEDA	All Vehicles	2.155	0.007	1.402	0.224	0.106	0.060	757.664	0.026	
ALPINE	All Vehicles	2.092	0.007	1.980	0.283	0.093	0.051	722.477	0.026	
AMADOR	All Vehicles	2.349	0.006	2.352	0.396	0.108	0.066	566.467	0.026	
BUTTE	All Vehicles	2.295	0.007	2.194	0.336	0.100	0.059	721.326	0.026	
CALAVERAS	All Vehicles	2.356	0.006	2.584	0.421	0.107	0.065	615.554	0.026	
COLUSA	All Vehicles	2.088	0.007	1.621	0.261	0.097	0.055	715.424	0.026	
CONTRA COSTA	All Vehicles	2.099	0.007	1.346	0.215	0.109	0.061	708.824	0.026	
DEL NORTE	All Vehicles	2.469	0.006	2.910	0.444	0.120	0.078	576.026	0.026	
EL DORADO	All Vehicles	2.026	0.006	1.687	0.268	0.098	0.056	586.551	0.026	
FRESNO	All Vehicles	2.119	0.007	1.481	0.257	0.096	0.054	775.616	0.026	
GLENN	All Vehicles	2.161	0.007	1.866	0.300	0.100	0.059	711.192	0.026	
HUMBOLDT	All Vehicles	2.492	0.006	2.557	0.395	0.108	0.066	648.202	0.026	
IMPERIAL	All Vehicles	1.861	0.007	1.721	0.291	0.087	0.047	726.814	0.026	
INYO	All Vehicles	2.106	0.007	1.957	0.327	0.100	0.056	710.039	0.026	
KERN	All Vehicles	2.034	0.008	1.415	0.241	0.091	0.050	796.944	0.026	
KINGS	All Vehicles	2.165	0.008	1.663	0.269	0.091	0.051	784.034	0.026	
LAKE	All Vehicles	2.573	0.006	2.639	0.445	0.116	0.074	615.925	0.026	
LASSEN	All Vehicles	2.271	0.006	2.426	0.381	0.104	0.061	586.000	0.026	
LOS ANGELES	All Vehicles	1.939	0.007	1.614	0.216	0.104	0.058	736.879	0.026	
MADERA	All Vehicles	2.153	0.007	1.729	0.280	0.094	0.052	769.147	0.026	
MARIN	All Vehicles	2.274	0.007	1.442	0.236	0.131	0.075	695.553	0.026	
MARIPOSA	All Vehicles	2.487	0.006	2.992	0.472	0.116	0.074	566.234	0.026	
MENDOCINO	All Vehicles	2.456	0.007	2.563	0.397	0.106	0.065	685.889	0.026	
MERCED	All Vehicles	2.189	0.008	1.673	0.267	0.094	0.052	794.690	0.026	
MODOC	All Vehicles	2.369	0.006	2.693	0.399	0.102	0.060	641.989	0.026	
MONO	All Vehicles	2.188	0.007	2.067	0.307	0.096	0.054	720.816	0.026	
MONTEREY	All Vehicles	2.222	0.007	2.001	0.295	0.110	0.065	722.651	0.026	
NAPA	All Vehicles	2.165	0.007	1.535	0.245	0.101	0.058	698.788	0.026	
NEVADA	All Vehicles	2.281	0.007	2.019	0.305	0.096	0.056	689.455	0.026	

		Emission Factors (g/mi)								
County	Vehicle Type	210	70		ollutants a			90	3 mm 1	
		NO <sub>x</sub>	SO <sub>2</sub>	СО	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
ORANGE	All Vehicles	1.664	0.006	1.277	0.176	0.103	0.057	670.063	0.026	
PLACER	All Vehicles	1.895	0.007	1.364	0.213	0.095	0.053	692.127	0.026	
PLUMAS	All Vehicles	2.439	0.006	2.818	0.413	0.105	0.064	643.787	0.026	
RIVERSIDE	All Vehicles	1.818	0.007	1.312	0.191	0.094	0.052	706.822	0.026	
SACRAMENTO	All Vehicles	2.214	0.007	1.676	0.250	0.109	0.063	699.234	0.026	
SAN BENITO	All Vehicles	2.157	0.007	1.575	0.255	0.092	0.052	766.401	0.026	
SAN BERNARDINO	All Vehicles	1.840	0.007	1.457	0.207	0.092	0.050	713.939	0.026	
SAN DIEGO	All Vehicles	2.009	0.007	1.448	0.225	0.105	0.059	723.633	0.026	
SAN FRANCISCO	All Vehicles	2.411	0.007	1.517	0.241	0.145	0.085	771.290	0.026	
SAN JOAQUIN	All Vehicles	2.101	0.007	1.502	0.245	0.098	0.055	741.412	0.026	
SAN LUIS OBISPO	All Vehicles	2.224	0.006	1.767	0.278	0.105	0.063	636.324	0.026	
SAN MATEO	All Vehicles	1.804	0.006	1.174	0.192	0.121	0.069	666.105	0.026	
SANTA BARBARA	All Vehicles	2.239	0.006	1.807	0.287	0.117	0.069	676.012	0.026	
SANTA CLARA	All Vehicles	2.081	0.007	1.406	0.226	0.107	0.061	714.218	0.026	
SANTA CRUZ	All Vehicles	2.547	0.007	2.225	0.341	0.130	0.080	681.436	0.026	
SHASTA	All Vehicles	2.272	0.007	1.893	0.306	0.099	0.057	727.778	0.026	
SIERRA	All Vehicles	2.281	0.006	2.468	0.354	0.103	0.061	616.553	0.026	
SISKIYOU	All Vehicles	2.286	0.008	2.399	0.365	0.099	0.058	774.808	0.026	
SOLANO	All Vehicles	2.074	0.007	1.406	0.228	0.098	0.054	743.584	0.026	
SONOMA	All Vehicles	2.086	0.007	1.698	0.275	0.106	0.062	675.202	0.026	
STANISLAUS	All Vehicles	2.102	0.007	1.632	0.265	0.096	0.055	748.147	0.026	
SUTTER	All Vehicles	2.060	0.007	1.727	0.281	0.093	0.052	722.025	0.026	
TEHAMA	All Vehicles	2.268	0.007	1.978	0.311	0.098	0.057	744.124	0.026	
TRINITY	All Vehicles	2.557	0.008	3.348	0.486	0.115	0.074	778.991	0.026	
TULARE	All Vehicles	2.128	0.007	1.676	0.282	0.099	0.057	733.780	0.026	
TUOLUMNE	All Vehicles	2.454	0.006	2.806	0.428	0.112	0.069	596.196	0.026	
VENTURA	All Vehicles	1.866	0.006	1.388	0.202	0.098	0.056	646.345	0.026	
YOLO	All Vehicles	1.813	0.007	1.368	0.219	0.100	0.056	700.870	0.026	
YUBA	All Vehicles	2.306	0.006	2.077	0.323	0.109	0.064	612.276	0.026	

Table 5-42 EMFAC County-Specific On-Road Vehicle Composite EFs – 2017 GOV

	******	Emission Factors (g/mi) Criteria Pollutants and Ozone Precursors									
County	Vehicle Type	NOx	SO <sub>2</sub>	CO	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>		
ALAMEDA	All Vehicles	1.926	0.007	1.253	0.198	0.098	0.053	745.755	0.025		
ALPINE	All Vehicles	1.902	0.007	1.784	0.257	0.087	0.045	716.200	0.025		
AMADOR	All Vehicles	2.208	0.006	2.147	0.368	0.101	0.059	566.540	0.025		
BUTTE	All Vehicles	2.092	0.007	1.966	0.299	0.092	0.051	716.821	0.025		
CALAVERAS	All Vehicles	2.303	0.006	3.016	0.504	0.101	0.059	626.538	0.025		
COLUSA	All Vehicles	1.895	0.007	1.435	0.230	0.089	0.048	709.864	0.025		
CONTRA COSTA	All Vehicles	1.891	0.007	1.209	0.192	0.103	0.055	699.428	0.025		
DEL NORTE	All Vehicles	2.339	0.006	2.671	0.415	0.113	0.071	573.988	0.025		
EL DORADO	All Vehicles	1.906	0.006	1.549	0.250	0.094	0.052	585.958	0.025		
FRESNO	All Vehicles	1.895	0.007	1.315	0.226	0.088	0.047	766.408	0.025		
GLENN	All Vehicles	1.973	0.007	1.653	0.265	0.091	0.051	707.177	0.025		
HUMBOLDT	All Vehicles	2.335	0.006	2.335	0.364	0.100	0.058	648.912	0.025		
IMPERIAL	All Vehicles	1.644	0.007	1.539	0.265	0.081	0.041	718.467	0.025		
INYO	All Vehicles	1.936	0.007	1.770	0.300	0.094	0.050	705.553	0.025		
KERN	All Vehicles	1.828	0.008	1.254	0.212	0.084	0.043	787.984	0.025		
KINGS	All Vehicles	1.937	0.008	1.466	0.236	0.083	0.043	775.397	0.025		
LAKE	All Vehicles	2.378	0.006	2.382	0.408	0.107	0.065	616.998	0.025		
LASSEN	All Vehicles	2.157	0.006	2.228	0.358	0.100	0.057	583.547	0.025		
LOS ANGELES	All Vehicles	1.704	0.007	1.442	0.191	0.097	0.051	723.221	0.025		
MADERA	All Vehicles	1.935	0.007	1.540	0.248	0.087	0.045	761.572	0.025		
MARIN	All Vehicles	2.056	0.007	1.308	0.215	0.123	0.068	684.013	0.025		
MARIPOSA	All Vehicles	2.365	0.006	2.743	0.440	0.109	0.067	564.015	0.025		
MENDOCINO	All Vehicles	2.267	0.007	2.328	0.364	0.097	0.056	685.021	0.025		
MERCED	All Vehicles	1.961	0.008	1.488	0.235	0.086	0.045	785.734	0.025		
MODOC	All Vehicles	2.237	0.006	2.462	0.372	0.099	0.056	639.097	0.025		
MONO	All Vehicles	1.999	0.007	1.872	0.281	0.089	0.048	715.690	0.025		
MONTEREY	All Vehicles	2.020	0.007	1.801	0.264	0.102	0.057	716.457	0.025		
NAPA	All Vehicles	1.975	0.007	1.386	0.221	0.094	0.052	693.216	0.025		
NEVADA	All Vehicles	2.107	0.007	1.841	0.280	0.090	0.050	688.581	0.025		

County	Vehicle Type	210	70					90				
		NO <sub>x</sub>	SO <sub>2</sub>	СО	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>			
ORANGE	All Vehicles	1.474	0.006	1.157	0.159	0.097	0.052	660.029	0.025			
PLACER	All Vehicles	1.713	0.007	1.226	0.191	0.089	0.047	686.302	0.025			
PLUMAS	All Vehicles	2.308	0.006	2.596	0.387	0.100	0.058	646.566	0.025			
RIVERSIDE	All Vehicles	1.577	0.007	1.139	0.166	0.085	0.043	694.760	0.025			
SACRAMENTO	All Vehicles	2.001	0.007	1.518	0.226	0.102	0.057	692.932	0.025			
SAN BENITO	All Vehicles	1.938	0.007	1.392	0.223	0.083	0.043	758.774	0.025			
SAN BERNARDINO	All Vehicles	1.628	0.007	1.302	0.185	0.086	0.044	705.396	0.025			
SAN DIEGO	All Vehicles	1.794	0.007	1.313	0.203	0.098	0.053	713.639	0.025			
SAN FRANCISCO	All Vehicles	2.134	0.007	1.364	0.214	0.134	0.076	753.492	0.025			
SAN JOAQUIN	All Vehicles	1.887	0.007	1.339	0.218	0.091	0.048	733.810	0.025			
SAN LUIS OBISPO	All Vehicles	2.059	0.006	1.601	0.253	0.099	0.056	633.267	0.025			
SAN MATEO	All Vehicles	1.581	0.006	1.051	0.171	0.113	0.062	650.880	0.025			
SANTA BARBARA	All Vehicles	2.034	0.006	1.629	0.257	0.109	0.061	669.944	0.025			
SANTA CLARA	All Vehicles	1.853	0.007	1.262	0.201	0.099	0.054	702.859	0.025			
SANTA CRUZ	All Vehicles	2.338	0.006	2.011	0.308	0.121	0.072	675.108	0.025			
SHASTA	All Vehicles	2.071	0.007	1.680	0.271	0.090	0.049	723.460	0.025			
SIERRA	All Vehicles	2.153	0.006	2.267	0.333	0.099	0.057	614.072	0.025			
SISKIYOU	All Vehicles	2.086	0.007	2.164	0.332	0.090	0.050	769.788	0.025			
SOLANO	All Vehicles	1.866	0.007	1.259	0.204	0.091	0.048	735.234	0.025			
SONOMA	All Vehicles	1.902	0.006	1.529	0.248	0.099	0.056	669.911	0.025			
STANISLAUS	All Vehicles	1.893	0.007	1.461	0.236	0.089	0.048	741.871	0.025			
SUTTER	All Vehicles	1.862	0.007	1.532	0.250	0.086	0.046	716.486	0.025			
ТЕНАМА	All Vehicles	2.056	0.007	1.751	0.275	0.089	0.049	739.277	0.025			
TRINITY	All Vehicles	2.350	0.008	3.046	0.445	0.104	0.064	776.432	0.025			
TULARE	All Vehicles	1.914	0.007	1.483	0.249	0.091	0.049	727.495	0.025			
TUOLUMNE	All Vehicles	2.316	0.006	2.579	0.399	0.106	0.063	594.737	0.025			
VENTURA	All Vehicles	1.664	0.006	1.253	0.182	0.093	0.050	639.131	0.025			
YOLO	All Vehicles	1.616	0.007	1.225	0.196	0.094	0.050	694.229	0.025			
YUBA	All Vehicles	2.153	0.006	1.865	0.293	0.103	0.058	609.958	0.025			

Table 5-43 EMFAC County-Specific On-Road Vehicle Composite EFs – 2018 GOV

County	Vehicle Type	NOx	SO <sub>2</sub>	Criteria P	ROG	nd Ozone I PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>			
ALAMEDA	All Vehicles	1.748	0.007	1.137	0.180	0.093	0.049	734.173	0.024			
ALPINE	All Vehicles	1.740	0.007	1.616	0.237	0.081	0.040	710.214	0.024			
AMADOR	All Vehicles	2.082	0.006	1.967	0.345	0.096	0.054	567.396	0.024			
BUTTE	All Vehicles	1.924	0.007	1.783	0.274	0.088	0.046	712.696	0.024			
CALAVERAS	All Vehicles	2.093	0.006	2.157	0.366	0.095	0.053	616.415	0.024			
COLUSA	All Vehicles	1.737	0.007	1.288	0.208	0.084	0.043	704.607	0.024			
CONTRA COSTA	All Vehicles	1.722	0.007	1.099	0.175	0.098	0.050	690.370	0.024			
DEL NORTE	All Vehicles	2.228	0.006	2.447	0.388	0.106	0.064	572.315	0.024			
EL DORADO	All Vehicles	1.797	0.006	1.434	0.237	0.092	0.050	585.565	0.024			
FRESNO	All Vehicles	1.724	0.007	1.189	0.205	0.084	0.042	758.118	0.024			
GLENN	All Vehicles	1.817	0.007	1.484	0.241	0.086	0.046	703.612	0.024			
HUMBOLDT	All Vehicles	2.203	0.006	2.156	0.344	0.095	0.053	650.189	0.024			
IMPERIAL	All Vehicles	1.471	0.007	1.391	0.246	0.077	0.037	710.135	0.024			
INYO	All Vehicles	1.791	0.007	1.607	0.279	0.088	0.045	701.236	0.024			
KERN	All Vehicles	1.668	0.008	1.132	0.192	0.080	0.039	778.535	0.024			
KINGS	All Vehicles	1.764	0.007	1.320	0.213	0.079	0.039	763.951	0.024			
LAKE	All Vehicles	2.233	0.006	2.164	0.379	0.101	0.058	618.591	0.024			
LASSEN	All Vehicles	2.059	0.006	2.045	0.337	0.096	0.053	581.456	0.024			
LOS ANGELES	All Vehicles	1.517	0.007	1.304	0.172	0.092	0.047	710.282	0.024			
MADERA	All Vehicles	1.769	0.007	1.410	0.226	0.082	0.041	759.840	0.024			
MARIN	All Vehicles	1.875	0.006	1.196	0.198	0.117	0.063	672.976	0.024			
MARIPOSA	All Vehicles	2.257	0.006	2.521	0.414	0.104	0.061	562.029	0.024			
MENDOCINO	All Vehicles	2.116	0.007	2.136	0.341	0.091	0.051	684.518	0.024			
MERCED	All Vehicles	1.789	0.008	1.349	0.213	0.082	0.041	778.816	0.024			
MODOC	All Vehicles	2.124	0.006	2.243	0.346	0.093	0.051	636.789	0.024			
MONO	All Vehicles	1.838	0.007	1.702	0.260	0.084	0.043	710.882	0.024			
MONTEREY	All Vehicles	1.856	0.007	1.643	0.242	0.098	0.052	710.404	0.024			
NAPA	All Vehicles	1.823	0.007	1.263	0.202	0.090	0.048	687.811	0.024			
NEVADA	All Vehicles	1.953	0.007	1.690	0.260	0.085	0.045	688.038	0.024			

County	Vehicle Type										
		NOx	SO <sub>2</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>		
ORANGE	All Vehicles	1.322	0.006	1.059	0.146	0.093	0.048	650.285	0.024		
PLACER	All Vehicles	1.560	0.007	1.118	0.175	0.085	0.044	680.576	0.024		
PLUMAS	All Vehicles	2.181	0.006	2.389	0.363	0.093	0.053	649.643	0.024		
RIVERSIDE	All Vehicles	1.408	0.007	1.032	0.152	0.081	0.040	686.828	0.024		
SACRAMENTO	All Vehicles	1.823	0.006	1.383	0.207	0.097	0.053	686.544	0.024		
SAN BENITO	All Vehicles	1.765	0.007	1.257	0.203	0.078	0.039	751.339	0.024		
SAN BERNARDINO	All Vehicles	1.452	0.007	1.177	0.168	0.082	0.040	697.000	0.024		
SAN DIEGO	All Vehicles	1.620	0.007	1.201	0.186	0.093	0.048	703.846	0.024		
SAN FRANCISCO	All Vehicles	1.915	0.007	1.243	0.195	0.126	0.069	736.582	0.024		
SAN JOAQUIN	All Vehicles	1.720	0.007	1.213	0.198	0.086	0.044	725.422	0.024		
SAN LUIS OBISPO	All Vehicles	1.913	0.006	1.456	0.229	0.094	0.052	628.758	0.024		
SAN MATEO	All Vehicles	1.403	0.006	0.956	0.154	0.107	0.057	636.865	0.024		
SANTA BARBARA	All Vehicles	1.863	0.006	1.490	0.237	0.104	0.056	664.244	0.024		
SANTA CLARA	All Vehicles	1.673	0.007	1.146	0.183	0.094	0.050	691.930	0.024		
SANTA CRUZ	All Vehicles	2.159	0.006	1.836	0.284	0.115	0.066	668.835	0.024		
SHASTA	All Vehicles	1.903	0.007	1.515	0.248	0.086	0.045	719.543	0.024		
SIERRA	All Vehicles	2.033	0.006	2.079	0.311	0.094	0.053	611.870	0.024		
SISKIYOU	All Vehicles	1.918	0.007	1.972	0.309	0.085	0.045	764.799	0.024		
SOLANO	All Vehicles	1.702	0.007	1.144	0.186	0.087	0.044	727.156	0.024		
SONOMA	All Vehicles	1.749	0.006	1.389	0.227	0.094	0.052	664.596	0.024		
STANISLAUS	All Vehicles	1.731	0.007	1.331	0.215	0.085	0.044	739.023	0.024		
SUTTER	All Vehicles	1.706	0.007	1.374	0.226	0.082	0.042	711.223	0.024		
ТЕНАМА	All Vehicles	1.880	0.007	1.573	0.250	0.084	0.044	734.654	0.024		
TRINITY	All Vehicles	2.182	0.008	2.787	0.413	0.096	0.056	774.273	0.024		
TULARE	All Vehicles	1.750	0.007	1.335	0.224	0.086	0.045	720.005	0.024		
TUOLUMNE	All Vehicles	2.193	0.006	2.368	0.373	0.100	0.057	593.941	0.024		
VENTURA	All Vehicles	1.502	0.006	1.142	0.167	0.089	0.047	631.967	0.024		
YOLO	All Vehicles	1.460	0.007	1.109	0.179	0.090	0.046	687.531	0.024		
YUBA	All Vehicles	2.018	0.006	1.680	0.267	0.098	0.053	608.221	0.024		

Table 5-44 EMFAC County-Specific On-Road Vehicle Composite EFs – 2019 GOV

G	X 1: 1 70											
County	Vehicle Type	NO <sub>x</sub> SO <sub>2</sub> CO ROG PM <sub>10</sub> PM <sub>2.5</sub> CO <sub>2</sub>							NH <sub>3</sub> <sup>1</sup>			
ALAMEDA	All Vehicles	1.616	0.007	1.045	0.166	0.090	0.046	723.096	0.024			
ALPINE	All Vehicles	1.603	0.007	1.482	0.223	0.079	0.038	703.740	0.024			
AMADOR	All Vehicles	1.959	0.006	1.811	0.325	0.093	0.051	568.321	0.024			
BUTTE	All Vehicles	1.782	0.007	1.624	0.252	0.085	0.043	708.329	0.024			
CALAVERAS	All Vehicles	1.974	0.006	1.988	0.346	0.092	0.050	617.108	0.024			
COLUSA	All Vehicles	1.610	0.007	1.172	0.191	0.081	0.040	699.092	0.024			
CONTRA COSTA	All Vehicles	1.594	0.007	1.013	0.162	0.095	0.048	681.387	0.024			
DEL NORTE	All Vehicles	2.122	0.006	2.261	0.368	0.103	0.061	570.698	0.024			
EL DORADO	All Vehicles	1.681	0.006	1.324	0.223	0.090	0.048	582.655	0.024			
FRESNO	All Vehicles	1.602	0.007	1.088	0.190	0.082	0.040	748.689	0.024			
GLENN	All Vehicles	1.691	0.007	1.348	0.222	0.083	0.043	699.821	0.024			
HUMBOLDT	All Vehicles	2.086	0.006	2.019	0.330	0.091	0.050	652.269	0.024			
IMPERIAL	All Vehicles	1.333	0.007	1.275	0.231	0.076	0.036	701.553	0.024			
INYO	All Vehicles	1.660	0.007	1.475	0.263	0.085	0.042	696.513	0.024			
KERN	All Vehicles	1.555	0.007	1.039	0.178	0.078	0.038	769.333	0.024			
KINGS	All Vehicles	1.645	0.007	1.205	0.198	0.077	0.037	755.270	0.024			
LAKE	All Vehicles	2.095	0.006	1.980	0.357	0.097	0.055	620.102	0.024			
LASSEN	All Vehicles	1.958	0.006	1.896	0.321	0.094	0.051	579.272	0.024			
LOS ANGELES	All Vehicles	1.367	0.007	1.188	0.158	0.089	0.044	695.481	0.024			
MADERA	All Vehicles	1.647	0.007	1.288	0.208	0.081	0.040	751.994	0.024			
MARIN	All Vehicles	1.719	0.006	1.105	0.184	0.112	0.060	662.206	0.024			
MARIPOSA	All Vehicles	2.146	0.005	2.329	0.392	0.100	0.058	560.133	0.024			
MENDOCINO	All Vehicles	1.981	0.007	1.970	0.322	0.088	0.047	683.720	0.024			
MERCED	All Vehicles	1.667	0.007	1.233	0.196	0.080	0.039	769.507	0.024			
MODOC	All Vehicles	2.006	0.006	2.067	0.327	0.091	0.049	634.231	0.024			
MONO	All Vehicles	1.699	0.007	1.567	0.246	0.081	0.040	705.538	0.024			
MONTEREY	All Vehicles	1.715	0.007	1.505	0.223	0.094	0.049	704.210	0.024			
NAPA	All Vehicles	1.704	0.007	1.164	0.188	0.087	0.045	682.252	0.024			
NEVADA	All Vehicles	1.817	0.007	1.563	0.246	0.082	0.042	686.951	0.024			

County	Vehicle Type	NO	60					GO.	NH <sub>3</sub> <sup>1</sup>			
ORANGE	All Vehicles	NO <sub>x</sub>	SO <sub>2</sub>	0.984	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>				
		1.206	0.006		0.137	0.090	0.046	643.117	0.024			
PLACER	All Vehicles	1.432	0.007	1.033	0.163	0.083	0.041	674.753	0.024			
PLUMAS	All Vehicles	2.056	0.006	2.214	0.344	0.090	0.049	652.491	0.024			
RIVERSIDE	All Vehicles	1.277	0.007	0.950	0.142	0.079	0.038	678.711	0.024			
SACRAMENTO	All Vehicles	1.671	0.006	1.270	0.191	0.094	0.049	678.595	0.024			
SAN BENITO	All Vehicles	1.631	0.007	1.150	0.187	0.076	0.037	743.507	0.024			
SAN BERNARDINO	All Vehicles	1.310	0.007	1.068	0.155	0.080	0.039	685.956	0.024			
SAN DIEGO	All Vehicles	1.483	0.007	1.111	0.173	0.090	0.046	694.190	0.024			
SAN FRANCISCO	All Vehicles	1.731	0.007	1.145	0.179	0.119	0.064	720.720	0.024			
SAN JOAQUIN	All Vehicles	1.594	0.007	1.109	0.183	0.084	0.042	717.808	0.024			
SAN LUIS OBISPO	All Vehicles	1.797	0.006	1.356	0.219	0.091	0.049	627.898	0.024			
SAN MATEO	All Vehicles	1.255	0.006	0.882	0.141	0.102	0.053	624.110	0.024			
SANTA BARBARA	All Vehicles	1.718	0.006	1.371	0.219	0.100	0.052	658.605	0.024			
SANTA CLARA	All Vehicles	1.534	0.007	1.055	0.170	0.091	0.047	681.320	0.024			
SANTA CRUZ	All Vehicles	1.986	0.006	1.678	0.261	0.109	0.061	662.459	0.024			
SHASTA	All Vehicles	1.766	0.007	1.377	0.229	0.083	0.042	715.422	0.024			
SIERRA	All Vehicles	1.907	0.006	1.922	0.295	0.092	0.050	609.616	0.024			
SISKIYOU	All Vehicles	1.771	0.007	1.809	0.290	0.082	0.042	759.174	0.024			
SOLANO	All Vehicles	1.577	0.007	1.052	0.173	0.084	0.042	718.938	0.024			
SONOMA	All Vehicles	1.623	0.006	1.271	0.210	0.092	0.049	659.289	0.024			
STANISLAUS	All Vehicles	1.607	0.007	1.217	0.199	0.082	0.042	732.413	0.024			
SUTTER	All Vehicles	1.583	0.007	1.242	0.208	0.080	0.040	705.555	0.024			
ТЕНАМА	All Vehicles	1.740	0.007	1.428	0.230	0.081	0.041	729.605	0.024			
TRINITY	All Vehicles	2.033	0.008	2.567	0.388	0.092	0.052	771.543	0.024			
TULARE	All Vehicles	1.627	0.007	1.213	0.206	0.084	0.042	713.684	0.024			
TUOLUMNE	All Vehicles	2.068	0.006	2.190	0.353	0.097	0.054	593.194	0.024			
VENTURA	All Vehicles	1.370	0.006	1.053	0.155	0.087	0.044	626.002	0.024			
YOLO	All Vehicles	1.337	0.007	1.011	0.165	0.087	0.044	679.559	0.024			
YUBA	All Vehicles	1.897	0.006	1.529	0.247	0.095	0.050	604.440	0.024			

Table 5-45 EMFAC County-Specific On-Road Vehicle Composite EFs – 2020 GOV

County	Vehicle Type	NO <sub>x</sub> SO <sub>2</sub> CO ROG PM <sub>10</sub> PM <sub>2.5</sub> CO <sub>2</sub> NH <sub>.0</sub>										
11.13.551	A 11 X7 1 ' 1											
ALAMEDA	All Vehicles	1.457	0.007	0.958	0.150	0.086	0.042	711.188	0.023			
ALPINE	All Vehicles	1.482	0.007	1.368	0.210	0.077	0.036	695.498	0.023			
AMADOR	All Vehicles	1.798	0.006	1.661	0.304	0.088	0.046	568.607	0.023			
BUTTE	All Vehicles	1.631	0.007	1.481	0.232	0.081	0.040	702.521	0.023			
CALAVERAS	All Vehicles	1.821	0.006	1.825	0.323	0.087	0.046	616.554	0.023			
COLUSA	All Vehicles	1.478	0.007	1.071	0.175	0.078	0.038	691.986	0.023			
CONTRA COSTA	All Vehicles	1.437	0.006	0.931	0.147	0.092	0.044	671.499	0.023			
DEL NORTE	All Vehicles	1.984	0.006	2.087	0.347	0.098	0.056	568.145	0.023			
EL DORADO	All Vehicles	1.534	0.006	1.221	0.206	0.086	0.044	581.769	0.023			
FRESNO	All Vehicles	1.458	0.007	0.993	0.173	0.078	0.037	738.385	0.023			
GLENN	All Vehicles	1.554	0.007	1.228	0.204	0.079	0.039	694.395	0.023			
HUMBOLDT	All Vehicles	1.929	0.006	1.839	0.306	0.086	0.045	651.105	0.023			
IMPERIAL	All Vehicles	1.194	0.007	1.168	0.216	0.074	0.034	691.687	0.023			
INYO	All Vehicles	1.534	0.007	1.360	0.248	0.083	0.040	689.817	0.023			
KERN	All Vehicles	1.428	0.007	0.955	0.164	0.076	0.036	759.048	0.023			
KINGS	All Vehicles	1.520	0.007	1.104	0.182	0.075	0.035	745.545	0.023			
LAKE	All Vehicles	1.896	0.006	1.797	0.329	0.090	0.049	620.833	0.023			
LASSEN	All Vehicles	1.833	0.006	1.756	0.304	0.091	0.048	576.778	0.023			
LOS ANGELES	All Vehicles	1.196	0.006	1.086	0.142	0.085	0.041	682.889	0.023			
MADERA	All Vehicles	1.513	0.007	1.178	0.191	0.078	0.037	742.854	0.023			
MARIN	All Vehicles	1.536	0.006	1.016	0.167	0.106	0.054	650.927	0.023			
MARIPOSA	All Vehicles	1.999	0.005	2.144	0.368	0.095	0.053	558.510	0.023			
MENDOCINO	All Vehicles	1.823	0.007	1.813	0.302	0.083	0.043	681.098	0.023			
MERCED	All Vehicles	1.536	0.007	1.128	0.180	0.077	0.037	759.111	0.023			
MODOC	All Vehicles	1.874	0.006	1.909	0.309	0.089	0.047	630.672	0.023			
MONO	All Vehicles	1.570	0.007	1.448	0.233	0.079	0.038	698.227	0.023			
MONTEREY	All Vehicles	1.547	0.007	1.376	0.202	0.089	0.044	696.826	0.023			
NAPA	All Vehicles	1.546	0.006	1.066	0.170	0.083	0.041	675.545	0.023			
NEVADA	All Vehicles	1.668	0.007	1.443	0.230	0.079	0.039	683.941	0.023			

Country	V-hi-l- T-				Emission Fa				
County	Vehicle Type	NOx	SO <sub>2</sub>	Co	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
ORANGE	All Vehicles	1.044	0.006	0.906	0.125	0.086	0.042	633.270	0.023
PLACER	All Vehicles	1.291	0.006	0.949	0.149	0.080	0.038	667.780	0.023
PLUMAS	All Vehicles	1.904	0.006	2.050	0.324	0.086	0.045	654.582	0.023
RIVERSIDE	All Vehicles	1.130	0.006	0.873	0.130	0.077	0.036	669.169	0.023
SACRAMENTO	All Vehicles	1.485	0.006	1.159	0.172	0.088	0.045	671.257	0.023
SAN BENITO	All Vehicles	1.496	0.007	1.056	0.173	0.073	0.034	734.508	0.023
SAN BERNARDINO	All Vehicles	1.163	0.006	0.978	0.142	0.078	0.036	676.363	0.023
SAN DIEGO	All Vehicles	1.319	0.006	1.024	0.157	0.086	0.042	683.771	0.023
SAN FRANCISCO	All Vehicles	1.506	0.007	1.048	0.158	0.111	0.057	705.217	0.023
SAN JOAQUIN	All Vehicles	1.444	0.007	1.012	0.166	0.080	0.039	708.988	0.023
SAN LUIS OBISPO	All Vehicles	1.634	0.006	1.244	0.200	0.087	0.045	624.068	0.023
SAN MATEO	All Vehicles	1.080	0.006	0.812	0.126	0.096	0.048	611.892	0.023
SANTA BARBARA	All Vehicles	1.539	0.006	1.257	0.199	0.094	0.047	652.129	0.023
SANTA CLARA	All Vehicles	1.359	0.006	0.966	0.153	0.086	0.042	669.936	0.023
SANTA CRUZ	All Vehicles	1.762	0.006	1.522	0.234	0.101	0.054	655.748	0.023
SHASTA	All Vehicles	1.620	0.007	1.256	0.211	0.079	0.039	709.751	0.023
SIERRA	All Vehicles	1.752	0.006	1.775	0.276	0.088	0.047	606.091	0.023
SISKIYOU	All Vehicles	1.631	0.007	1.664	0.273	0.079	0.039	751.673	0.023
SOLANO	All Vehicles	1.435	0.007	0.968	0.159	0.081	0.039	709.451	0.023
SONOMA	All Vehicles	1.443	0.006	1.153	0.189	0.086	0.044	653.982	0.023
STANISLAUS	All Vehicles	1.456	0.007	1.110	0.180	0.079	0.038	724.606	0.023
SUTTER	All Vehicles	1.440	0.007	1.128	0.190	0.077	0.037	698.617	0.023
TEHAMA	All Vehicles	1.600	0.007	1.302	0.212	0.078	0.038	722.909	0.023
TRINITY	All Vehicles	1.883	0.007	2.367	0.364	0.088	0.047	766.733	0.023
TULARE	All Vehicles	1.478	0.007	1.101	0.186	0.080	0.039	706.091	0.023
TUOLUMNE	All Vehicles	1.911	0.006	2.020	0.330	0.092	0.049	592.116	0.023
VENTURA	All Vehicles	1.195	0.006	0.963	0.141	0.082	0.040	618.001	0.023
YOLO	All Vehicles	1.192	0.006	0.921	0.149	0.084	0.041	671.948	0.023
YUBA	All Vehicles	1.734	0.006	1.387	0.224	0.090	0.046	602.086	0.023

Table 5-46 EMFAC County-Specific On-Road Vehicle EFs – 2014

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NOx	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.170	0.003	1.807	0.200	0.047	0.020	340.482	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.284	0.004	2.360	0.298	0.047	0.020	445.488	0.034
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	1.346	0.009	4.624	0.919	0.090	0.039	897.567	0.046
Alameda	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.363	0.003	0.403	0.036	0.065	0.037	320.166	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	1.258	0.004	1.305	0.155	0.143	0.111	383.954	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.892	0.006	1.062	0.228	0.137	0.082	599.246	0.027
	NA	MC	Motorcycles	1.296	0.002	28.286	4.196	0.018	0.008	179.020	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.232	0.003	2.251	0.202	0.047	0.020	317.267	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.511	0.004	3.762	0.431	0.048	0.020	418.983	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.031	0.006	5.381	0.661	0.057	0.025	636.107	0.046
Alpine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.383	0.003	0.379	0.033	0.063	0.035	298.538	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.288	0.003	0.323	0.041	0.066	0.038	364.414	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.048	0.013	1.303	0.339	0.227	0.152	1409.242	0.027
	NA	MC	Motorcycles	1.414	0.002	31.847	4.592	0.018	0.008	169.328	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.248	0.003	2.372	0.255	0.047	0.020	305.460	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.570	0.004	4.285	0.623	0.048	0.021	401.856	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.095	0.006	5.892	0.865	0.058	0.025	617.954	0.046
Amador	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.612	0.003	0.430	0.037	0.067	0.039	284.506	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.487	0.003	0.693	0.095	0.105	0.075	337.836	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.265	0.009	1.535	0.400	0.264	0.191	922.992	0.027
	NA	MC	Motorcycles	1.328	0.002	27.823	4.277	0.018	0.008	156.564	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.239	0.003	2,429	0.268	0.047	0.020	341.680	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.583	0.005	4.273	0.572	0.048	0.021	455.900	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.851	0.007	4.796	0.622	0.057	0.025	656.481	0.046
Butte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.473	0.003	0.445	0.042	0.069	0.041	313.659	0.008
Butte	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.581	0.004	0.548	0.065	0.083	0.055	388.763	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.482	0.004	1.462	0.388	0.250	0.176	1323.097	0.003
	NA	MC	Motorcycles	1.305	0.002	28.803	4.855	0.018	0.008	174.458	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.255	0.002	2.531	0.252	0.047	0.020	337.328	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.614	0.005	4.836	0.681	0.049	0.021	445.715	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.200	0.007	6.603	0.950	0.059	0.026	665.970	0.046
Calaveras	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.539	0.007	0.489	0.045	0.070	0.042	309.065	0.008
Calaveras	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.382	0.003	0.433	0.105	0.107	0.078	372.929	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.193	0.009	1.473	0.381	0.249	0.178	985.778	0.027
	NA	MC	Motorcycles	1.319	0.002	29.126	5.060	0.018	0.009	175.677	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.188	0.002	1.833	0.207	0.047	0.020	335.354	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.415	0.003	3.012	0.407	0.047	0.020	442.394	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.668	0.004	3.690	0.448	0.054	0.023	642.780	0.034
Colusa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.363	0.003	0.392	0.035	0.054	0.023	307.260	0.008
Colusa	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.392	0.003	0.531	0.055	0.084	0.055	377.311	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.120	0.004	1.360	0.369	0.084	0.055	1342.325	0.008
	NA	MC	Motorcycles	1.311	0.002	28.145	4.316	0.239	0.008	174.024	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.160	0.002	1.718	0.191	0.013	0.020	338.613	0.034
	Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.100	0.003	2.294	0.191	0.047	0.020	443.593	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.549	0.004	3.284	0.290	0.054	0.020	641.329	0.034
Contra Costa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.298	0.003	0.361	0.033	0.054	0.023	316.482	0.008
Contra Costa	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.226	0.003	0.301	0.033	0.062	0.034	390.255	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.663	0.004	1.338	0.370	0.002	0.034	1340.164	0.008
	NA	MC	Motorcycles	1.298	0.013	28.494	4.230	0.292	0.008	177.654	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.295	0.002	2.681	0.279	0.018	0.008	353.754	0.034
	Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.293	0.004	5.410	0.279	0.048	0.021	469.772	0.034
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	1.110	0.005	5.687	0.712	0.050	0.022	685.262	0.034
Del Norte	Diesel	LDDV	Light-Duty Vehicles (8,501 + 10s)  Light-Duty Vehicles (Passenger Cars)	0.440	0.007	0.502	0.780	0.057	0.025	330.797	0.046
Del Molle	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	1.006	0.003	1.838	0.268	0.008	0.040	414.903	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.792	0.004	1.838	0.268	0.217	0.182	817.271	0.008
	NA	MC		1.374	0.008	32.065	4.967	0.223	0.153	186.767	0.027
	NA	MC	Motorcycles	1.574	0.002	32.003	4.967	0.018	0.009	180.707	0.050

Table 5-46 EMFAC County-Specific On-Road Vehicle EFs – 2014 (cont.)

		,					Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria I	Pollutants a	nd Ozone F	recursors		,
				NO <sub>x</sub>	$SO_x$	co	ROG	$PM_{10}$	$PM_{2.5}$	$CO_2$	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV Light-I	Duty Vehicles (Passenger Cars)	0.156	0.003	1.740	0.176	0.047	0.020	342.720	0.034
	Gasoline	LDGT Light-I	Duty Trucks (0-8,500 lbs)	0.335	0.005	2.940	0.388	0.048	0.020	455.691	0.034
	Gasoline	HDGV Heavy	-Duty Vehicles (8,501 + lbs)	0.656	0.007	4.112	0.523	0.055	0.023	654.722	0.046
El Dorado	Diesel		Duty Vehicles (Passenger Cars)	0.433	0.003	0.416	0.038	0.066	0.038	317.417	0.008
	Diesel		Duty Trucks (0-8,500 lbs)	0.374	0.004	0.388	0.049	0.071	0.043	395.107	0.008
	Diesel		-Duty Vehicles (8,501 + lbs)	6.501	0.008	1.283	0.321	0.220	0.149	873.832	0.027
	NA	MC Motore	cycles	1.360	0.002	31.114	5.314	0.018	0.009	182.287	0.050
	Gasoline	LDGV Light-I	Duty Vehicles (Passenger Cars)	0.15	0.00	1.62	0.20	0.05	0.02	333.22	0.03
	Gasoline	LDGT Light-I	Duty Trucks (0-8,500 lbs)	0.33	0.00	2.71	0.41	0.05	0.02	439.49	0.03
	Gasoline		-Duty Vehicles (8,501 + lbs)	0.58	0.01	3.46	0.43	0.05	0.02	634.32	0.05
Fresno	Diesel	LDDV Light-I	Duty Vehicles (Passenger Cars)	0.29	0.00	0.31	0.03	0.06	0.03	299.42	0.01
	Diesel	LDDT Light-I	Duty Trucks (0-8,500 lbs)	0.27	0.00	0.36	0.04	0.07	0.04	375.75	0.01
	Diesel	HDDV Heavy-	-Duty Vehicles (8,501 + lbs)	7.69	0.01	1.32	0.37	0.25	0.17	1565.66	0.03
	NA	MC Motoro	cycles	1.31	0.00	29.01	4.10	0.02	0.01	169.09	0.05
	Gasoline	LDGV Light-I	Duty Vehicles (Passenger Cars)	0.202	0.004	2.043	0.222	0.047	0.020	347.187	0.034
	Gasoline	LDGT Light-I	Duty Trucks (0-8,500 lbs)	0.478	0.005	3.549	0.485	0.048	0.021	460.794	0.034
	Gasoline	HDGV Heavy-	-Duty Vehicles (8,501 + lbs)	0.727	0.007	4.173	0.519	0.056	0.024	662.929	0.046
Glenn	Diesel	LDDV Light-I	Duty Vehicles (Passenger Cars)	0.321	0.003	0.393	0.034	0.063	0.035	315.384	0.008
	Diesel	LDDT Light-I	Duty Trucks (0-8,500 lbs)	0.454	0.004	0.695	0.097	0.102	0.073	385.308	0.008
	Diesel	HDDV Heavy-	-Duty Vehicles (8,501 + lbs)	7.217	0.012	1.433	0.386	0.248	0.177	1286.494	0.027
	NA	MC Motoro	cycles	1.299	0.002	28.576	4.629	0.018	0.008	179.318	0.050
	Gasoline		Duty Vehicles (Passenger Cars)	0.307	0.003	2.777	0.286	0.048	0.020	331.018	0.034
	Gasoline		Duty Trucks (0-8,500 lbs)	0.693	0.003	4.776	0.280	0.049	0.020	434.067	0.034
	Gasoline	- 0	7-Duty Vehicles (8,501 + lbs)	1.134	0.007	5.776	0.797	0.057	0.021	644.598	0.034
Humboldt	Diesel		Duty Vehicles (Passenger Cars)	0.892	0.007	0.703	0.065	0.037	0.025	318.215	0.008
riumbolat	Diesel		Duty Trucks (0-8,500 lbs)	0.892	0.003	0.749	0.104	0.108	0.033	380.336	0.008
	Diesel		7-Duty Vehicles (8,501 + lbs)	7.624	0.004	1.557	0.407	0.168	0.190	1098.961	0.003
	NA	MC Motoro	3 11	1.381	0.010	31.049	4.640	0.203	0.008	174.525	0.027
	Gasoline		Duty Vehicles (Passenger Cars)	0.408	0.002	3.619	0.326	0.018	0.008	335.476	0.034
	Gasoline		Duty Trucks (0-8,500 lbs)	0.465	0.003	3.467	0.572	0.047	0.019	444.488	0.034
	Gasoline		7-Duty Vehicles (8,501 + lbs)	0.403	0.004	4.260	0.572	0.047	0.020	627.384	0.034
Toron and all	Diesel			0.779	0.003	0.327	0.030	0.054	0.023	292.117	0.048
Imperial	Diesel		Duty Vehicles (Passenger Cars) Duty Trucks (0-8,500 lbs)	0.390	0.003	0.346	0.030	0.065	0.033	369.604	0.008
	Diesel		/-Duty Vehicles (8,501 + lbs)	6.689	0.004	0.834	0.033	0.063	0.037	1416.765	0.008
	NA			1.235	0.002	26.189	4.023	0.210	0.140	166.114	0.027
				0.221	0.002	26.189	0.239	0.017	0.008		0.034
	Gasoline		Duty Vehicles (Passenger Cars)		0.004					352.161	0.034
	Gasoline		Duty Trucks (0-8,500 lbs)	0.495		3.585	0.510	0.048	0.021	464.213	
Torre	Gasoline Diesel		r-Duty Vehicles (8,501 + lbs)	0.989	0.007	5.250 0.452	0.750	0.058	0.025	688.169 320.050	0.046
Inyo	Diesel		Duty Vehicles (Passenger Cars)	0.401	0.003	0.452	0.039	0.066	0.038	320.050	0.008
	Diesel		Duty Trucks (0-8,500 lbs) v-Duty Vehicles (8,501 + lbs)	6.920	0.004	1.352	0.060	0.078	0.049	1268.019	0.008
	NA	MC Motoro		1.335	0.012	30.211	4.712	0.242	0.161	181.508	0.027
	Gasoline			0.148	0.002	1.543	0.185	0.018	0.008	362.516	0.030
			Duty Vehicles (Passenger Cars)	0.148	0.004	2.667	0.185	0.047		362.516 477.384	0.034
	Gasoline		Duty Trucks (0-8,500 lbs)	0.338	0.005	3.404	0.394	0.048	0.020	692.123	0.034
<b>V</b>	Gasoline		r-Duty Vehicles (8,501 + lbs)								
Kem	Diesel		Duty Vehicles (Passenger Cars)	0.243	0.003	0.321	0.025	0.058	0.031	327.498	0.008
	Diesel		Duty Trucks (0-8,500 lbs)	0.216	0.004	0.298	0.034	0.062	0.034	410.029	0.008
	Diesel		-Duty Vehicles (8,501 + lbs)	7.287	0.015	1.216	0.325	0.223	0.150	1548.200	0.027
	NA	MC Motoro	,	1.311	0.002	30.732	4.201	0.018	0.008	181.407	0.050
	Gasoline		Duty Vehicles (Passenger Cars)	0.170	0.003	1.683	0.190	0.047	0.019	334.720	0.034
	Gasoline		Duty Trucks (0-8,500 lbs)	0.445	0.004	3.303	0.464	0.048	0.020	442.643	0.034
***	Gasoline		r-Duty Vehicles (8,501 + lbs)	0.623	0.006	3.526	0.427	0.055	0.023	641.528	0.046
Kings	Diesel		Duty Vehicles (Passenger Cars)	0.277	0.003	0.335	0.029	0.060	0.033	299.461	0.008
	Diesel		Duty Trucks (0-8,500 lbs)	0.453	0.004	0.556	0.068	0.085	0.056	370.881	0.008
	Diesel		-Duty Vehicles (8,501 + lbs)	7.657	0.015	1.275	0.345	0.224	0.153	1589.200	0.027
	NA	MC Motore	cycles	1.288	0.002	27.635	3.961	0.017	0.008	169.801	0.050

Table 5-46 EMFAC County-Specific On-Road Vehicle EFs – 2014 (cont.)

		·					Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria I	Pollutants a	nd Ozone F	recursors		,
				NO <sub>x</sub>	$SO_x$	co	ROG	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV Ligh	ht-Duty Vehicles (Passenger Cars)	0.310	0.003	2.951	0.334	0.048	0.021	343.010	0.034
	Gasoline	LDGT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.649	0.005	4.782	0.689	0.049	0.021	448.035	0.034
	Gasoline	HDGV Hea	avy-Duty Vehicles (8,501 + lbs)	1.296	0.007	7.008	1.058	0.060	0.026	672.812	0.046
Lake	Diesel		ht-Duty Vehicles (Passenger Cars)	0.604	0.003	0.564	0.053	0.076	0.047	316.848	0.008
	Diesel		ht-Duty Trucks (0-8,500 lbs)	0.958	0.004	0.921	0.110	0.112	0.083	390.335	0.008
	Diesel		avy-Duty Vehicles (8,501 + lbs)	7.717	0.009	1.683	0.451	0.286	0.211	972.147	0.027
	NA	MC Mot	torcycles	1.352	0.002	31.215	5.240	0.019	0.009	177.373	0.050
	Gasoline	LDGV Ligh	ht-Duty Vehicles (Passenger Cars)	0.274	0.004	2.631	0.266	0.048	0.020	363.534	0.034
	Gasoline	LDGT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.595	0.005	4.434	0.589	0.048	0.021	481.504	0.034
	Gasoline	HDGV Hea	avy-Duty Vehicles (8,501 + lbs)	1.216	0.007	6.572	0.931	0.059	0.026	703.706	0.046
Lassen	Diesel	LDDV Ligh	ht-Duty Vehicles (Passenger Cars)	0.485	0.003	0.523	0.046	0.069	0.041	333.081	0.008
	Diesel	LDDT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.396	0.004	0.571	0.078	0.088	0.059	411.236	0.008
	Diesel	HDDV Hea	avy-Duty Vehicles (8,501 + lbs)	6.700	0.008	1.428	0.344	0.230	0.155	832.887	0.027
	NA	MC Mot	torcycles	1.385	0.003	32.964	5.136	0.018	0.008	190.125	0.050
	Gasoline	LDGV Ligh	ht-Duty Vehicles (Passenger Cars)	0.155	0.004	1.793	0.192	0.047	0.020	367.286	0.034
	Gasoline		ht-Duty Trucks (0-8,500 lbs)	0.316	0.005	2.795	0.321	0.048	0.021	481.839	0.034
	Gasoline		avy-Duty Vehicles (8,501 + lbs)	0.580	0.007	3.646	0.395	0.056	0.024	679.951	0.046
Los Angeles	Diesel	LDDV Ligh	ht-Duty Vehicles (Passenger Cars)	0.245	0.003	0.418	0.042	0.067	0.039	329.379	0.008
	Diesel	LDDT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.245	0.004	0.325	0.042	0.064	0.036	411.589	0.008
	Diesel	HDDV Hea	avy-Duty Vehicles (8,501 + lbs)	7.381	0.013	1.702	0.339	0.278	0.187	1386.344	0.027
	NA	MC Mot	torcycles	1.237	0.002	25.657	4.568	0.018	0.008	194.954	0.050
	Gasoline	LDGV Ligh	ht-Duty Vehicles (Passenger Cars)	0.158	0.003	1.797	0.197	0.047	0.020	346,610	0.034
	Gasoline		ht-Duty Trucks (0-8,500 lbs)	0.376	0.005	3.247	0.467	0.048	0.021	459.857	0.034
	Gasoline	HDGV Hea	avy-Duty Vehicles (8,501 + lbs)	0.645	0.007	4.051	0.488	0.056	0.024	665.804	0.046
Madera	Diesel	LDDV Ligh	ht-Duty Vehicles (Passenger Cars)	0.358	0.003	0.413	0.038	0.065	0.037	310.670	0.008
	Diesel		ht-Duty Trucks (0-8,500 lbs)	0.459	0.004	0.476	0.061	0.078	0.050	381.911	0.008
	Diesel	HDDV Hea	avy-Duty Vehicles (8,501 + lbs)	7.555	0.014	1.318	0.349	0.229	0.156	1480.880	0.027
	NA	MC Mot	torcycles	1.265	0.002	27.425	4.062	0.018	0.008	172.856	0.050
	Gasoline	LDGV Ligh	ht-Duty Vehicles (Passenger Cars)	0.159	0.003	1.648	0.194	0.047	0.020	342.334	0.034
	Gasoline	LDGT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.267	0.005	2.169	0.291	0.047	0.020	448.036	0.034
	Gasoline	HDGV Hea	avy-Duty Vehicles (8,501 + lbs)	0.572	0.007	3.275	0.404	0.056	0.024	656.289	0.046
Marin	Diesel	LDDV Ligh	ht-Duty Vehicles (Passenger Cars)	0.347	0.003	0.399	0.034	0.064	0.036	328.439	0.008
	Diesel	LDDT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.152	0.004	0.228	0.027	0.058	0.030	403.513	0.008
	Diesel	HDDV Hea	avy-Duty Vehicles (8,501 + lbs)	8.337	0.012	1.832	0.427	0.371	0.245	1294.534	0.027
	NA	MC Mot	torcycles	1.327	0.002	29.776	4.293	0.018	0.008	181.192	0.050
	Gasoline	LDGV Ligh	ht-Duty Vehicles (Passenger Cars)	0.273	0.004	2.697	0.286	0.048	0.020	351.666	0.034
	Gasoline	LDGT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.754	0.005	5.654	0.777	0.050	0.022	466.876	0.034
	Gasoline	HDGV Hea	avy-Duty Vehicles (8,501 + lbs)	1.217	0.007	6.664	0.973	0.059	0.026	684.502	0.046
Mariposa	Diesel		ht-Duty Vehicles (Passenger Cars)	0.639	0.003	0.602	0.058	0.077	0.049	325.713	0.008
	Diesel		ht-Duty Trucks (0-8,500 lbs)	0.841	0.004	1.465	0.234	0.193	0.160	388.337	0.008
	Diesel		avy-Duty Vehicles (8,501 + lbs)	7.054	0.008	1.454	0.359	0.237	0.165	807.423	0.027
	NA		otorcycles	1.356	0.002	31.657	5.313	0.019	0.009	183.459	0.050
	Gasoline	LDGV Ligh	ht-Duty Vehicles (Passenger Cars)	0.269	0.003	2.508	0.258	0.047	0.020	328.416	0.034
	Gasoline	LDGT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.682	0.004	4.843	0.635	0.049	0.021	433.113	0.034
	Gasoline	HDGV Hea	avy-Duty Vehicles (8,501 + lbs)	1.140	0.007	5.917	0.810	0.058	0.025	650.224	0.046
Mendocino	Diesel		ht-Duty Vehicles (Passenger Cars)	0.916	0.003	0.691	0.063	0.083	0.054	317.342	0.008
	Diesel		ht-Duty Trucks (0-8,500 lbs)	0.839	0.004	0.938	0.120	0.119	0.089	384.625	0.008
	Diesel		avy-Duty Vehicles (8,501 + lbs)	7.621	0.012	1.520	0.414	0.261	0.190	1227.314	0.027
	NA		torcycles	1.358	0.002	30.308	4.631	0.018	0.008	173.347	0.050
	Gasoline		ht-Duty Vehicles (Passenger Cars)	0.170	0.003	1.841	0.206	0.047	0.020	343.627	0.034
	Gasoline		ht-Duty Trucks (0-8,500 lbs)	0.380	0.005	3.121	0.438	0.048	0.021	453.529	0.034
	Gasoline		avy-Duty Vehicles (8,501 + lbs)	0.646	0.007	3.968	0.468	0.056	0.024	657.720	0.046
Merced	Diesel		ht-Duty Vehicles (Passenger Cars)	0.414	0.003	0.424	0.037	0.065	0.038	312.484	0.008
	Diesel		ht-Duty Trucks (0-8,500 lbs)	0.389	0.004	0.470	0.058	0.077	0.049	385.594	0.008
	Diesel		avy-Duty Vehicles (8,501 + lbs)	7.788	0.015	1.298	0.353	0.232	0.158	1591.001	0.027
	NA	MC Mot	torcycles	1.274	0.002	27.957	3.826	0.018	0.008	171.694	0.050

Table 5-46 EMFAC County-Specific On-Road Vehicle EFs – 2014 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria I	Pollutants a	nd Ozone I	recursors	I	
				NO <sub>x</sub>	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV Ligh	ht-Duty Vehicles (Passenger Cars)	0.301	0.004	2.921	0.282	0.048	0.021	404.092	0.034
	Gasoline	LDGT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.683	0.005	5.078	0.627	0.049	0.022	536.204	0.034
	Gasoline	HDGV Hea	avy-Duty Vehicles (8,501 + lbs)	1.393	0.008	7.612	1.076	0.059	0.026	760.425	0.046
Modoc	Diesel		ht-Duty Vehicles (Passenger Cars)	0.443	0.004	0.636	0.057	0.073	0.044	369.071	0.008
	Diesel	LDDT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.631	0.005	0.626	0.068	0.077	0.049	485.591	0.008
	Diesel		avy-Duty Vehicles (8,501 + lbs)	6.863	0.008	1.399	0.353	0.227	0.154	883.289	0.027
	NA	MC Mot	otorcycles	1.398	0.003	34.844	5.591	0.018	0.008	212.156	0.050
	Gasoline	LDGV Ligh	ht-Duty Vehicles (Passenger Cars)	0.237	0.003	2.206	0.210	0.047	0.020	340.061	0.034
	Gasoline	LDGT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.532	0.005	3.760	0.460	0.048	0.020	452.170	0.034
	Gasoline		avy-Duty Vehicles (8,501 + lbs)	1.050	0.007	5.547	0.712	0.058	0.025	665.354	0.046
Mono	Diesel	LDDV Ligh	ht-Duty Vehicles (Passenger Cars)	0.479	0.003	0.516	0.047	0.071	0.043	322.257	0.008
	Diesel	LDDT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.876	0.004	0.698	0.070	0.085	0.056	406.469	0.008
	Diesel	HDDV Hea	avy-Duty Vehicles (8,501 + lbs)	6.971	0.013	1.316	0.348	0.228	0.155	1318.725	0.027
	NA	MC Mot	otorcycles	1.472	0.003	36.518	5.062	0.018	0.008	182.525	0.050
	Gasoline	LDGV Ligh	tht-Duty Vehicles (Passenger Cars)	0.234	0.004	2.323	0.242	0.048	0.021	361.227	0.034
	Gasoline	LDGT Ligh	tht-Duty Trucks (0-8,500 lbs)	0.527	0.005	3.728	0.456	0.048	0.021	481.757	0.034
	Gasoline	HDGV Hea	avy-Duty Vehicles (8,501 + lbs)	0.793	0.007	4.365	0.487	0.057	0.024	693.210	0.046
Monterey	Diesel	LDDV Ligh	ht-Duty Vehicles (Passenger Cars)	0.400	0.003	0.523	0.050	0.071	0.043	334.795	0.008
	Diesel	LDDT Ligh	ht-Duty Trucks (0-8,500 lbs)	0.304	0.004	0.449	0.060	0.075	0.047	417.007	0.008
	Diesel	HDDV Hea	avy-Duty Vehicles (8,501 + lbs)	7.492	0.012	1.561	0.410	0.290	0.202	1282.955	0.027
	NA	MC Mot	otorcycles	1.283	0.002	28.033	4.046	0.018	0.008	185.116	0.050
	Gasoline		ht-Duty Vehicles (Passenger Cars)	0.166	0.003	1.793	0.190	0.047	0.020	328.742	0.034
	Gasoline		tht-Duty Trucks (0-8,500 lbs)	0.321	0.003	2.706	0.150	0.047	0.020	433.022	0.034
	Gasoline	- 0	avy-Duty Vehicles (8,501 + lbs)	0.667	0.007	3.933	0.466	0.057	0.024	648.550	0.046
Napa	Diesel		tht-Duty Vehicles (Passenger Cars)	0.329	0.007	0.368	0.400	0.064	0.024	308.713	0.008
Ivapa	Diesel		tht-Duty Trucks (0-8,500 lbs)	0.329	0.003	0.206	0.034	0.057	0.037	381.773	0.008
	Diesel		avy-Duty Vehicles (8,501 + lbs)	7.661	0.004	1.377	0.387	0.267	0.189	1301.178	0.027
	NA		otorcycles	1.301	0.012	28.089	4.125	0.207	0.189	171.692	0.050
	Gasoline		ht-Duty Vehicles (Passenger Cars)	0.230	0.002	2.244	0.235	0.018	0.020	326.560	0.034
	Gasoline	U	tht-Duty Venicles (Passenger Cars)	0.230	0.003	3.641	0.233	0.047	0.020	437.138	0.034
	Gasoline	U	avy-Duty Vehicles (8,501 + lbs)	0.877	0.004	4.750	0.603	0.056	0.024	636.296	0.034
Manada	Diesel			0.557	0.003	0.490	0.003	0.036	0.024	307.924	0.048
Nevada	Diesel		ht-Duty Vehicles (Passenger Cars) ht-Duty Trucks (0-8,500 lbs)	0.337	0.003	0.490	0.044	0.070	0.042	390,989	0.008
	Diesel		avy-Duty Vehicles (8,501 + lbs)	7.194	0.004	1.375	0.362	0.083	0.037	1231.612	0.008
	NA			1.398	0.012	32.045	4.994	0.228	0.160	171.874	0.027
			otorcycles	0.131	0.002	1.510	0.167	0.018	0.009	345.612	0.034
	Gasoline	Ü	tht-Duty Vehicles (Passenger Cars)		0.005						0.034
	Gasoline		tht-Duty Trucks (0-8,500 lbs)	0.230		2.093	0.245	0.047	0.020	452.603	
0	Gasoline Diesel		avy-Duty Vehicles (8,501 + lbs)	0.504 0.190	0.007	3.159 0.318	0.344	0.055	0.023	649.080 312.640	0.046
Orange	Diesel		tht-Duty Vehicles (Passenger Cars)	0.190	0.003	0.318	0.029	0.060	0.032	392.110	0.008
	Diesel		tht-Duty Trucks (0-8,500 lbs)	6.355	0.004	1.359	0.028	0.057	0.029	1211.496	0.008
	NA		avy-Duty Vehicles (8,501 + lbs) otorcycles	1.230	0.011	24.872	4.336	0.267	0.179	184.286	0.027
	Gasoline			0.149	0.002	1.640	0.174	0.018	0.008	330.987	0.034
	Gasoline		tht-Duty Vehicles (Passenger Cars)	0.149	0.003	2.351	0.174	0.047	0.020	435,766	0.034
			tht-Duty Trucks (0-8,500 lbs)	0.274	0.004	3.432	0.295	0.047	0.020	636,983	
Dla	Gasoline		avy-Duty Vehicles (8,501 + lbs)								0.046
Placer	Diesel		tht-Duty Vehicles (Passenger Cars)	0.384	0.003	0.377	0.034	0.065 0.067	0.037	305.378 378.539	0.008
	Diesel		tht-Duty Trucks (0-8,500 lbs)	0.341 6.743	0.004	1.249	0.040	0.067		1279.079	0.008
	Diesel NA		avy-Duty Vehicles (8,501 + lbs)	1.340	0.012	29.534	4.461	0.228	0.153	172.296	0.027
			otorcycles								
	Gasoline		tht-Duty Vehicles (Passenger Cars)	0.292	0.004	2.943	0.296	0.048	0.021	377.954	0.034
	Gasoline		tht-Duty Trucks (0-8,500 lbs)	0.690	0.005	5.252	0.637	0.049	0.022	503.913	0.034
PM.	Gasoline		avy-Duty Vehicles (8,501 + lbs)	1.413	0.007	7.731	1.055	0.059	0.026	719.208	0.046
Plumas	Diesel		tht-Duty Vehicles (Passenger Cars)	0.504	0.003	0.605	0.057	0.074	0.046	347.894	0.008
	Diesel		tht-Duty Trucks (0-8,500 lbs)	0.273	0.004	0.436	0.059	0.071	0.043	430.165	0.008
	Diesel		avy-Duty Vehicles (8,501 + lbs)	7.191	0.009	1.508	0.377	0.247	0.175	937.294	0.027
	NA	MC Mot	otorcycles	1.377	0.003	33.729	5.646	0.019	0.009	198.593	0.050

Table 5-46 EMFAC County-Specific On-Road Vehicle EFs – 2014 (cont.)

							Emission F	actors (g/m	i)	,	
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NOx	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.135	0.003	1.490	0.171	0.047	0.019	335.050	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.273	0.004	2.356	0.310	0.047	0.020	438.065	0.034
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.536	0.006	3.241	0.377	0.054	0.023	624.466	0.046
Riverside	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.254	0.003	0.295	0.025	0.059	0.031	301.028	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.189	0.004	0.269	0.033	0.063	0.035	373.311	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.719	0.013	0.994	0.214	0.221	0.147	1336.068	0.027
	NA	MC	Motorcycles	1.257	0.002	26.696	4.229	0.018	0.008	173.605	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.164	0.003	1.866	0.205	0.047	0.020	340.811	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.300	0.005	2.660	0.341	0.047	0.020	447.107	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.629	0.007	3.850	0.448	0.057	0.024	667.060	0.046
Sacramento	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.359	0.003	0.402	0.040	0.067	0.039	307.692	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.801	0.004	0.722	0.087	0.098	0.068	384.285	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.580	0.012	1.641	0.361	0.262	0.175	1279.131	0.027
	NA	MC	Motorcycles	1.279	0.002	27.410	4.467	0.018	0.008	175.453	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.180	0.003	1.754	0.169	0.047	0.020	321.428	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.414	0.004	2.989	0.394	0.047	0.020	427.056	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.687	0.006	3.777	0.445	0.054	0.023	623.659	0.046
San Benito	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.489	0.003	0.420	0.035	0.065	0.037	306.805	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.057	0.004	0.161	0.021	0.053	0.025	382.201	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.719	0.015	1.406	0.394	0.245	0.175	1541.165	0.027
	NA	MC	Motorcycles	1.316	0.002	28.136	3.918	0.018	0.008	167.069	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.155	0.003	1.637	0.176	0.047	0.020	339.555	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.340	0.004	2.740	0.350	0.047	0.020	445.584	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.602	0.006	3.515	0.402	0.055	0.023	635.710	0.046
San Bernardino	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.250	0.003	0.312	0.027	0.060	0.032	305.910	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.253	0.004	0.311	0.038	0.065	0.037	379.188	0.008
	Diesel NA	HDDV MC	Heavy-Duty Vehicles (8,501 + lbs) Motorcycles	6.739 1.282	0.013	1.107 28.120	0.229 3.819	0.222	0.146	1349.778 171.778	0.027
		LDGV	-	0.163	0.002		0.179	0.017	0.008		0.034
	Gasoline Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.163	0.004	1.650 2.268	0.179	0.047	0.020	352.205 464.263	0.034
	Gasoline	HDGV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.272	0.005	3.133	0.294	0.047	0.020	672.093	0.034
San Diego	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.329	0.007	0.353	0.030	0.053	0.023	330.947	0.048
San Diego	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.252	0.003	0.353	0.030	0.067	0.034	412.617	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.366	0.004	1.640	0.378	0.007	0.039	1341.574	0.008
	NA	MC	Motorcycles	1.274	0.012	27.681	4.084	0.272	0.103	186.887	0.027
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.151	0.002	1.693	0.187	0.047	0.020	370.677	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.131	0.005	2.117	0.257	0.047	0.020	481.419	0.034
	Gasoline	HDGV	· · · · · · · · · · · · · · · · · · ·		0.007			0.047			
San Francisco		1	Heavy-Duty Vehicles (8,501 + lbs)	0.617		3.547	0.421	0.000	0.027	732.698	0.046
San Pancisco	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.223	0.003	0.407	0.033	0.060	0.032	345.548 427.354	0.008
	Diesel Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.241 9.400	0.004 0.014	0.329 2.266	0.523	0.061	0.034	1513.366	0.008
	NA	HDDV MC	Heavy-Duty Vehicles (8,501 + lbs)	1.285	0.014	28.136	4.681	0.445	0.297	197.602	0.027
		LDGV	Motorcycles						0.008		
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.16	0.00	1.68	0.19	0.05	0.02	340.16	0.03
	Gasoline	HDGV	Light-Duty Trucks (0-8,500 lbs)	0.33	0.00	2.65 3.58	0.37	0.05	0.02	447.72	0.03
Can Iaaanin	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)							644.86	
San Joaquin	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.36	0.00	0.37	0.03	0.06	0.04	313.02	0.01
	Diesel Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.41 7.50	0.00	0.44 1.39	0.05	0.07	0.04	386.84 1421.39	0.01
	NA NA	MC	Motorcycles  Motorcycles	1.32	0.00	29.96	4.24	0.25	0.17	175.60	0.03
	Gasoline	LDGV		0.187	0.003	1.815	0.194	0.02	0.01	323.057	0.034
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.187	0.003	3.160	0.194	0.047	0.020	432.690	0.034
	Gasoline	HDGV	Light-Duty Trucks (0-8,500 lbs)	0.454	0.004	4.024	0.405	0.048	0.020	637.368	0.034
Can Luis Ohian			Heavy-Duty Vehicles (8,501 + lbs)		0.006						
San Luis Obispo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.360	0.003	0.366	0.031	0.062	0.034	308.191	0.008
	Diesel Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.315 7.241	0.004	0.418 1.447	0.053	0.075	0.047	377.582 1088.450	0.008
	NA NA	MC		1.353	0.010	29.312	4.586	0.260	0.184		
	NA	MC	Motorcycles	1.553	0.002	29.312	4.380	0.018	0.008	172.243	0.050

Table 5-46 EMFAC County-Specific On-Road Vehicle EFs – 2014 (cont.)

County	Fuel Type				Emission Factors (g/mi)								
		Vehicle Type		Criteria Pollutants and Ozone Precursors									
				NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>		
San Mateo	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.142	0.003	1.515	0.176	0.047	0.020	327.737	0.034		
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.219	0.004	1.850	0.237	0.047	0.020	424.996	0.034		
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.511	0.006	3.001	0.359	0.055	0.023	628.026	0.046		
	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.241	0.003	0.302	0.027	0.060	0.032	307.852	0.008		
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.128	0.004	0.175	0.022	0.055	0.027	379.448	0.008		
	Diesel NA	HDDV MC	Heavy-Duty Vehicles (8,501 + lbs) Motorcycles	7.203 1.265	0.012	1.569 25.798	3.716	0.350	0.234	1293.587 175.725	0.027 0.050		
Santa Barbara	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.206	0.002	1.949	0.219	0.018	0.008	311.535	0.034		
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.483	0.003	3.232	0.436	0.047	0.020	418.116	0.034		
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.761	0.006	4.039	0.492	0.062	0.026	627.458	0.046		
	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.321	0.003	0.319	0.027	0.061	0.033	298.961	0.008		
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.281	0.003	0.324	0.038	0.067	0.039	363.649	0.008		
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.652	0.012	1.571	0.408	0.318	0.222	1259.810	0.027		
	NA	MC	Motorcycles	1.318	0.002	26.835	3.685	0.018	0.008	163.988	0.050		
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.154	0.003	1.679	0.187	0.047	0.020	330.682	0.034		
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.283	0.004	2.390	0.300	0.047	0.020	436.400	0.034		
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.590	0.006	3.542	0.416	0.055	0.023	633.335	0.046		
Santa Clara	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.257	0.003	0.305	0.027	0.060	0.032	306.646	0.008		
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.164	0.004	0.225	0.028	0.059	0.031	380.090	0.008		
	Diesel NA	HDDV MC	Heavy-Duty Vehicles (8,501 + lbs)	7.792 1.276	0.013	1.444 26.323	0.396 4.103	0.293	0.203	1388.351 175.088	0.027 0.050		
	Gasoline	LDGV	Motorcycles	0.252	0.002	2.513	0.253	0.018	0.008	346.779	0.034		
Santa Cruz	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.232	0.004	4.086	0.233	0.048	0.021	463.762	0.034		
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.861	0.003	4.743	0.513	0.049	0.021	674.458	0.034		
	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.568	0.003	0.574	0.058	0.077	0.049	328.413	0.008		
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.425	0.004	0.461	0.059	0.076	0.048	395.719	0.008		
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.549	0.011	1.862	0.489	0.364	0.262	1195.863	0.027		
	NA	MC	Motorcycles	1.325	0.002	29.175	4.783	0.018	0.009	182.273	0.050		
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.213	0.004	2.166	0.239	0.047	0.020	350.435	0.034		
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.486	0.005	3.572	0.488	0.048	0.021	466.282	0.034		
Shasta	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.835	0.007	4.713	0.630	0.057	0.025	677.255	0.046		
	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.492	0.003	0.492	0.045	0.070	0.042	319.235	0.008		
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.503	0.004	0.595	0.076	0.089	0.060	394.279	0.008		
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.532	0.013	1.395	0.377	0.241	0.169	1324.808	0.027		
	NA C. J.	MC	Motorcycles	1.336	0.002	30.448	5.023	0.018	0.008	181.069	0.050		
Sierra	Gasoline Gasoline	LDGV LDGT	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.263	0.004	2.580	0.245	0.048	0.021	387.509 511.893	0.034		
		1				4.472							
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.214	0.007	6.607	0.858	0.058	0.026	734.670	0.046		
	Diesel Diesel	LDDV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.263 0.453	0.003	0.510 0.808	0.042	0.063	0.035	354.131 433.032	0.008		
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.814	0.004	1.409	0.126	0.116	0.086	868.685	0.008		
	NA	MC	Motorcycles	1.380	0.003	33.996	5.528	0.019	0.009	204.041	0.027		
Siskiyou	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.269	0.004	2.572	0.252	0.048	0.020	375.115	0.034		
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.626	0.005	4.544	0.580	0.049	0.020	496.288	0.034		
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.186	0.007	6.455	0.876	0.059	0.026	714.767	0.046		
	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.499	0.003	0.587	0.052	0.072	0.044	347.782	0.008		
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.533	0.004	0.762	0.105	0.104	0.075	425.000	0.008		
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.382	0.013	1.383	0.370	0.233	0.162	1408.139	0.027		
	NA	MC	Motorcycles	1.407	0.003	34.863	5.395	0.018	0.009	197.194	0.050		
Solano	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.154	0.004	1.577	0.182	0.047	0.020	348.024	0.034		
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.293	0.005	2.342	0.321	0.047	0.020	457.646	0.034		
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.588	0.007	3.376	0.413	0.056	0.024	670.626	0.046		
	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.315	0.003	0.375	0.032	0.063	0.035	326.085	0.008		
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.375	0.004	0.411	0.043	0.069	0.041	401.047	0.008		
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.358	0.013	1.376	0.347	0.243	0.162	1402.617	0.027		
	NA	MC	Motorcycles	1.324	0.002	30.905	4.057	0.018	0.008	180.936	0.050		

Table 5-46 EMFAC County-Specific On-Road Vehicle EFs – 2014 (cont.)

County	Fuel Type	Vehicle Type		Emission Factors (g/mi)								
				Criteria Pollutants and Ozone Precursors								
			••		SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
Sonoma	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.194	0.003	2.027	0.216	0.047	0.020	347.076	0.034	
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.374	0.005	3.047	0.402	0.048	0.021	454.667	0.034	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.756	0.007	4.280	0.550	0.057	0.024	673.191	0.046	
	Diesel		Light-Duty Vehicles (Passenger Cars)	0.514	0.003	0.522	0.048	0.073	0.045	332.770	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.245	0.004	0.397	0.054	0.075	0.047	400.015	0.008	
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	7.270	0.011	1.410	0.394	0.277	0.199	1176.841	0.027	
	NA	MC	Motorcycles	1.321	0.002	30.109	4.637	0.018	0.008	182.463	0.050	
Stanislaus	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.172	0.004	1.883	0.215	0.047	0.020	349.353	0.034	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.354	0.005	2.991	0.418	0.048	0.021	459.659	0.034	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.626	0.007	3.850	0.468	0.055	0.023	657.873	0.046	
	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.386	0.003	0.425	0.037	0.065	0.037	315.403	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.286	0.004	0.373	0.046	0.069	0.041	389.931	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.485	0.013	1.303	0.364	0.243	0.169	1417.753	0.027	
	NA	MC	Motorcycles	1.313	0.002	30.059	4.710	0.018	0.008	179.254	0.050	
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.189	0.003	1.941	0.211	0.047	0.020	319.899	0.034	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.473	0.004	3.476	0.483	0.048	0.020	426.984	0.034	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.696	0.006	3.997	0.497	0.054	0.023	615.170	0.046	
Sutter	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.363	0.003	0.334	0.030	0.062	0.034	289.375	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.355	0.003	0.444	0.062	0.081	0.053	352.720	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.047	0.013	1.170	0.330	0.220	0.151	1407.817	0.027	
	NA	MC	Motorcycles	1.324	0.002	27.502	5.005	0.018	0.008	170.115	0.050	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.209	0.003	2.048	0.214	0.047	0.020	346.224	0.034	
Tehama	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.535	0.005	3.828	0.513	0.048	0.021	461.787	0.034	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.811	0.007	4.559	0.581	0.056	0.024	663.281	0.046	
	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.459	0.003	0.475	0.042	0.068	0.040	319.324	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.575	0.004	0.728	0.094	0.101	0.071	391.597	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.500	0.013	1.396	0.376	0.235	0.165	1388.782	0.027	
	NA	MC	Motorcycles	1.357	0.002	31.084	4.831	0.018	0.008	181.130	0.050	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.314	0.004	3.054	0.301	0.049	0.021	412.065	0.034	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.903	0.006	6.531	0.800	0.051	0.024	546.454	0.034	
Trinity	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.423	0.008	7.672	1.075	0.060	0.027	772.650	0.046	
	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.700	0.004	0.854	0.091	0.096	0.067	375.069	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.766	0.004	1.561	0.259	0.206	0.172	453.363	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.733	0.012	1.504	0.402	0.244	0.175	1308.439	0.027	
	NA	MC	Motorcycles	1.378	0.003	36.330	6.134	0.019	0.009	213.607	0.050	
Tulare	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.159	0.003	1.703	0.201	0.047	0.020	334.537	0.034	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.389	0.004	3.149	0.476	0.048	0.021	440.635	0.034	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.611	0.006	3.725	0.450	0.053	0.023	631.067	0.046	
	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.307	0.003	0.328	0.029	0.062	0.034	299.322	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.604	0.004	0.744	0.090	0.101	0.071	372.227	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.521	0.013	1.376	0.377	0.253	0.177	1421.813	0.027	
	NA	MC	Motorcycles	1.317	0.002	29.128	4.479	0.018	0.008	171.842	0.050	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.305	0.004	2.966	0.307	0.048	0.021	352.146	0.034	
Tuolumne	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.697	0.005	5.250	0.688	0.049	0.022	463.020	0.034	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.211	0.007	6.545	0.907	0.058	0.025	677.069	0.046	
	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.532	0.003	0.517	0.046	0.070	0.042	321.295	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.891	0.004	0.966	0.131	0.125	0.094	403.535	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.162	0.009	1.519	0.388	0.261	0.185	894.735	0.027	
	NA	MC	Motorcycles	1.363	0.002	32.123	5.406	0.019	0.009	183.207	0.050	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.146	0.003	1.618	0.177	0.047	0.020	334.042	0.034	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.276	0.004	2.400	0.304	0.047	0.020	438.130	0.034	
Ventura	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.562	0.006	3.390	0.396	0.055	0.023	629.099	0.046	
	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.267	0.003	0.352	0.033	0.063	0.035	311.030	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.239	0.004	0.290	0.036	0.063	0.035	382.932	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.790	0.010	1.234	0.264	0.245	0.169	1127.711	0.027	

Table 5-46 EMFAC County-Specific On-Road Vehicle EFs – 2014 (cont.)

							Emission F	actors (g/m	i)	-	-
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	recursors		
				NOx	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.164	0.003	1.742	0.199	0.047	0.020	340.233	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.276	0.004	2.303	0.314	0.047	0.020	441.074	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.574	0.007	3.356	0.406	0.055	0.023	648.284	0.046
Yolo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.462	0.003	0.443	0.039	0.068	0.040	316.194	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.387	0.004	0.388	0.042	0.068	0.040	385.556	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.567	0.012	1.350	0.335	0.249	0.168	1297.946	0.027
	NA	MC	Motorcycles	1.316	0.002	29.582	4.325	0.018	0.008	174.289	0.050
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.195	0.003	1.974	0.205	0.047	0.020	330.494	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.556	0.005	3.999	0.527	0.048	0.021	444.177	0.034
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.849	0.006	4.794	0.603	0.056	0.024	634.386	0.046
Yuba	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.363	0.003	0.370	0.034	0.064	0.036	303.476	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.475	0.003	0.448	0.054	0.076	0.048	361.732	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.259	0.010	1.507	0.383	0.271	0.187	1007.649	0.027
	NA	MC	Motorcycles	1.310	0.002	28.301	4.377	0.018	0.008	170.299	0.050

Table 5-47 EMFAC County-Specific On-Road Vehicle EFs – 2015

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type				Pollutants a				
•			•	NOx	SOx	со	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.150	0.003	1.616	0.180	0.047	0.020	334.806	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.249	0.004	2.111	0.271	0.047	0.020	436.445	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.564	0.006	3.300	0.395	0.055	0.024	644.483	0.045
Alameda	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.303	0.003	0.363	0.031	0.062	0.034	313.671	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.192	0.004	0.257	0.031	0.060	0.032	384.451	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.009	0.014	1.224	0.321	0.248	0.161	1492.288	0.027
	NA	MC	Motorcycles	1.298	0.002	28.143	4.257	0.018	0.008	179.735	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.204	0.003	1.993	0.181	0.047	0.020	311.211	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.455	0.004	3.389	0.401	0.047	0.020	410.850	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.980	0.006	5.125	0.654	0.057	0.024	628.271	0.045
Alpine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.314	0.003	0.345	0.029	0.060	0.032	291.658	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.234	0.003	0.282	0.036	0.062	0.034	357.217	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.339	0.014	1.124	0.283	0.199	0.125	1414.895	0.027
	NA	MC	Motorcycles	1.405	0.002	30.914	4.521	0.018	0.008	170.470	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.220	0.003	2.111	0.228	0.047	0.020	300.035	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.523	0.004	3.938	0.587	0.048	0.020	395.987	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.051	0.006	5.636	0.852	0.058	0.025	612.966	0.045
Amador	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.503	0.003	0.372	0.031	0.064	0.036	278.453	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.354	0.003	0.514	0.071	0.088	0.059	330.580	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.777	0.009	1.352	0.341	0.231	0.159	940.174	0.027
	NA	MC	Motorcycles	1.323	0.002	27.397	4.268	0.018	0.008	157.127	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.207	0.003	2.106	0.231	0.047	0.020	335.814	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.522	0.005	3.849	0.520	0.048	0.021	448.364	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.802	0.007	4.527	0.598	0.057	0.024	650.391	0.045
Butte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.398	0.003	0.398	0.036	0.065	0.037	308.162	0.008
Dutte	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.487	0.004	0.472	0.056	0.077	0.049	381.856	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.767	0.013	1.258	0.319	0.215	0.142	1331.724	0.027
	NA	MC	Motorcycles	1.300	0.002	28.290	4.817	0.018	0.008	175.013	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.224	0.003	2.239	0.223	0.047	0.020	331.069	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.561	0.004	4.430	0.640	0.048	0.021	439.015	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.152	0.007	6.318	0.939	0.058	0.025	660.364	0.045
Calaveras	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.462	0.003	0.453	0.040	0.066	0.039	303.568	0.008
Culaverus	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.317	0.004	0.578	0.089	0.096	0.067	367.941	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.732	0.010	1.315	0.330	0.221	0.151	1005.109	0.027
	NA	MC	Motorcycles	1.323	0.002	29.114	5.142	0.018	0.009	176.267	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.164	0.003	1.603	0.181	0.047	0.020	328.832	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.362	0.004	2.662	0.367	0.047	0.020	432.880	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.630	0.006	3.501	0.438	0.054	0.023	636.323	0.045
Colusa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.354	0.003	0.393	0.034	0.064	0.025	306.947	0.008
~~~~	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.313	0.004	0.436	0.055	0.076	0.048	369.939	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.430	0.013	1.169	0.305	0.206	0.135	1351.204	0.027
	NA	MC	Motorcycles	1.300	0.002	27.237	4.253	0.018	0.008	174.972	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.141	0.003	1.526	0.171	0.047	0.020	332.416	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.239	0.004	2.056	0.265	0.047	0.020	434.657	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.511	0.006	3.088	0.363	0.054	0.023	633.285	0.045
Contra Costa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.239	0.003	0.318	0.028	0.060	0.033	309.362	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.183	0.004	0.238	0.028	0.059	0.031	382.569	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.769	0.013	1.136	0.301	0.254	0.159	1333.622	0.027
	NA	MC	Motorcycles	1.300	0.002	28.365	4.304	0.018	0.008	178.433	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.257	0.004	2.347	0.244	0.048	0.020	347.775	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.747	0.005	4.965	0.668	0.049	0.022	463.826	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.063	0.007	5.461	0.771	0.057	0.025	679.733	0.045
Del Norte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.383	0.007	0.469	0.039	0.065	0.023	326.399	0.008
Del None			<i>G</i>								
Del None	Diesel	LDDT	Light-Duty Trucks (0-8.500 lbs)	0.867	0.004	1.597	0.233	0.193	0.159	408.248	0.008
Del None	Diesel Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.867 6.513	0.004	1.597 1.313	0.233	0.193	0.159	408.248 827.717	0.008

Table 5-47 EMFAC County-Specific On-Road Vehicle EFs – 2015 (cont.)

Fuel Type								Emission F	actors (g/m	i)		
Gasoline   LDCV   Light Day Vehicles (Passenger Cars)	County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
Gasoline   IDOT   Light-Day Trucks (0.85,001 bs)   0.001   0.005   2.679   0.363   0.048   0.020   447,445   0.032					NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
El Dorado   Diesel   LDIOV   Light-Duy Vehicles (Rassenger Cars)   0.346   0.003   0.368   0.002   0.006   0.034   0.013   0.016   0.006   0.004   0.018   0.008   0.002   0.004   0.006   0.008   0.008   0.008   0.008   0.009   0.006   0.008   0.008   0.008   0.009   0.006   0.008   0.008   0.008   0.009   0.006   0.008   0.008   0.008   0.009   0.006   0.008   0.008   0.008   0.009   0.006   0.008   0.008   0.008   0.008   0.008   0.008   0.009   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.136	0.003	1.526	0.155	0.047	0.020	335.758	0.031
El Donado   Diesel   LDDV   Light-Day Vehicles (Passenger Cans)   0.346   0.003   0.368   0.002   0.004   310.161   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.301	0.005		0.363	0.048	0.020	447.445	0.032
Diesel   LIDIT   Light-Duty Tracks (0.8,500 lbs)   0.037   0.004   0.356   0.002   0.038   387,608   0.002   0.008		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)		0.007	3.913		0.055	0.023	647.524	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,50) + lbs)	El Dorado	Diesel										
NA												
Gasoline   LDGV   Light-Duty Vehicles (Plasemer Cars)   0.13   0.00   1.43   0.17   0.05   0.02   337.45   0.03												
Gasoline   LDGT   Light-Dury Trucks (0.4-500 hs)   0.29   0.00   2.41   0.37   0.05   0.02   0.24   0.05   0.02   0.24   0.05   0.05   0.02   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05		NA	MC	Motorcycles	1.358	0.002	30.570	5.312	0.018	0.009	183.359	0.051
Gasoline   HDGV   Heavy-Dury Vehicles (8.50.1 + hb)   0.54   0.01   3.29   0.42   0.05   0.02   0.29   4.00   0.05   0.02   0.29   0.03   29.08   0.01   0.05   0.08   0.01   0.05   0.08   0.01   0.05   0.08   0.01   0.05   0.08   0.01   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.13	0.00	1.43	0.17	0.05	0.02	327.45	0.03
Preston		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)			2.41					
Diesel   LIDDY   Light-Duty Tracks (0.8500 lbs)   Diesel   LIDDY   Light-Duty Vehicles (9.501 s lbs)   0.78   0.01   1.12   0.30   0.21   0.41   1557.02   0.03   NA   MC   Motorsveles   1.30   0.00   28.30   4.08   0.02   0.01   170.24   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05		Gasoline		Heavy-Duty Vehicles (8,501 + lbs)								
Diesel   HDDV   Heavy-Day Vehicles (8,501 + lbs)   6,78   0.01   1.12   0.30   0.21   0.14   1557,62   0.03	Fresno	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.21	0.00	0.25		0.06	0.03	291.68	0.01
NA   NC   Motorcycles   1.30   0.00   28.30   4.08   0.02   0.01   170.24   0.05		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.21				0.06	0.04	369.14	
Gasoline   LDGV   Light-Dury Vehicles (Passenger Cars)   0.175   0.003   1.779   0.197   0.047   0.002   340,630   0.031		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)			1.12		0.21		1557.62	
Gasoline   LDGT   Light-Duy Trucks (0.8,500 lbs)   0.49   0.005   3.145   0.438   0.048   0.020   451;220   0.032		NA	MC	Motorcycles	1.30	0.00	28.30	4.08	0.02	0.01	170.24	0.05
Glenn		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.175	0.003	1.779	0.193	0.047	0.020	340.630	0.031
Diesel   LDDV   Light-Dury Vehicles (Passenger Cars)   0.263   0.003   0.359   0.000   0.060   0.072   308.998   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.419	0.005	3.145	0.438	0.048	0.020	451.220	0.032
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0,361   0,004   0,569   0,078   0,090   0,061   377,819   0,008		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.687	0.007	3.959	0.507	0.055	0.024	657.055	0.045
Diesel   HDDV   Heavy-Dury Vehicles (8.501 + lbs)   6.532   0.012   1.220   0.316   0.210   0.141   1299.441   0.027	Glenn	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.263	0.003	0.359	0.030	0.060	0.032	308.998	0.008
NA   MC   Motorcycles   1.293   0.002   27,849   4.592   0.018   0.008   180.223   0.051		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.361	0.004	0.569	0.078	0.090	0.061	377.819	0.008
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.268   0.003   2.437   0.252   0.047   0.020   325,801   0.031		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.532	0.012	1.220	0.316	0.210	0.141	1299.441	0.027
Gasoline   LDGV   Light-Dury Vehicles (Passenger Cars)   0.268   0.003   2.437   0.252   0.047   0.020   325.801   0.031		NA	MC	Motorcycles	1.293	0.002	27.849	4.592	0.018	0.008	180.223	0.051
Humboldt   Gasoline   HDGV   Light-Duty Vehicles (8.501 hbs)   0.637   0.004   4.401   0.583   0.048   0.021   429.245   0.032		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.268		2.437	0.252	0.047	0.020	325.801	0.031
Humboldt   Himport   Heavy-Duty Vehicles (8,501 + hs)   1,083   0,006   5,514   0,785   0,057   0,025   638,296   0,045												
Humboldt   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   Diesel   HDDV   Heavy-Duty Vehicles (Passenger Cars)   Diesel   Di		Gasoline	HDGV		1.083	0.006	5.514	0.785	0.057	0.025	638,296	0.045
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   Disest   LDDV   Light-Duty Vehicles (8,501 + lbs)   Proceedings   Proceeding	Humboldt											
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7,086   0,011   1,356   0,344   0,228   0,156   1119,127   0,027												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.385   0.003   3.446   0.301   0.046   0.019   324.144   0.031		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.086	0.011	1.356	0.344	0.228	0.156	1119.127	0.027
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.408   0.004   3.119   0.529   0.047   0.020   429.002   0.032		NA	MC	Motorcycles	1.379	0.002	30.618	4.646	0.018	0.008	175.324	0.051
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.408   0.004   3.119   0.529   0.047   0.020   429.002   0.032		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.385	0.003	3.446	0.301	0.046	0.019	324.144	0.031
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.741   0.006   4.108   0.556   0.054   0.023   614.289   0.045			LDGT		0.408	0.004	3.119	0.529	0.047	0.020	429.002	0.032
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.222   0.003   0.257   0.022   0.058   0.030   279.365   0.008		Gasoline	HDGV		0.741	0.006	4.108		0.054	0.023	614.289	0.045
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.309   0.003   0.277   0.029   0.061   0.033   355.562   0.008	Imperial	Diesel	LDDV		0.222	0.003	0.257	0.022	0.058	0.030	279.365	0.008
NA   MC   Motorcycles   1.217   0.002   24.612   3.934   0.017   0.008   164.844   0.051		Diesel	LDDT		0.309	0.003	0.277	0.029	0.061	0.033	355.562	0.008
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.193   0.003   1.858   0.212   0.047   0.020   345.155   0.031		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.738	0.013	0.678	0.156	0.180	0.111	1414.975	0.027
Gasoline   LDGT   Light-Duty Vehicles (8,501 + lbs)   0.442   0.005   3.241   0.478   0.048   0.020   455.559   0.032		NA	MC	Motorcycles	1.217	0.002	24.612	3.934	0.017	0.008	164.844	0.051
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.942   0.007   4.992   0.743   0.058   0.025   680.674   0.045		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.193	0.003	1.858	0.212	0.047	0.020	345.155	0.031
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.942   0.007   4.992   0.743   0.058   0.025   680.674   0.045		Gasoline			0.442	0.005		0.478	0.048	0.020	455.559	0.032
Diesel   LDDT   Light-Duty Vehicles (8,501 + lbs)   0.265   0.004   0.391   0.049   0.071   0.042   383.378   0.008		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.942	0.007	4.992	0.743	0.058	0.025	680.674	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.305   0.012   1.192   0.292   0.215   0.135   1282.091   0.027	Inyo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.318	0.003	0.397	0.033	0.062	0.034	312.109	0.008
NA   MC   Motorcycles   1.329   0.002   29.438   4.696   0.018   0.008   182.622   0.051	•	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.265	0.004	0.391	0.049	0.071	0.042	383.378	0.008
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.129   0.004   1.350   0.163   0.047   0.020   355.408   0.031		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.305	0.012	1.192	0.292	0.215	0.135	1282.091	0.027
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.292   0.005   2.337   0.353   0.047   0.020   467.617   0.032		NA	MC		1.329	0.002	29.438	4.696	0.018	0.008	182.622	0.051
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.292   0.005   2.337   0.353   0.047   0.020   467.617   0.032		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.129	0.004	1.350	0.163	0.047	0.020	355.408	0.031
Na		Gasoline	LDGT		0.292	0.005	2.337	0.353	0.047	0.020	467.617	0.032
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.176   0.004   0.259   0.029   0.059   0.031   403.208   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.474   0.015   1.046   0.271   0.194   0.122   1544.871   0.027     NA   MC   Motorcycles   1.305   0.002   29.879   4.168   0.018   0.008   182.953   0.051     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.147   0.003   1.469   0.166   0.047   0.019   327.717   0.031     Gasoline   LDGT   Light-Duty Vehicles (8,501 + lbs)   0.387   0.004   2.913   0.416   0.047   0.020   433.135   0.032     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.590   0.006   3.370   0.422   0.054   0.023   635.467   0.045     Kings   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.201   0.003   0.283   0.023   0.057   0.029   290.729   0.008     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.345   0.003   0.437   0.054   0.075   0.047   362.767   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.749   0.015   1.071   0.281   0.189   0.119   1583.471   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.275   0.027   0.028   0.027   0.028     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.0345   0.003   0.281   0.189   0.119   1583.471   0.027		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.546	0.007	3.224	0.414	0.055	0.023	686.017	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.474   0.015   1.046   0.271   0.194   0.122   1544.871   0.027     NA   MC   Motorcycles   1.305   0.002   29.879   4.168   0.018   0.008   182.953   0.051     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.147   0.003   1.469   0.166   0.047   0.019   327.717   0.031     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.387   0.004   2.913   0.416   0.047   0.020   433.135   0.032     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.590   0.006   3.370   0.422   0.054   0.023   635.467   0.045     Kings   Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.345   0.003   0.283   0.023   0.057   0.029   290.729   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.345   0.003   0.437   0.054   0.075   0.047   362.767   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.749   0.015   1.071   0.281   0.189   0.119   1583.471   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.271   0.021   0.015   0.021   0.018   0.119   1583.471   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.027   0.015   0.015   0.028   0.015   0.018   0.019   0.015   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.027   0.015   0.015   0.028   0.015   0.018   0.019   0.015   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.027   0.015   0.015   0.028   0.015   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0.028   0	Kern	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.189	0.003	0.284	0.022	0.056	0.028	320.244	0.008
NA   MC   Motorcycles   1.305   0.002   29.879   4.168   0.018   0.008   182.953   0.051		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.176	0.004	0.259	0.029	0.059	0.031	403.208	0.008
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.147   0.003   1.469   0.166   0.047   0.019   327.717   0.031		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.474	0.015	1.046	0.271	0.194	0.122	1544.871	0.027
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.387   0.004   2.913   0.416   0.047   0.020   433.135   0.032		NA	MC	Motorcycles	1.305	0.002	29.879	4.168	0.018	0.008	182.953	0.051
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.590   0.006   3.370   0.422   0.054   0.023   635.467   0.045		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.147	0.003	1.469	0.166	0.047	0.019	327.717	0.031
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.590   0.006   3.370   0.422   0.054   0.023   635,467   0.045		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.387	0.004	2.913	0.416	0.047	0.020	433.135	0.032
Kings         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.201         0.003         0.283         0.023         0.057         0.029         290,729         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.345         0.003         0.437         0.054         0.075         0.047         362,767         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         6,749         0.015         1.071         0.281         0.189         0.119         1583,471         0.027												
Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.345         0.003         0.437         0.054         0.075         0.047         362,767         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         6.749         0.015         1.071         0.281         0.189         0.119         1583,471         0.027	Kings		LDDV		0.201	0.003		0.023	0.057	0.029	290.729	0.008
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 6.749 0.015 1.071 0.281 0.189 0.119 1583.471 0.027	ū											
NA MC Motorcycles 1.279 0.002 26.784 3.940 0.017 0.008 170.529 0.051			HDDV						0.189	0.119		0.027
		NA	MC	Motorcycles	1.279	0.002	26.784	3.940	0.017	0.008	170.529	0.051

Table 5-47 EMFAC County-Specific On-Road Vehicle EFs – 2015 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.274	0.003	2.614	0.295	0.048	0.020	337.533	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.587	0.004	4.344	0.642	0.048	0.021	441.679	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.238	0.007	6.678	1.037	0.059	0.026	666.759	0.045
Lake	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.507	0.003	0.500	0.045	0.070	0.042	310.680	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.747	0.004	0.727	0.087	0.096	0.067	380.868	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.193	0.009	1.496	0.390	0.252	0.179	993.144	0.027
	NA	MC	Motorcycles	1.349	0.002	30.793	5.239	0.019	0.009	178.021	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.237	0.004	2.289	0.232	0.047	0.020	356.441	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.535	0.005	4.020	0.550	0.048	0.021	473.917	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.164	0.007	6.282	0.923	0.059	0.025	697.702	0.045
Lassen	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.392	0.003	0.472	0.039	0.065	0.037	325.191	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.323	0.004	0.493	0.066	0.080	0.051	404.219	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.406	0.008	1.352	0.316	0.215	0.140	845.175	0.027
	NA	MC	Motorcycles	1.383	0.003	32.360	5.122	0.018	0.008	191.088	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.138	0.004	1.614	0.173	0.047	0.020	361.483	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.276	0.005	2.492	0.291	0.048	0.021	472.620	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.533	0.007	3.392	0.378	0.056	0.024	671.917	0.045
Los Angeles	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.193	0.003	0.378	0.035	0.062	0.035	321.155	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.203	0.004	0.294	0.038	0.061	0.033	404.447	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.336	0.012	1.449	0.273	0.238	0.151	1366.307	0.027
	NA	MC	Motorcycles	1.232	0.002	24.763	4.480	0.018	0.008	196.699	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.139	0.002	1.591	0.173	0.047	0.020	345.604	0.031
	Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.139	0.005	2.919	0.173	0.047	0.020	458.402	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.608	0.003	3.861	0.423	0.056	0.021	668.520	0.032
Madera	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.008	0.007	0.382	0.033	0.050	0.024	307.587	0.008
Maucia	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.355	0.003	0.382	0.052	0.001	0.033	380.170	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.717	0.004	1.132	0.032	0.071	0.043	1481.033	0.008
	NA	MC		1.261	0.014	27.107	4.099	0.197	0.123	176.559	0.027
		LDGV	Motorcycles	0.141	0.002	1.465	0.175	0.018	0.008	336.031	0.031
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.141	0.003	1.465	0.175		0.020	438.906	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.235	0.004	3.033	0.268	0.047	0.020	645.469	0.032
Marin	Gasoline Diesel	HDGV LDDV	Heavy-Duty Vehicles (8,501 + lbs)	0.323	0.003	0.367	0.030	0.036	0.023	322.956	0.043
Marin	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.299	0.003	0.367	0.030	0.056	0.034	399.129	0.008
		HDDV		7.395	0.004			0.056			0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)			1.615	0.360 4.222		0.207	1280.950	
	NA	MC	Motorcycles	1.317	0.002	28.695		0.018		182.435	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.237	0.003	2.347	0.249	0.047	0.020	344.699	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.694	0.005	5.206	0.729	0.049	0.022	460.618	0.032
Madana	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.165	0.007	6.358	0.953	0.058	0.026	679.045	0.045
Mariposa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.555	0.003	0.557	0.052	0.073	0.045	320.125	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.673 6.723	0.004	1.192 1.340	0.190	0.163	0.131 0.144	381.886	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)		0.008		0.324	0.216		816.862	0.027
	NA Constitute	MC	Motorcycles	1.353	0.002	31.213	5.291	0.018	0.009	184.074	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.235	0.003	2.198	0.227	0.047	0.020	322.727	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.624	0.004	4.449	0.596	0.048	0.021	428.144	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.092	0.007	5.661	0.800	0.058	0.025	644.248	0.045
Mendocino	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.821	0.003	0.633	0.057	0.078	0.050	312.953	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.659	0.004	0.746	0.095	0.102	0.073	375.288	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.955	0.012	1.298	0.342	0.223	0.153	1244.548	0.027
	NA C. J.	MC	Motorcycles	1.355	0.002	29.867	4.639	0.018	0.008	174.165	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.149	0.003	1.637	0.182	0.047	0.020	339.302	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.335	0.005	2.802	0.396	0.048	0.021	447.247	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.610	0.007	3.788	0.455	0.056	0.024	655.237	0.045
Merced	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.324	0.003	0.372	0.031	0.061	0.034	305.881	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.319	0.004	0.403	0.049	0.072	0.043	380.877	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.884	0.015	1.100	0.290	0.198	0.125	1583.670	0.027
	NA	MC	Motorcycles	1.267	0.002	27.273	3.810	0.018	0.008	173.311	0.051

Table 5-47 EMFAC County-Specific On-Road Vehicle EFs – 2015 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NOx	SO <sub>x</sub>	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.261	0.004	2.546	0.246	0.048	0.021	396.318	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.610	0.005	4.569	0.579	0.049	0.022	526.730	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.330	0.008	7.279	1.062	0.059	0.026	754.149	0.045
Modoc	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.368	0.003	0.599	0.051	0.068	0.040	361.058	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.559	0.005	0.588	0.063	0.073	0.045	477.717	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.494	0.009	1.310	0.318	0.209	0.136	898.589	0.027
	NA	MC	Motorcycles	1.397	0.003	33.980	5.525	0.018	0.008	213.238	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.206	0.003	1.928	0.185	0.047	0.020	333.000	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.478	0.004	3.415	0.431	0.047	0.020	443.910	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.005	0.007	5.313	0.709	0.058	0.025	658.865	0.045
Mono	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.393	0.003	0.458	0.040	0.066	0.038	315.226	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.738	0.004	0.606	0.061	0.079	0.050	398.751	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.307	0.013	1.140	0.290	0.198	0.127	1330.026	0.027
	NA	MC	Motorcycles	1.464	0.003	35.540	5.003	0.018	0.008	183.636	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.205	0.004	2.044	0.214	0.048	0.020	355.078	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.470	0.005	3.354	0.418	0.048	0.021	473.095	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.753	0.007	4.157	0.477	0.057	0.024	687.209	0.045
Monterey	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.332	0.003	0.480	0.043	0.067	0.039	327.886	0.008
•	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.257	0.004	0.405	0.053	0.070	0.042	410.168	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.725	0.012	1.346	0.334	0.251	0.165	1288.127	0.027
	NA	MC	Motorcycles	1.277	0.002	27.245	3.994	0.018	0.008	186.206	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.145	0.003	1.577	0.168	0.047	0.020	322,685	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.284	0.004	2.431	0.320	0.047	0.020	425.039	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.626	0.006	3.713	0.454	0.056	0.024	641.484	0.045
Napa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.270	0.003	0.329	0.029	0.061	0.033	302.672	0.008
rupu	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.139	0.004	0.192	0.023	0.055	0.028	376.241	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.814	0.012	1.173	0.314	0.226	0.150	1305.399	0.027
	NA	MC	Motorcycles	1.292	0.002	27.252	4.059	0.018	0.008	172.650	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.200	0.003	1.955	0.206	0.047	0.020	320,375	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.469	0.004	3.338	0.433	0.048	0.020	431.012	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.833	0.006	4.524	0.590	0.056	0.024	630.199	0.045
Nevada	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.480	0.003	0.448	0.039	0.067	0.039	303.076	0.008
rievada	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.691	0.004	0.567	0.060	0.080	0.051	384.539	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.592	0.012	1.200	0.306	0.198	0.131	1249.851	0.027
	NA	MC	Motorcycles	1.394	0.002	31.585	4.999	0.018	0.009	172.693	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.003	1.346	0.116	0.151	0.047	0.020	338.065	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.003	1.880	0.203	0.226	0.047	0.020	441.569	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.004	2.974	0.470	0.337	0.055	0.023	639,369	0.045
Orange	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.003	0.284	0.148	0.024	0.057	0.029	304.103	0.008
Grange	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.003	0.284	0.148	0.024	0.057	0.029	383.503	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	0.004	1.168	5.480	0.220	0.234	0.149	1202.749	0.027
	NA	MC	Motorcycles	0.002	24.080	1.224	4.261	0.018	0.008	185.166	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.002	1.462	0.132	0.156	0.047	0.019	324.524	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8.500 lbs)	0.003	2.106	0.132	0.130	0.047	0.020	426.752	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.004	3.237	0.527	0.390	0.054	0.023	629.030	0.032
Placer	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.003	0.332	0.310	0.029	0.061	0.023	298.180	0.008
1.1001	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.003	0.332	0.269	0.023	0.062	0.035	370.292	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	0.012	1.086	6.016	0.034	0.203	0.129	1286.973	0.027
	NA	MC	Motorcycles	0.002	28.808	1.332	4.434	0.018	0.008	173.293	0.027
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.002	2.547	0.252	0.257	0.018	0.003	369,928	0.031
	Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.004	4.817	0.629	0.599	0.048	0.021	497.290	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.003	7.408	1.354	1.040	0.049	0.022	713.586	0.032
Plumas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.007	0.571	0.431	0.051	0.039	0.020	341.556	0.043
1 milas	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	1.000	1.000	1.000	1.000	1.000	1.000	1.170	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	0.009	1.387	6.836	0.338	0.225	0.154	962.065	0.008
	NA	MC	Motorcycles	0.003	33.171	1.376	5.623	0.223	0.009	199,556	0.027
	NA	IVIC	ivioloteyeles	0.003	33.1/1	1.570	3.023	0.019	0.009	199.330	0.031

Table 5-47 EMFAC County-Specific On-Road Vehicle EFs – 2015 (cont.)

County   Puel Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type   Vehicle Type				Title councy speems				Emission E		(00)		
Casoline   LDGY   Light Day Vehicles (Passenger Can)   O.   O.   O.   O.   O.   O.   O.   O	County	Fuel Type		Vahiela Typa								
Gasoline   LDCV   Light-Pur Vehicles (Passenger Cars)   0.120   0.013   1.344   0.155   0.016   0.019   326.652   0.031	County	ruei Type		venicie Type	NO	SO					CO.	NH.1
Gasoline   LDGT   Ligh-Duty Trucks (0-5.500 lbs)   0.239   0.004   2.116   0.285   0.047   0.000   4.55.500   0.032		Gasolina	LDGV	Light Duty Vahicles (Passanger Care)					10			
Gaooline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.594   0.006   3.092   0.372   0.054   0.023   6.13,648   0.045												
Privenside   Diesel   LIDDV   Lighe Duty Vehicles (Passenger Cars)   0.197   0.003   0.253   0.021   0.025   0.029   2.014.33   0.008												
Diesel   LDDT   Light-Duy Trucks of 8-500 lbs)   0.148   0.003   0.220   0.027   0.059   0.031   362.352   0.003     NA	Riverside											
Direct   InDIV   Reavy-Duty Vehicles (\$5.01 + InD)   5.823   0.013   0.849   0.173   0.194   0.121   1336.315   0.027	Taveloide											
NA			1									
Gasoline   LDGV   Light-Duy Vehicles (Plasenger Cars)   0.145   0.003   1.650   0.181   0.047   0.000   34.888   0.031												
Gasoline   LDGT   Light-Duy Trucks (0.8,500 hs)   0.266   0.004   2.396   0.313   0.047   0.002   485.685   0.032												
Sacrimento   Gaodine   HighV   Heavy-Duty Vehicles (Passenger Cary)   0.589   0.007   0.364   0.035   0.005   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008												
Diesel   LDDT   Light-Dary Vehicles (Passenger Cars)   0.277   0.003   0.346   0.032   0.062   0.033   30.0035   0.008			1									
Diesel   IDDT   Light-Duty Tracks (0.8.500 lbs)   0.691   0.004   0.632   0.076   0.090   0.061   379.572   0.008	Sacramento		LDDV									
Diesel HDDV   Heavy-Duty Vehicles (8.501 + lbs)   6.817   0.012   1.477   0.310   0.234   0.150   1283.447   0.027			LDDT									
NA   MC   Motorcycles   1,273   0,002   26,745   4,431   0,018   0,008   176,404   0,051		Diesel	HDDV		6.817	0.012	1.477	0.310	0.234	0.150	1283.447	0.027
San Bernardino   Casoline   LiDGT   Light-Duty Trucks (0-8.500 lbs)   0.366   0.004   2.639   0.357   0.047   0.020   417.385   0.032		NA	MC		1.273	0.002	26.745	4.431	0.018	0.008	176.404	0.051
San Bernardino   Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.655   0.006   3.621   0.0444   0.054   0.023   618,403   0.045		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.159	0.003	1.557	0.151	0.047	0.020	315.364	0.031
San Benito   Diesel   LDDV   Light-Dury Vehicles (Passenger Cars)   0.411   0.003   0.581   0.0631   0.062   0.034   370.072   0.008					0.360					0.020		
Diesel   IDDT   Light-Dury Trucks (0-8,500 lbs)   0.050   0.004   0.153   0.019   0.052   0.024   375.022   0.008		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.655	0.006	3.621	0.444	0.054	0.023	618.403	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6,868   0,015   1,171   0,317   0,205   0,137   1541,181   0,002   NA   MC   Motorcycles   1,111   0,002   1,275   3,191   0,018   0,008   168,070   0,051   1,008   1,008   1,008   1,007   0,003   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,007   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,008   1,0	San Benito	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.411	0.003	0.381	0.031	0.062	0.034	300.574	0.008
San Diego   NA		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.050	0.004	0.153	0.019	0.052	0.024	375.022	0.008
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.137   0.003   1.471   0.159   0.047   0.020   333.045   0.031		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.868	0.015	1.171	0.317	0.205	0.137	1541.181	0.027
San Bernardino   Gasoline   LDGT   Light-Duty Vehicles (8.501 + lbs)   0.298   0.004   2.461   0.320   0.047   0.020   435.948   0.032		NA	MC	Motorcycles	1.311	0.002	27.573	3.913	0.018	0.008	168.070	0.051
Gasoline   HDGV   Heavy-Duty Vehicles (R501 hbs)   0.298   0.004   2.461   0.320   0.047   0.020   435.948   0.032		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	1.471	0.159	0.047	0.020	333.045	0.031
Diesel   LIDDY   Light-Duty Vehicles (Passenger Cars)   0.189   0.003   0.270   0.022   0.057   0.029   296.733   0.008		Gasoline	LDGT		0.298	0.004	2.461	0.320	0.047	0.020	435.948	0.032
Diesel   LIDDT   Light-Duty Trucks (0-8,500 lbs)   Diesel   LIDDT   Light-Duty Chicles (8,501 + lbs)   Diesel   LIDGT   Light-Duty Chicles (8,501 + lbs)   Diesel   DIDT   Light-Duty Chicles (8,501 + lbs)   Diesel   LIDGT   Light-Duty Chicles (8,501 + lbs)   Diesel   DIDT   Light-Duty Chicles (8,501 + lbs)   Diesel	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.565	0.006	3.342	0.394	0.055	0.023	628.457	0.045	
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5,899   0.013   0.965   0.193   0.196   0.121   1352,324   0.027	San Bernardino	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.189	0.003	0.270	0.022	0.057	0.029	296.733	0.008
NA MC   Motorcycles   1.270   0.002   26.942   3.791   0.018   0.008   172.193   0.051		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.201	0.004	0.264	0.032	0.061	0.034	370.969	0.008
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.148   0.003   1.494   0.163   0.047   0.020   345.243   0.031		Diesel	HDDV		5.899	0.013	0.965		0.196	0.121	1352.324	0.027
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.242   0.005   2.055   0.274   0.047   0.020   455.032   0.032     Gasoline   LDDV   Light-Duty Vehicles (8,501 + lbs)   0.491   0.007   2.932   0.356   0.055   0.023   0.023     Diesel   LDDV   Light-Duty Vehicles (Rasenger Cars)   0.202   0.003   0.317   0.026   0.058   0.031   323.478   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.221   0.004   0.316   0.037   0.064   0.036   405.113   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.455   0.012   1.443   0.315   0.238   0.152   1335.717   0.027     NA   MC   Motorcycles   1.268   0.002   26.892   4.057   0.018   0.008   187.983   0.051     Gasoline   LDGT   Light-Duty Vehicles (Rasenger Cars)   0.133   0.004   1.509   0.169   0.047   0.020   363.482   0.031     Gasoline   LDGT   Light-Duty Vehicles (Rasenger Cars)   0.206   0.005   1.884   0.235   0.047   0.020   470.113   0.035     Gasoline   HDGV   Heavy-Duty Vehicles (Rasenger Cars)   0.191   0.003   0.395   0.031   0.058   0.030   339.132   0.008     Diesel   LDDT   Light-Duty Vehicles (Rasenger Cars)   0.191   0.003   0.395   0.031   0.058   0.030   339.132   0.008     Diesel   LDDT   Light-Duty Vehicles (Rasenger Cars)   0.191   0.003   0.395   0.031   0.058   0.030   339.132   0.008     Diesel   HDDV   Heavy-Duty Vehicles (Rasenger Cars)   0.191   0.003   0.395   0.031   0.058   0.030   339.132   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.209   0.004   0.312   0.038   0.059   0.032   421.289   0.008     Diesel   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.29   0.001   1.48   0.07   0.05   0.02   335.42   0.03     Gasoline   LDGT   Light-Duty Vehicles (Rasenger Cars)   0.14   0.00   1.48   0.17   0.05   0.02   335.42   0.03     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.57   0.01   3.38   0.42   0.05   0.02   440.87   0.03     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.57   0.01   3.38   0.42   0.05   0.02   440.44   0.05     Diesel   LDDT   Light-Duty Vehicles (Rasenger Cars)		NA	MC		1.270	0.002	26.942	3.791	0.018	0.008	172.193	0.051
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.491   0.007   2.932   0.356   0.055   0.023   662.716   0.045		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)		0.003	1.494	0.163	0.047	0.020	345.243	0.031
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   D.202   D.003   D.317   D.026   D.058   D.031   323.478   D.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.242	0.005	2.055	0.274	0.047	0.020	455.032	0.032
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.221   0.004   0.316   0.037   0.064   0.036   405,113   0.008												
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.495   0.012   1.443   0.315   0.238   0.152   1335,717   0.027	San Diego	Diesel	LDDV									
NA   MC   Motorcycles   1.268   0.002   26.892   4.057   0.018   0.008   187.983   0.051												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.133   0.004   1.509   0.169   0.047   0.020   363.482   0.031				Heavy-Duty Vehicles (8,501 + lbs)								
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.206   0.005   1.884   0.235   0.047   0.020   470.113   0.032												
San Francisco   Diesel   LDDV   Light-Duty Vehicles (8,501 + lbs)   0.555   0.007   3.217   0.395   0.062   0.026   714.879   0.045												
San Francisco   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.191   0.003   0.395   0.031   0.058   0.030   339.132   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.206	0.005	1.884	0.235	0.047	0.020	470.113	0.032
Diesel   IDDT   Light-Duty Trucks (0-8,500 lbs)   0.209   0.004   0.312   0.038   0.059   0.032   421.289   0.008		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.555	0.007	3.217	0.395	0.062	0.026	714.879	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   8.129   0.014   1.952   0.428   0.385   0.246   1477.608   0.027	San Francisco	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.191	0.003	0.395	0.031	0.058	0.030	339.132	0.008
NA   MC   Motorcycles   1.285   0.003   27.498   4.670   0.018   0.008   198.935   0.051		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.209	0.004	0.312	0.038	0.059	0.032	421.289	0.008
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.14   0.00   1.48   0.17   0.05   0.02   335.42   0.03		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	8.129	0.014	1.952	0.428	0.385	0.246	1477.608	0.027
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.29   0.00   2.36   0.33   0.05   0.02   440.87   0.03		NA	MC		1.285	0.003	27.498	4.670	0.018	0.008	198.935	0.051
San Joaquin   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.57   0.01   3.38   0.42   0.05   0.02   640.44   0.05		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.14	0.00	1.48	0.17	0.05	0.02	335.42	0.03
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.28   0.00   0.31   0.03   0.06   0.03   306.39   0.01		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.29	0.00	2.36	0.33	0.05	0.02	440.87	0.03
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.31   0.00   0.35   0.04   0.07   0.04   380.19   0.01		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.57	0.01	3.38	0.42	0.05	0.02	640.44	0.05
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.64   0.01   1.19   0.30   0.21   0.14   1421.92   0.03     NA   MC   Motorcycles   1.31   0.00   29.38   4.21   0.02   0.01   177.20   0.05     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.163   0.003   1.589   0.171   0.047   0.020   316.954   0.031     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.404   0.004   2.849   0.373   0.047   0.020   424.852   0.032     Gasoline   HDGV   Heavy-Duty Vehicles (8.501 + lbs)   0.703   0.006   3.805   0.485   0.056   0.024   630.042   0.045     San Luis Obispo   Diesel   LDDV   Light-Duty Vehicles (8.591 et al. (2.849   0.373   0.027   0.060   0.032   302.982   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.271   0.004   0.371   0.047   0.047   0.048     Diesel   HDDV   Heavy-Duty Vehicles (8.501 + lbs)   0.271   0.004   0.371   0.047   0.043   372.534   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8.501 + lbs)   0.6690   0.010   1.289   0.327   0.231   0.156   1103.290   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8.501 + lbs)   0.6690   0.010   1.289   0.327   0.231   0.156   1103.290   0.027	San Joaquin	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.28	0.00	0.31	0.03	0.06	0.03	306.39	0.01
NA   MC   Motorcycles   1.31   0.00   29.38   4.21   0.02   0.01   177.20   0.05		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.31	0.00	0.35	0.04	0.07	0.04	380.19	0.01
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.163   0.003   1.589   0.171   0.047   0.020   316.954   0.031		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.64	0.01	1.19	0.30	0.21	0.14	1421.92	0.03
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.404   0.004   2.849   0.373   0.047   0.020   424.852   0.032		NA	MC		1.31	0.00	29.38	4.21	0.02	0.01	177.20	0.05
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.404   0.004   2.849   0.373   0.047   0.020   424.852   0.032		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	1.589	0.171	0.047	0.020	316.954	0.031
Gasoline         HDGV         Heavy-Duty Vehicles (8,501 + lbs)         0.703         0.006         3.805         0.485         0.056         0.024         630.042         0.045           San Luis Obispo         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.305         0.003         0.335         0.027         0.060         0.032         302.982         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.271         0.004         0.371         0.047         0.071         0.043         372.534         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         6.690         0.010         1.289         0.327         0.231         0.156         1103.290         0.027												
San Luis Obispo         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.305         0.003         0.335         0.027         0.060         0.032         302,982         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.271         0.004         0.371         0.047         0.071         0.043         372.534         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         6.690         0.010         1.289         0.327         0.231         0.156         1103.290         0.027			1									
Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.271         0.004         0.371         0.047         0.071         0.043         372.534         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         6.690         0.010         1.289         0.327         0.231         0.156         1103.290         0.027	San Luis Obispo											
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 6.690 0.010 1.289 0.327 0.231 0.156 1103.290 0.027												
			1									
1.347   0.002   20.071   4.302   0.010   0.000   173.200   0.031		NA	MC	Motorcycles	1.347	0.002	28.691	4.582	0.018	0.008	173.260	0.051

Table 5-47 EMFAC County-Specific On-Road Vehicle EFs – 2015 (cont.)

			- Specific				Emission E		<u> </u>		
County	Fuel Type		Vehicle Type					actors (g/m ind Ozone I			
County	ruei Type		venicie Type	NO <sub>v</sub>	SO <sub>v</sub>	CO	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.127	0.003	1.368	0.163	0.047	0.020	321.151	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.127	0.003	1.607	0.103	0.047	0.020	413.520	0.031
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.455	0.004	2.701	0.335	0.055	0.023	614.650	0.045
San Mateo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.195	0.003	0.269	0.023	0.057	0.030	299.611	0.008
Sun Muco	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.100	0.004	0.153	0.019	0.053	0.025	370.728	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.126	0.012	1.339	0.319	0.303	0.193	1263.288	0.027
	NA	MC	Motorcycles	1.251	0.002	24.481	3.591	0.018	0.008	177.238	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.181	0.003	1.733	0.194	0.047	0.020	307.518	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.429	0.004	2.943	0.402	0.047	0.020	412.354	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.717	0.006	3.851	0.482	0.062	0.026	622.516	0.045
Santa Barbara	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.271	0.003	0.296	0.024	0.059	0.031	294.244	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.232	0.003	0.280	0.034	0.063	0.035	358.963	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.877	0.012	1.368	0.335	0.278	0.183	1265.126	0.027
	NA	MC	Motorcycles	1.305	0.002	25.956	3.700	0.018	0.008	165.731	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.135	0.003	1.488	0.167	0.047	0.020	324.626	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.249	0.004	2.144	0.275	0.047	0.020	427.791	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.543	0.006	3.290	0.398	0.055	0.023	623.927	0.045
Santa Clara	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.204	0.003	0.271	0.022	0.057	0.029	299.332	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.136	0.004	0.202	0.025	0.057	0.029	373.705	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.794	0.013	1.225	0.321	0.250	0.164	1373.543	0.027
	NA	MC	Motorcycles	1.267	0.002	25.433	4.033	0.018	0.008	176.208	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.220	0.003	2.208	0.223	0.048	0.020	341.307	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.511	0.005	3.689	0.474	0.048	0.021	455.691	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.809	0.007	4.465	0.535	0.058	0.025	666.891	0.045
Santa Cruz	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.505	0.003	0.540	0.052	0.074	0.045	324.336	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.340	0.004	0.396	0.050	0.070	0.042	387.780	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.691	0.011	1.611	0.400	0.315	0.216	1199.576	0.027
	NA	MC	Motorcycles	1.322	0.002	28.625	4.767	0.018	0.009	183.253	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.184	0.003	1.880	0.207	0.047	0.020	343.781	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.427	0.005	3.175	0.442	0.048	0.020	456.747	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.784	0.007	4.442	0.610	0.057	0.025	670.467	0.045
Shasta	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.392	0.003	0.431	0.037	0.065	0.037	311.617	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.401	0.004	0.494	0.063	0.080	0.051	385.876	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.866	0.013	1.204	0.315	0.209	0.138	1337.439	0.027
	NA C. V.	MC LDGV	Motorcycles	0.230	0.002	29.943 2.271	5.027 0.217	0.018	0.008	181.870 380.059	0.051
	Gasoline		Light-Duty Vehicles (Passenger Cars)					0.048			0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.545	0.005	4.065	0.488		0.021	503.574	0.032
a:	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.155	0.007	6.289	0.843	0.058	0.026	727.352	0.045
Sierra	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.214	0.003	0.487	0.038	0.060	0.032	345.678	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.371	0.004	0.694	0.106	0.102	0.073	425.332	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.474	0.008	1.341	0.309	0.201	0.130	882.196	0.027
	NA	MC	Motorcycles	1.378	0.003	33.135	5.467	0.019	0.009	205.268	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.235	0.004	2.253	0.222	0.048	0.020	367.964	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.562	0.005	4.113	0.539	0.048	0.021	487.985	0.032
G!-1-!	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.127	0.007	6.147	0.861	0.059	0.026	707.648	0.045
Siskiyou	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.418	0.003	0.542	0.046	0.068	0.040	340.565	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.455	0.004	0.668	0.090	0.094	0.065	418.514	0.008
	Diesel NA	HDDV MC	Heavy-Duty Vehicles (8,501 + lbs)	6.661 1.404	0.014	1.185 34.045	0.306 5.347	0.201	0.131	1418.436 198.248	0.027 0.051
		LDGV	Motorcycles	0.136	0.003	1.403	0.163	0.018	0.009	341.512	
	Gasoline Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.136	0.003	2.092	0.163	0.047	0.020	341.512 448.197	0.031
	Gasoline	HDGV	Light-Duty Trucks (0-8,500 lbs)	0.257	0.005	3.181	0.293	0.047	0.020	662.421	0.032
Solano	Diesel	LDDV	Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars)	0.550	0.007	0.324	0.403	0.056	0.024	318.062	0.045
Solano	Diesel	LDDV		0.248	0.003	0.324	0.026	0.059	0.032	392.838	0.008
	Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	6.576	0.004	1.211	0.036	0.064	0.036	392.838 1401.488	0.008
	NA	MC		1.316	0.013	30.021	4.024	0.214	0.135	181.976	0.027
	INA	MC	Motorcycles	1.310	0.002	30.021	4.024	0.018	0.008	101.970	0.051

Table 5-47 EMFAC County-Specific On-Road Vehicle EFs – 2015 (cont.)

			Trie councy speem				Emission E		<u>, (co.</u>		
County	Fuel Type		Vehicle Type					actors (g/m ind Ozone I			
County	ruei Type		venicie Type	NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.169	0.003	1.779	0.190	0.047	0.020	340.948	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.332	0.005	2.740	0.369	0.048	0.020	446.394	0.031
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.713	0.007	4.047	0.536	0.056	0.024	665.800	0.045
Sonoma	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.438	0.003	0.471	0.042	0.069	0.041	326.608	0.008
Donoma	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.199	0.004	0.335	0.045	0.069	0.041	391.680	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.453	0.011	1.195	0.319	0.235	0.158	1185.139	0.027
	NA	MC	Motorcycles	1.316	0.002	29.406	4.602	0.018	0.008	183.398	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.150	0.003	1.675	0.189	0.047	0.020	342.726	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.312	0.005	2.706	0.380	0.048	0.020	450.738	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.592	0.007	3.701	0.459	0.055	0.023	651.772	0.045
Stanislaus	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.295	0.003	0.365	0.031	0.061	0.033	306.559	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.231	0.004	0.320	0.039	0.064	0.037	382.239	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.626	0.013	1.112	0.299	0.208	0.136	1421.373	0.027
	NA	MC	Motorcycles	1.302	0.002	28.977	4.689	0.018	0.008	179.762	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	1.676	0.182	0.047	0.019	313.808	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.412	0.004	3.065	0.434	0.047	0.020	417.349	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.663	0.006	3.821	0.489	0.053	0.023	609.942	0.045
Sutter	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.279	0.003	0.287	0.025	0.059	0.031	282.409	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.233	0.003	0.314	0.043	0.069	0.041	342.509	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.315	0.014	1.029	0.280	0.194	0.125	1415.033	0.027
	NA	MC	Motorcycles	1.318	0.002	26.910	4.981	0.018	0.008	170.895	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.182	0.003	1.790	0.187	0.047	0.020	339.727	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.471	0.005	3.400	0.465	0.048	0.021	452.453	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.763	0.007	4.307	0.565	0.055	0.024	656.959	0.045
Tehama	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.371	0.003	0.420	0.035	0.064	0.036	311.945	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.475	0.004	0.614	0.078	0.090	0.061	384.746	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.793	0.013	1.194	0.311	0.202	0.133	1399.573	0.027
	NA	MC	Motorcycles	1.351	0.002	30.390	4.801	0.018	0.008	182.033	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.273	0.004	2.667	0.262	0.048	0.021	404.607	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.827	0.005	5.992	0.746	0.051	0.023	539.639	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.358	0.008	7.323	1.054	0.059	0.027	766.283	0.045
Trinity	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.596	0.004	0.784	0.079	0.088	0.059	367.392	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.653	0.004	1.358	0.224	0.181	0.148	447.179	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.020	0.013	1.287	0.332	0.208	0.140	1324.107	0.027
	NA C	MC LDGV	Motorcycles	1.378 0.138	0.003	35.737 1.496	6.115 0.175	0.019	0.009	214.572 325.615	0.051
	Gasoline		Light-Duty Vehicles (Passenger Cars)		0.003						0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.339		2.799	0.427	0.048	0.020	428.613	0.032
m 1	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.576	0.006	3.565	0.441	0.053	0.022	621.927	0.045
Tulare	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.220	0.003	0.261	0.022	0.057	0.030	288.208	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.445	0.003	0.544	0.067	0.085	0.056	360.355	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.587	0.013	1.144	0.300	0.210	0.137	1425.366	0.027
	NA	MC	Motorcycles	1.304	0.002	27.898	4.416	0.018	0.008	171.277	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.268	0.003	2.607	0.269	0.048	0.020	345.711	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.643	0.005	4.849	0.648	0.049	0.022	457.008	0.032
T 1	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.163	0.007	6.268	0.892	0.057	0.025	671.903	0.045
Tuolumne	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.443	0.003	0.472	0.041	0.066	0.038	315.035	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.695	0.004	0.772	0.104	0.106	0.077	393.044	0.008
	Diesel NA	HDDV MC	Heavy-Duty Vehicles (8,501 + lbs)	6.741 1.360	0.009	1.373 31.690	0.339 5.380	0.234	0.158	908.560 183.793	0.027
		LDGV	Motorcycles	0.130	0.002	1.449	0.160	0.019	0.009	329.657	
	Gasoline Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.130	0.003	2.168	0.160	0.047	0.020	431.445	0.031
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.244	0.004	3.226	0.281	0.047	0.020	625.546	0.032
Ventura	Diesel	LDDV	Light-Duty Vehicles (8,501 + 10s)  Light-Duty Vehicles (Passenger Cars)	0.329	0.006	0.324	0.390	0.055	0.023	305.294	0.045
ventura	Diesel	LDDV		0.215	0.003	0.324	0.029	0.060	0.032	305.294	0.008
	Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	5.978	0.004	1.078	0.033	0.061	0.033	1136.582	0.008
	NA	MC	Motorcycles	1.299	0.001	27.088	4.962	0.215	0.140	185.593	0.027
	INA	IVIC	iviolotcycles	1.299	0.002	27.088	4.902	0.018	0.008	103.393	0.051

Table 5-47 EMFAC County-Specific On-Road Vehicle EFs – 2015 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NO <sub>x</sub>	SO <sub>x</sub>	со	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.145	0.003	1.550	0.177	0.047	0.020	334.449	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.243	0.004	2.059	0.286	0.047	0.020	432.132	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.538	0.006	3.171	0.396	0.055	0.023	640.839	0.045
Yolo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.384	0.003	0.390	0.033	0.064	0.036	309.606	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.314	0.004	0.327	0.035	0.064	0.036	378.486	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.763	0.012	1.164	0.278	0.220	0.140	1302.503	0.027
	NA	MC	Motorcycles	1.308	0.002	28.794	4.290	0.018	0.008	175.220	0.051
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.169	0.003	1.715	0.178	0.047	0.020	324.282	0.031
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.492	0.004	3.569	0.479	0.048	0.021	435.580	0.032
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.801	0.006	4.538	0.585	0.055	0.024	628.860	0.045
Yuba	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.287	0.003	0.322	0.028	0.060	0.032	296.489	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.325	0.003	0.329	0.040	0.066	0.038	353.627	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.779	0.010	1.363	0.335	0.245	0.162	1022.459	0.027
	NA	MC	Motorcycles	1.306	0.002	27.807	4.374	0.018	0.008	171.089	0.051

Table 5-48 EMFAC County-Specific On-Road Vehicle EFs – 2016

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NOx	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.133	0.003	1.439	0.161	0.047	0.020	327.966	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.218	0.004	1.879	0.245	0.047	0.020	425.739	0.030
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.516	0.006	3.051	0.375	0.055	0.023	632.889	0.045
Alameda	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.252	0.003	0.331	0.027	0.059	0.032	306.385	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.156	0.004	0.227	0.027	0.057	0.030	375.490	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.351	0.014	1.110	0.283	0.228	0.143	1477.411	0.027
	NA	MC	Motorcycles	1.276	0.002	26.345	4.026	0.018	0.008	181.010	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.179	0.003	1.761	0.161	0.047	0.020	304.168	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.402	0.004	3.034	0.370	0.047	0.020	401.202	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.925	0.006	4.850	0.644	0.057	0.024	618.858	0.045
Alpine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.257	0.003	0.319	0.026	0.058	0.030	284.212	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.191	0.003	0.252	0.031	0.059	0.032	348.965	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.804	0.014	1.029	0.251	0.184	0.111	1417.972	0.027
	NA	MC	Motorcycles	1.397	0.002	30.025	4.452	0.018	0.008	171.533	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.194	0.003	1.869	0.202	0.047	0.020	293.584	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.475	0.004	3.594	0.548	0.047	0.020	388.736	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.004	0.006	5.373	0.839	0.058	0.025	606.606	0.045
Amador	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.410	0.003	0.325	0.027	0.061	0.033	271.693	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.265	0.003	0.394	0.054	0.077	0.049	322.410	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.465	0.009	1.279	0.320	0.221	0.149	957.459	0.027
	NA	MC	Motorcycles	1.317	0.002	26.942	4.257	0.018	0.008	157.725	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.178	0.003	1.828	0.198	0.047	0.020	330.327	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.465	0.004	3,465	0.471	0.048	0.021	441.228	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.751	0.007	4.266	0.574	0.056	0.024	645.137	0.045
Butte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.330	0.003	0.362	0.031	0.062	0.034	302.947	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.404	0.004	0.410	0.049	0.072	0.044	375.145	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.283	0.013	1.161	0.287	0.199	0.127	1339.266	0.027
	NA	MC	Motorcycles	1.294	0.002	27.770	4.800	0.018	0.008	176.387	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.197	0.003	1.975	0.197	0.047	0.020	323.775	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.508	0.004	4.029	0.596	0.048	0.021	430.739	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.100	0.007	6.023	0.926	0.058	0.025	653.185	0.045
Calaveras	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.390	0.003	0.420	0.036	0.063	0.036	297.130	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.261	0.003	0.497	0.075	0.087	0.058	361.514	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.429	0.010	1.248	0.310	0.211	0.141	1023,993	0.027
	NA	MC	Motorcycles	1.314	0.002	28.315	5.059	0.018	0.009	177.145	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.142	0.003	1.401	0.159	0.047	0.020	321.277	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.314	0.004	2.343	0.328	0.047	0.020	421.791	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.589	0.006	3.296	0.426	0.054	0.023	628.173	0.045
Colusa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.239	0.003	0.309	0.025	0.058	0.031	292.613	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.251	0.003	0.365	0.045	0.070	0.042	361.392	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.942	0.013	1.074	0.273	0.190	0.120	1358.042	0.027
	NA	MC	Motorcycles	1.291	0.002	26.377	4.190	0.018	0.008	175.837	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.124	0.003	1.352	0.152	0.047	0.020	325.063	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.209	0.004	1.834	0.240	0.047	0.020	424.030	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.473	0.006	2.887	0.350	0.054	0.023	623.422	0.045
Contra Costa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.194	0.003	0.286	0.024	0.058	0.030	301.643	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.149	0.004	0.210	0.025	0.057	0.029	373.730	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.197	0.013	1.043	0.269	0.238	0.144	1327.799	0.027
	NA	MC	Motorcycles	1.279	0.002	26.602	4.084	0.018	0.008	179.728	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.223	0.003	2.047	0.214	0.047	0.020	340,705	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.679	0.005	4.530	0.624	0.049	0.022	456.504	0.030
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	1.014	0.007	5.226	0.761	0.057	0.024	672.695	0.045
Del Norte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.330	0.007	0.441	0.035	0.063	0.035	321.058	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.737	0.004	1.372	0.199	0.170	0.138	399.771	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.311	0.008	1.288	0.305	0.205	0.134	837.711	0.027
	NA	MC	Motorcycles	1.369	0.002	30.994	4.959	0.018	0.009	188.525	0.052
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Table 5-48 EMFAC County-Specific On-Road Vehicle EFs – 2016 (cont.)

						-	Emission F	actors (g/m	i)		
County	Fuel Type	7	ehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		,
				NO <sub>x</sub>	SO <sub>x</sub>	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.118	0.003	1.340	0.137	0.047	0.020	327.693	0.029
	Gasoline	LDGT Light-Duty To	rucks (0-8,500 lbs)	0.270	0.004	2.430	0.338	0.047	0.020	437.593	0.030
	Gasoline	HDGV Heavy-Duty	Vehicles (8,501 + lbs)	0.586	0.006	3.708	0.508	0.054	0.023	638.545	0.045
El Dorado	Diesel		ehicles (Passenger Cars)	0.275	0.003	0.331	0.027	0.059	0.031	302.247	0.008
	Diesel		rucks (0-8,500 lbs)	0.253	0.004	0.296	0.036	0.063	0.035	378.964	0.008
	Diesel		Vehicles (8,501 + lbs)	5.806	0.009	1.133	0.272	0.197	0.125	915.694	0.027
	NA	MC Motorcycles		1.355	0.002	30.004	5.306	0.018	0.009	184.429	0.052
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.12	0.00	1.25	0.15	0.05	0.02	320.02	0.029
	Gasoline	LDGT Light-Duty To	rucks (0-8,500 lbs)	0.25	0.00	2.14	0.33	0.05	0.02	421.70	0.030
	Gasoline		Vehicles (8,501 + lbs)	0.51	0.01	3.11	0.41	0.05	0.02	622.26	0.045
Fresno	Diesel	LDDV Light-Duty V	ehicles (Passenger Cars)	0.15	0.00	0.21	0.02	0.05	0.03	283.62	0.008
	Diesel	LDDT Light-Duty To	rucks (0-8,500 lbs)	0.17	0.00	0.25	0.03	0.06	0.03	360.89	0.008
	Diesel	HDDV Heavy-Duty	Vehicles (8,501 + lbs)	6.19	0.01	1.02	0.27	0.20	0.12	1550.86	0.027
	NA	MC Motorcycles		1.29	0.00	27.54	4.05	0.02	0.01	171.11	0.052
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.151	0.003	1.548	0.168	0.047	0.020	332.979	0.029
	Gasoline	LDGT Light-Duty To	rucks (0-8,500 lbs)	0.364	0.004	2.774	0.394	0.048	0.020	439.975	0.030
	Gasoline	HDGV Heavy-Duty	Vehicles (8,501 + lbs)	0.645	0.007	3.738	0.494	0.055	0.024	649.601	0.045
Glenn	Diesel	LDDV Light-Duty V	ehicles (Passenger Cars)	0.216	0.003	0.333	0.026	0.057	0.030	301.913	0.008
	Diesel	LDDT Light-Duty To	rucks (0-8,500 lbs)	0.288	0.004	0.474	0.065	0.081	0.052	369.089	0.008
	Diesel	HDDV Heavy-Duty	Vehicles (8,501 + lbs)	6.078	0.013	1.124	0.284	0.195	0.126	1310.984	0.027
	NA	MC Motorcycles		1.286	0.002	27.135	4.555	0.018	0.008	181.107	0.052
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.233	0.003	2.130	0.221	0.047	0.020	319,549	0.029
	Gasoline		rucks (0-8,500 lbs)	0.582	0.004	4.034	0.547	0.048	0.021	423,206	0.030
	Gasoline		Vehicles (8,501 + lbs)	1.030	0.006	5.246	0.772	0.056	0.024	630.741	0.045
Humboldt	Diesel		ehicles (Passenger Cars)	0.692	0.003	0.582	0.052	0.075	0.047	308.842	0.008
	Diesel		ucks (0-8,500 lbs)	0.305	0.004	0.535	0.073	0.088	0.059	369.353	0.008
	Diesel	HDDV Heavy-Duty	Vehicles (8,501 + lbs)	6.745	0.011	1.272	0.319	0.215	0.143	1137.916	0.027
	NA	MC Motorcycles		1.375	0.002	30,160	4.653	0.018	0.008	176,149	0.052
	Gasoline		ehicles (Passenger Cars)	0.365	0.003	3.259	0.277	0.046	0.019	316.560	0.029
	Gasoline	,	rucks (0-8,500 lbs)	0.357	0.004	2.772	0.486	0.047	0.020	418.176	0.030
	Gasoline		Vehicles (8,501 + lbs)	0.703	0.006	3.916	0.552	0.054	0.023	607.373	0.045
Imperial	Diesel		chicles (Passenger Cars)	0.168	0.003	0.216	0.018	0.055	0.028	271.430	0.008
	Diesel		ucks (0-8,500 lbs)	0.247	0.003	0.234	0.024	0.058	0.030	346.484	0.008
	Diesel	HDDV Heavy-Duty	Vehicles (8,501 + lbs)	5.126	0.013	0.603	0.135	0.168	0.099	1411.960	0.027
	NA	MC Motorcycles		1.207	0.002	23.774	3.885	0.018	0.008	165.742	0.052
	Gasoline		ehicles (Passenger Cars)	0.168	0.003	1.632	0.188	0.047	0.020	337.105	0.029
	Gasoline		ucks (0-8,500 lbs)	0.392	0.004	2.910	0.445	0.047	0.020	445.204	0.030
	Gasoline	HDGV Heavy-Duty	Vehicles (8,501 + lbs)	0.892	0.007	4.724	0.734	0.058	0.025	671.458	0.045
Inyo	Diesel	LDDV Light-Duty V	ehicles (Passenger Cars)	0.254	0.003	0.356	0.028	0.059	0.031	303.768	0.008
	Diesel	LDDT Light-Duty To	ucks (0-8,500 lbs)	0.210	0.004	0.332	0.041	0.065	0.037	374.218	0.008
	Diesel		Vehicles (8,501 + lbs)	5.858	0.012	1.111	0.266	0.202	0.123	1292.873	0.027
	NA	MC Motorcycles		1.323	0.002	28.675	4.675	0.018	0.008	183.675	0.052
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.113	0.003	1.187	0.143	0.047	0.020	346.640	0.029
	Gasoline		ucks (0-8,500 lbs)	0.251	0.005	2.048	0.314	0.047	0.020	455.496	0.030
	Gasoline	HDGV Heavy-Duty	Vehicles (8,501 + lbs)	0.510	0.007	3.041	0.404	0.055	0.023	677.251	0.045
Kern	Diesel	LDDV Light-Duty V	ehicles (Passenger Cars)	0.149	0.003	0.258	0.019	0.054	0.026	311.936	0.008
	Diesel	LDDT Light-Duty To	ucks (0-8,500 lbs)	0.144	0.004	0.229	0.026	0.056	0.029	394.411	0.008
	Diesel	HDDV Heavy-Duty	Vehicles (8,501 + lbs)	5.932	0.015	0.958	0.242	0.180	0.109	1541.842	0.027
	NA	MC Motorcycles		1.296	0.002	28.929	4.129	0.018	0.008	184.188	0.052
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.127	0.003	1.282	0.145	0.047	0.019	320.063	0.029
	Gasoline	LDGT Light-Duty To	ucks (0-8,500 lbs)	0.334	0.004	2.552	0.370	0.047	0.020	422.653	0.030
	Gasoline		Vehicles (8,501 + lbs)	0.555	0.006	3.193	0.413	0.054	0.023	628.430	0.045
Kings	Diesel		ehicles (Passenger Cars)	0.152	0.003	0.252	0.019	0.054	0.027	282.680	0.008
ū	Diesel		ucks (0-8,500 lbs)	0.269	0.003	0.358	0.044	0.068	0.040	354.303	0.008
	Diesel		Vehicles (8,501 + lbs)	6.161	0.015	0.970	0.248	0.174	0.105	1578.770	0.027
	NA	MC Motorcycles	,	1.272	0.002	26.099	3.918	0.018	0.008	171.432	0.052

Table 5-48 EMFAC County-Specific On-Road Vehicle EFs – 2016 (cont.)

						Emission F	actors (g/m	i)			
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	recursors		
				NOx	SO <sub>x</sub>	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.240	0.003	2.306	0.261	0.047	0.020	330.982	0.029
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.527	0.004	3.919	0.593	0.048	0.021	433.814	0.030
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	1.178	0.007	6.344	1.017	0.059	0.026	659.389	0.045
Lake	Diesel		Light-Duty Vehicles (Passenger Cars)	0.425	0.003	0.451	0.039	0.066	0.038	303.755	0.008
	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.587	0.004	0.584	0.069	0.085	0.056	370.529	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	6.889	0.010	1.422	0.368	0.242	0.168	1014.150	0.027
	NA	MC	Motorcycles	1.346	0.002	30.339	5.240	0.019	0.009	178.720	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.205	0.004	1.990	0.202	0.047	0.020	348.287	0.029
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.478	0.005	3.625	0.510	0.048	0.021	464.720	0.030
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	1.111	0.007	5.983	0.914	0.058	0.025	690.270	0.045
Lassen	Diesel		Light-Duty Vehicles (Passenger Cars)	0.317	0.003	0.434	0.034	0.061	0.033	316.831	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.264	0.004	0.431	0.057	0.073	0.045	395.895	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	6.193	0.008	1.321	0.306	0.210	0.135	856.554	0.027
	NA	MC	Motorcycles	1.380	0.003	31.740	5.107	0.018	0.008	192.042	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.123	0.004	1.448	0.156	0.047	0.020	353.667	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.240	0.005	2.209	0.262	0.048	0.020	460.637	0.030
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.487	0.007	3.134	0.358	0.056	0.024	660.582	0.045
Los Angeles	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.155	0.003	0.351 0.272	0.030	0.059	0.032	312.085 395.245	0.008
	Diesel Diesel		Light-Duty Trucks (0-8,500 lbs)	5.637	0.004	1.307	0.034	0.058	0.031	1346.572	0.008
			Heavy-Duty Vehicles (8,501 + lbs)								
	NA	MC	Motorcycles	1.227	0.002	23.976	4.393	0.018	0.008	197.726	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.121	0.003	1.397	0.150	0.047	0.020	337.719	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.289	0.005	2.587	0.379	0.048	0.020	447.618	0.030
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.567	0.007	3.636	0.462	0.055	0.024	660.953	0.045
Madera	Diesel		Light-Duty Vehicles (Passenger Cars)	0.217	0.003	0.350	0.028	0.058	0.030	299.416	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.279	0.004	0.347	0.044	0.066	0.038	371.316	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	6.172	0.014	1.040	0.259	0.183	0.112	1480.972	0.027
	NA C	MC	Motorcycles	1.256	0.002	26.472	4.062	0.018	0.008	177.457	0.052
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.124	0.003	1.301	0.157	0.047	0.020	328.575	0.029
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.206	0.004	1.740 2.797	0.245	0.047	0.020	428.137	0.030
Monin	Gasoline Diesel		Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars)	0.479	0.006	0.339	0.370 0.027	0.055	0.023	632.908 316.475	0.045
Marin	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.233	0.003	0.339	0.027	0.055	0.032	393.329	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	6.769	0.004	1.498	0.023	0.033	0.028	1267.059	0.008
	NA	MC	Motorcycles	1.307	0.002	27.686	4.151	0.018	0.008	183.538	0.027
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.205	0.002	2.035	0.216	0.018	0.020	336.698	0.032
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.633	0.005	4.761	0.679	0.049	0.020	452.807	0.029
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	1.110	0.007	6.049	0.935	0.058	0.025	672.044	0.030
Mariposa	Diesel		Light-Duty Vehicles (Passenger Cars)	0.475	0.003	0.514	0.046	0.069	0.023	313.525	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.540	0.004	0.978	0.154	0.139	0.108	373.735	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.520	0.008	1.301	0.313	0.211	0.138	826.526	0.027
	NA	MC	Motorcycles	1.351	0.002	30.741	5.272	0.018	0.009	184.753	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.204	0.003	1.920	0.199	0.047	0.020	316.018	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.568	0.004	4.064	0.557	0.048	0.021	421.918	0.030
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	1.041	0.006	5.397	0.788	0.057	0.025	636.937	0.045
Mendocino	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.727	0.003	0.579	0.051	0.074	0.046	307.570	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.520	0.003	0.601	0.076	0.090	0.061	365.165	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	6.529	0.012	1.204	0.311	0.207	0.138	1260.688	0.027
	NA	MC	Motorcycles	1.352	0.002	29.396	4.644	0.018	0.008	174.992	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.130	0.003	1.442	0.159	0.047	0.020	332.166	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.293	0.004	2.486	0.355	0.048	0.020	437.090	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.571	0.007	3.583	0.440	0.056	0.024	649.010	0.045
Merced	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.256	0.003	0.331	0.026	0.058	0.031	297.768	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.261	0.004	0.350	0.042	0.067	0.039	373.322	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.290	0.015	1.001	0.256	0.183	0.111	1577.690	0.027
	NA	MC	Motorcycles	1.260	0.002	26.584	3.769	0.018	0.008	174.120	0.052

Table 5-48 EMFAC County-Specific On-Road Vehicle EFs – 2016 (cont.)

				Emission Factors (g/mi)									
County	Fuel Type		Vehicle Type			Criteria I	Pollutants a	nd Ozone I	recursors	I			
				NO <sub>x</sub>	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>		
	Gasoline	LDGV Lig	ght-Duty Vehicles (Passenger Cars)	0.226	0.004	2.217	0.215	0.048	0.021	387.330	0.029		
	Gasoline	LDGT Lig	ght-Duty Trucks (0-8,500 lbs)	0.541	0.005	4.088	0.531	0.049	0.022	515.443	0.030		
	Gasoline	HDGV Hea	eavy-Duty Vehicles (8,501 + lbs)	1.265	0.008	6.932	1.047	0.059	0.026	746.264	0.045		
Modoc	Diesel		ght-Duty Vehicles (Passenger Cars)	0.305	0.003	0.571	0.046	0.064	0.036	352.277	0.008		
	Diesel		ght-Duty Trucks (0-8,500 lbs)	0.487	0.004	0.551	0.059	0.070	0.042	468.265	0.008		
	Diesel		eavy-Duty Vehicles (8,501 + lbs)	6.264	0.009	1.281	0.307	0.204	0.132	912.261	0.027		
	NA	MC Mo	otorcycles	1.395	0.003	33.138	5.463	0.018	0.009	214.279	0.052		
	Gasoline	LDGV Lig	ght-Duty Vehicles (Passenger Cars)	0.179	0.003	1.684	0.162	0.047	0.020	324.987	0.029		
	Gasoline	LDGT Lig	ght-Duty Trucks (0-8,500 lbs)	0.426	0.004	3.081	0.402	0.047	0.020	433.991	0.030		
	Gasoline		eavy-Duty Vehicles (8,501 + lbs)	0.956	0.007	5.063	0.702	0.058	0.025	650.759	0.045		
Mono	Diesel	LDDV Lig	ght-Duty Vehicles (Passenger Cars)	0.320	0.003	0.410	0.034	0.062	0.035	307.419	0.008		
	Diesel	LDDT Lig	ght-Duty Trucks (0-8,500 lbs)	0.616	0.004	0.526	0.053	0.073	0.045	389.521	0.008		
	Diesel	HDDV Hea	eavy-Duty Vehicles (8,501 + lbs)	5.835	0.013	1.055	0.261	0.184	0.114	1338.556	0.027		
	NA	MC Mo	otorcycles	1.456	0.003	34.576	4.941	0.018	0.008	184.689	0.052		
	Gasoline	LDGV Lig	ght-Duty Vehicles (Passenger Cars)	0.179	0.004	1.792	0.188	0.047	0.020	347.779	0.029		
	Gasoline	LDGT Lig	ght-Duty Trucks (0-8,500 lbs)	0.416	0.005	3.002	0.380	0.048	0.021	462.953	0.030		
	Gasoline	HDGV Hea	eavy-Duty Vehicles (8,501 + lbs)	0.709	0.007	3.931	0.465	0.057	0.024	679.755	0.045		
Monterey	Diesel	LDDV Lig	ght-Duty Vehicles (Passenger Cars)	0.275	0.003	0.447	0.038	0.063	0.035	320.229	0.008		
· ·	Diesel	LDDT Lig	ght-Duty Trucks (0-8,500 lbs)	0.216	0.004	0.370	0.047	0.066	0.038	402.017	0.008		
	Diesel	HDDV Hea	eavy-Duty Vehicles (8,501 + lbs)	6.225	0.012	1.246	0.301	0.234	0.149	1291.319	0.027		
	NA	MC Mo	otorcycles	1.272	0.002	26.468	3.940	0.018	0.008	187.250	0.052		
	Gasoline		ght-Duty Vehicles (Passenger Cars)	0.126	0.003	1.386	0.147	0.047	0.020	315.556	0.029		
	Gasoline		ght-Duty Trucks (0-8,500 lbs)	0.120	0.003	2.172	0.147	0.047	0.020	415.343	0.029		
	Gasoline	- 0	eavy-Duty Vehicles (8,501 + lbs)	0.585	0.006	3.490	0.439	0.056	0.024	632.734	0.045		
Napa	Diesel		ght-Duty Vehicles (Passenger Cars)	0.222	0.003	0.297	0.025	0.059	0.024	295.817	0.008		
rvapa	Diesel		ght-Duty Trucks (0-8,500 lbs)	0.119	0.003	0.180	0.023	0.054	0.027	369.292	0.008		
	Diesel		eavy-Duty Vehicles (8,501 + lbs)	6.350	0.004	1.097	0.021	0.034	0.027	1309.977	0.027		
	NA		otorcycles	1.284	0.012	26.428	3.991	0.018	0.008	173.556	0.052		
	Gasoline		ght-Duty Vehicles (Passenger Cars)	0.173	0.002	1.699	0.180	0.047	0.020	313.096	0.032		
	Gasoline	U	ght-Duty Venicles (Fassenger Cars) ght-Duty Trucks (0-8,500 lbs)	0.173	0.003	3.046	0.180	0.047	0.020	423.555	0.029		
	Gasoline	U	eavy-Duty Vehicles (8,501 + lbs)	0.423	0.004	4.295	0.403	0.055	0.024	622.863	0.030		
Nevada	Diesel		ght-Duty Vehicles (Passenger Cars)	0.788	0.003	0.409	0.035	0.064	0.024	297.253	0.008		
Nevaua	Diesel		ght-Duty Venicles (Passenger Cars) ght-Duty Trucks (0-8,500 lbs)	0.408	0.003	0.409	0.053	0.064	0.037	376.587	0.008		
	Diesel		eavy-Duty Vehicles (8,501 + lbs)	6.178	0.004	1.119	0.032	0.074	0.046	1267.685	0.008		
	NA			1.390	0.012	31.091	5.002	0.186	0.119	173.526	0.027		
	Gasoline		otorcycles	0.102	0.002	1.204	0.136	0.018	0.020	330.036	0.032		
	Gasoline	Ŭ	ght-Duty Vehicles (Passenger Cars)	0.102	0.003	1.687	0.136	0.047	0.020	429.796	0.029		
	Gasoline		ght-Duty Trucks (0-8,500 lbs)	0.178	0.004	2.788	0.208	0.047	0.020	629.010	0.030		
0	Diesel		eavy-Duty Vehicles (8,501 + lbs)	0.436	0.006	0.264	0.328	0.055	0.023	295.668	0.045		
Orange	Diesel		ght-Duty Vehicles (Passenger Cars)	0.118	0.003	0.264	0.021	0.055	0.027	295.668 374.170	0.008		
	Diesel		ght-Duty Trucks (0-8,500 lbs)	4.896	0.004	1.068	0.023	0.054	0.026	1194.700	0.008		
	NA		eavy-Duty Vehicles (8,501 + lbs) otorcycles	1.218	0.011	23.366	4.200	0.219	0.135	186.179	0.027		
	Gasoline			0.116	0.002	1.299	0.140	0.018	0.008	316.910	0.052		
	Gasoline		ght-Duty Vehicles (Passenger Cars)	0.116	0.003		0.140	0.047	0.019	416.186	0.029		
			ght-Duty Trucks (0-8,500 lbs)	0.211	0.004	1.882 3.037	0.245	0.047	0.020	619.311	0.030		
Dla	Gasoline		eavy-Duty Vehicles (8,501 + lbs)										
Placer	Diesel		ght-Duty Vehicles (Passenger Cars)	0.249	0.003	0.296 0.245	0.025	0.058	0.031	290.401 361.114	0.008		
	Diesel		ght-Duty Trucks (0-8,500 lbs)		0.003				0.031				
	Diesel		eavy-Duty Vehicles (8,501 + lbs)	5.507	0.012	0.996	0.249	0.190	0.117	1293.130	0.027		
	NA		otorcycles	1.325	0.002	28.091	4.405	0.018	0.008	174.267	0.052		
	Gasoline		ght-Duty Vehicles (Passenger Cars)	0.217	0.004	2.203	0.223	0.048	0.021	360.824	0.029		
	Gasoline		ght-Duty Trucks (0-8,500 lbs)	0.570	0.005	4.393	0.560	0.049	0.021	489.085	0.030		
Pol.	Gasoline		eavy-Duty Vehicles (8,501 + lbs)	1.293	0.007	7.079	1.024	0.058	0.026	706.663	0.045		
Plumas	Diesel		ght-Duty Vehicles (Passenger Cars)	0.366	0.003	0.542	0.046	0.066	0.038	334.213	0.008		
	Diesel		ght-Duty Trucks (0-8,500 lbs)	0.229	0.004	0.413	0.052	0.066	0.038	422.562	0.008		
	Diesel		eavy-Duty Vehicles (8,501 + lbs)	6.583	0.009	1.332	0.321	0.216	0.145	987.731	0.027		
	NA	MC Mo	otorcycles	1.376	0.003	32.592	5.599	0.019	0.009	200.520	0.052		

Table 5-48 EMFAC County-Specific On-Road Vehicle EFs – 2016 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.106	0.003	1.205	0.139	0.047	0.019	319.199	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.209	0.004	1.885	0.259	0.047	0.020	414.968	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.471	0.006	2.918	0.364	0.054	0.023	604.532	0.045
Riverside	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.155	0.003	0.226	0.018	0.054	0.027	283.560	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.305	0.004	0.410	0.049	0.074	0.045	375.993	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.221	0.013	0.768	0.152	0.181	0.108	1335.871	0.027
	NA	MC	Motorcycles	1.237	0.002	24.830	4.152	0.018	0.008	174.635	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.127	0.003	1.472	0.163	0.047	0.020	327.768	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.235	0.004	2.148	0.286	0.047	0.020	428.596	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.548	0.007	3.402	0.421	0.056	0.024	648.669	0.045
Sacramento	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.216	0.003	0.307	0.027	0.059	0.031	292.093	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.587	0.004	0.551	0.066	0.083	0.055	373.209	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.272	0.012	1.378	0.283	0.221	0.137	1285.778	0.027
	NA	MC	Motorcycles	1.268	0.002	26.092	4.393	0.018	0.008	177.306	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.140	0.003	1.378	0.135	0.047	0.020	308.271	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.312	0.004	2.321	0.322	0.047	0.020	406.405	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.621	0.006	3.450	0.439	0.054	0.023	611.611	0.045
San Benito	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.344	0.003	0.349	0.028	0.059	0.032	293.520	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.045	0.004	0.148	0.018	0.051	0.024	366.684	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.271	0.015	1.054	0.276	0.186	0.118	1541.004	0.027
	NA	MC	Motorcycles	1.305	0.002	26.975	3.902	0.018	0.008	169.071	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.121	0.003	1.311	0.142	0.047	0.019	325.615	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.260	0.004	2.187	0.290	0.047	0.020	425.050	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.526	0.006	3.141	0.382	0.054	0.023	619.255	0.045
San Bernardino	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.147	0.003	0.242	0.019	0.054	0.027	288.537	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.162	0.003	0.230	0.028	0.058	0.031	362.440	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.291	0.013	0.877	0.169	0.183	0.109	1349.143	0.027
	NA	MC	Motorcycles	1.263	0.002	26.176	3.768	0.018	0.008	173.265	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.134	0.003	1.354	0.147	0.047	0.020	337.124	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.213	0.004	1.850	0.254	0.047	0.020	444.052	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.452	0.007	2.727	0.343	0.055	0.023	651.442	0.045
San Diego	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.289	0.023	0.056	0.029	315.374	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.188	0.004	0.285	0.033	0.061	0.034	396.215	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.889	0.012	1.336	0.280	0.221	0.136	1328.453	0.027
	NA	MC	Motorcycles	1.262	0.002	26.126	4.026	0.018	0.008	188.990	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.117	0.004	1.345	0.153	0.047	0.020	355.047	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.180	0.005	1.677	0.214	0.047	0.020	457.294	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.499	0.007	2.908	0.370	0.061	0.026	695.771	0.045
San Francisco	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.163	0.003	0.384	0.028	0.056	0.029	331.677	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.103	0.003	0.298	0.025	0.058	0.030	413.640	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	7.205	0.004	1.742	0.374	0.349	0.218	1442.002	0.003
	NA	MC	Motorcycles	1.284	0.003	26.873	4.656	0.018	0.008	200.187	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.12	0.003	1.31	0.15	0.018	0.008	328.23	0.032
	Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.12	0.00	2.10	0.13	0.05	0.02	430.66	0.03
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.20	0.00	3.18	0.30	0.05	0.02	632.42	0.05
San Joaquin	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.21	0.00	0.27	0.02	0.05	0.02	298.07	0.03
San Joaquili	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.21	0.00	0.27	0.02	0.06	0.03	370.86	0.01
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.08	0.00	1.10	0.03	0.00	0.03	1421.36	0.01
	NA	MC	Motorcycles	1.31	0.00	28.53	4.17	0.20	0.12	178.09	0.05
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.142	0.003	1.391	0.151	0.02	0.019	309.785	0.03
	Gasoline	LDGV	Light-Duty Venicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.142	0.003	2.559	0.151	0.047	0.019	415.685	0.029
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.559	0.004	3.581	0.342	0.047	0.020	621.195	0.030
San Luis Obispo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.000	0.008	0.308	0.471	0.058	0.024	296.859	0.043
San Luis Obispo	Diesel	LDDV			0.003	0.308	0.024	0.058	0.030		0.008
	Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs)	0.232 6.311	0.003	1.221	0.041	0.067	0.039	366.218 1114.095	0.008
			Heavy-Duty Vehicles (8,501 + lbs)	1.340	0.011				0.144		
	NA	MC	Motorcycles	1.540	0.002	28.043	4.575	0.018	0.008	174.267	0.052

Table 5-48 EMFAC County-Specific On-Road Vehicle EFs – 2016 (cont.)

County   Fuel Type   Puel Ty								Emission F	actors (g/m	i)		
Gasoline   LOCV   Light Duty Vehicles (Passenger Cars)   0.113   0.0073   1.234   0.150   0.047   0.020   315.516   0.029	County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	recursors		
Gasoline   IDGT   Light-Payr Trucks (0.85,00 lbs)   0.159   0.004   1.405   0.187   0.017   0.020   401,191   0.010					NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
Grantine   IDAC   Herv-Dary Vehicles (Sci 1-libo)   0.044   0.006   2.432   0.311   0.055   0.023   0.002   0.005		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.113	0.003	1.234	0.150	0.047	0.020	313.516	0.029
Disear   LiDBV   Light-Day Vehicles (Passenger Cars)   0.160   0.003   0.245   0.020   0.025   0.028   291.047   0.008												
Diesel   LDDF   Light-Duty Tracks (0.85.00 lbs)   0.081   0.003   0.139   0.017   0.051   0.024   361.344   0.002   NA   NA   MC   Motorcycles   1.241   0.002   23.470   3.494   0.018   0.008   17.271   0.172   1234.244   0.002   1.241   0.002   23.470   3.494   0.018   0.008   17.4816   0.002   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.0										0.023		
Diesel HDDV   Heavy-Dury Vehicles (R50) + lbs)   5.580   0.012   1.204   0.279   0.277   0.172   1234,244   0.002	San Mateo											
NA		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.081	0.003				0.024		0.008
Gasoline   LDGV   Light-Duty Vehicles (Rysonger Cans)   0.157   0.003   1.516   0.171   0.047   0.020   300.835   0.029   0.035   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.036   0.												
Gasoline   LDGT   Light-Dury Trucks (0.8.500 lbs)   0.379   0.004   2.632   0.367   0.047   0.020   403.091   0.030			MC	Motorcycles	_							
Santa Barbara   Diesel   LIDV   Light-Dury Vehicles (8.501 + hb)   0.071   0.006   3.619   0.467   0.005   0.002   0.025   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0			LDGV									
Diesel   LIDPL   Light-Dury Vehicles (Plassenger Cars)   0.229   0.003   0.272   0.022   0.057   0.029   288.046   0.008												
Diesel   LIDDY   Light-Duty Trucks (0-8,500 lsb)   0.193   0.003   0.246   0.029   0.060   0.033   352,197   0.008												
Diesel   HDDV   Heavy-Daty Vehicles (8,501 + lbs)	Santa Barbara											
NA												
Gasoline   LDGV   Light-Duty Vehicles (Phssenger Cars)   0.118   0.003   1.319   0.149   0.047   0.020   317.461   0.029												
Gasoline   IDGT   Light-Duty Tracks (0.8,500 lbs)   0.218   0.004   1.915   0.251   0.047   0.020   417.579   0.930					_							
Santa Clara   Diseal   LDDV   Light-Duty Vehicles (R,501+1bs)   0.497   0.006   3.041   0.379   0.055   0.023   612-905   0.008												
Santa Clara   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.163   0.003   0.247   0.019   0.055   0.027   291.580   0.008												
Diesel   IDDT   Light-Duy Trucks (0-8,500 lbs)   0.113   0.003   0.184   0.022   0.055   0.028   366,086   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0						0.000						
Diesel   HDDV   Heavy-Dury Vehicles (8,501 + lbs)   6,144   0,013   1,117   0,284   0,231   0,146   1359,856   0,027	Santa Clara			· · · · · · · · · · · · · · · · · · ·								
NA												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.192   0.003   1.933   0.197   0.047   0.020   334.716   0.029				1 1								
Santa Cruz   Gasoline   LDGT   Light-Dury Trucks (0-8.500 lbs)   0.455   0.005   3.315   0.434   0.048   0.021   446.204   0.030												
Santa Cruz   Diesel   LIDDV   Light-Duty Vehicles (8,501 + bs)   0.756   0.007   4.182   0.515   0.058   0.025   657,743   0.045												
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   Diesel   Diesel   LDDT   Light-Duty Vehicles (8,501 + lbs)   Diesel   Diese												
Diesel   LDDT   Light-Dury Trucks (0-8,500 lbs)   0,272   0,004   0,346   0,043   0,065   0,037   378.781   0,008												
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   7,164   0.011   1.503   0.366   0.296   0.199   1200.315   0.027	Santa Cruz											
NA   MC   Motorcycles   1.319   0.002   28.046   4.746   0.018   0.009   184.225   0.052												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.159   0.003   1.630   0.179   0.047   0.020   335.985   0.029												
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.372   0.004   2.808   0.398   0.048   0.020   445.484   0.030		NA										
Shasta   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.732   0.007   4.169   0.589   0.057   0.024   661.877   0.045												
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   Diesel   LDDT   Light-Duty Trucks (0.8,500 lbs)   Diesel   LDDV   Heavy-Duty Vehicles (8,501 + lbs)   Diesel   LDDV   Heavy-Duty Vehicles (8,501 + lbs)   Diesel   LDDV   Diesel   LDDV   Diesel   LDDV   Diesel   LDDV   Diesel   Diesel   LDDV   Diesel												
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.323   0.004   0.418   0.053   0.073   0.045   376.345   0.008				1 1								
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.381   0.013   1.107   0.283   0.193   0.124   1348,904   0.027	Shasta											
NA   MC   Motorcycles   1.329   0.002   29.414   5.032   0.018   0.008   182.705   0.052												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.201   0.004   1.993   0.192   0.048   0.020   371.362   0.029				Heavy-Duty Vehicles (8,501 + lbs)								
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.487   0.005   3.672   0.453   0.048   0.021   493.485   0.030												
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   1.093   0.007   5.962   0.827   0.058   0.025   718.225   0.045												
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.175   0.003   0.472   0.035   0.058   0.030   336.635   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.487	0.005	3.672	0.453	0.048	0.021	493.485	0.030
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.303   0.004   0.604   0.090   0.091   0.062   416.081   0.008		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.093	0.007	5.962	0.827	0.058	0.025	718.225	0.045
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.303   0.004   0.604   0.090   0.091   0.062   416.081   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.193   0.008   1.305   0.297   0.196   0.125   895.778   0.027     NA   MC   Motorcycles   1.376   0.003   32.292   5.410   0.019   0.009   20.6445   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.204   0.004   1.968   0.195   0.047   0.020   359.628   0.029     Gasoline   LDGT   Light-Duty Vehicles (Resonger Cars)   0.500   0.005   3.700   0.499   0.048   0.021   477.956   0.030     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   1.065   0.007   5.827   0.844   0.058   0.025   698.864   0.045     Siskiyou   Diesel   LDDV   Light-Duty Vehicles (8,501 + lbs)   0.384   0.003   0.506   0.041   0.064   0.036   332.483   0.008     Diesel   LDDT   Light-Duty Vehicles (8,501 + lbs)   0.384   0.004   0.585   0.078   0.086   0.057   410.199   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.151   0.014   1.089   0.274   0.185   0.116   1426.804   0.027     NA   MC   Motorcycles   1.400   0.003   33.224   5.298   0.018   0.009   199.278   0.052     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.225   0.004   1.877   0.267   0.047   0.020   346.671   0.029     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.120   0.003   1.256   0.146   0.047   0.020   346.671   0.029     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.120   0.003   0.295   0.023   0.056   0.023   656.882   0.045     Solano   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   0.295   0.023   0.057   0.029   311.906   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   0.295   0.023   0.057   0.029   311.906   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   0.295   0.023   0.057   0.029   311.906   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   0.295   0.023   0.057   0.029   311.906   0.008     Diesel	Sierra	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.175	0.003	0.472	0.035	0.058	0.030	336.635	0.008
NA MC   Motorcycles   1.376   0.003   32.292   5.410   0.019   0.009   206.445   0.052		Diesel	LDDT		0.303	0.004	0.604	0.090	0.091	0.062	416.081	0.008
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.204   0.004   1.968   0.195   0.047   0.020   359.628   0.029		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.193	0.008	1.305	0.297	0.196	0.125	895.778	0.027
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.500   0.005   3.700   0.499   0.048   0.021   477.956   0.030		NA	MC		1.376	0.003	32.292	5.410	0.019	0.009	206.445	0.052
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.500   0.005   3.700   0.499   0.048   0.021   477.956   0.030		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.204	0.004	1.968	0.195	0.047	0.020	359.628	0.029
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.348   0.003   0.506   0.041   0.064   0.036   332.483   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.384   0.004   0.585   0.078   0.086   0.057   410.199   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.151   0.014   1.089   0.274   0.185   0.116   1426.804   0.027     NA   MC   Motorcycles   1.400   0.003   33.224   5.298   0.018   0.009   199.278   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.120   0.003   1.256   0.146   0.047   0.020   336.671   0.029     Gasoline   LDGT   Light-Duty Vehicles (Passenger Cars)   0.225   0.004   1.877   0.267   0.047   0.020   440.929   0.030     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.512   0.007   2.996   0.391   0.056   0.023   656.882   0.045     Solano   Diesel   LDDT   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   0.295   0.023   0.057   0.029   311.906   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.237   0.004   0.291   0.031   0.061   0.033   386.481   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.040   0.013   1.121   0.265   0.199   0.122   1400.296   0.027		Gasoline	LDGT		0.500	0.005	3.700	0.499	0.048	0.021	477.956	0.030
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.348   0.003   0.506   0.041   0.064   0.036   332.483   0.008		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.065	0.007	5.827	0.844	0.058	0.025	698.864	0.045
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.384   0.004   0.585   0.078   0.086   0.057   410.199   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.151   0.014   1.089   0.274   0.185   0.116   1426.804   0.027     NA   MC   Motorcycles   1.400   0.003   33.224   5.298   0.018   0.009   199.278   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.120   0.003   1.256   0.146   0.047   0.020   336.671   0.029     Gasoline   LDGT   Light-Duty Vehicles (8,501 + lbs)   0.225   0.004   1.877   0.267   0.047   0.020   440.929   0.030     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.512   0.007   2.996   0.391   0.056   0.023   656.882   0.045     Solano   Diesel   LDDV   Light-Duty Vehicles (8,501 bs)   0.237   0.004   0.295   0.023   0.057   0.029   311.906   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.237   0.004   0.291   0.031   0.061   0.033   386.481   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.013   1.121   0.265   0.199   0.122   1400.296   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.013   1.121   0.265   0.199   0.122   1400.296   0.027     Diesel   LDDV   Light-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001     Diesel   LDDV   Light-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001	Siskiyou											
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.151   0.014   1.089   0.274   0.185   0.116   1426.804   0.027     NA   MC   Motorcycles   1.400   0.003   33.224   5.298   0.018   0.009   199.278   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.120   0.003   1.256   0.146   0.047   0.020   336.671   0.029     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.225   0.004   1.877   0.267   0.047   0.020   440.929   0.030     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.512   0.007   2.996   0.391   0.056   0.023   656.882   0.045     Solano   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.197   0.003   0.295   0.023   0.057   0.029   311.906   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.237   0.004   0.291   0.031   0.061   0.033   386.481   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.040   0.013   1.121   0.265   0.199   0.122   1400.296   0.027     Output	•		+								1	
NA   MC   Motorcycles   1.400   0.003   33.224   5.298   0.018   0.009   199.278   0.052												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.120   0.003   1.256   0.146   0.047   0.020   336.671   0.029												
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.225   0.004   1.877   0.267   0.047   0.020   440.929   0.030					_							
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.512   0.007   2.996   0.391   0.056   0.023   656.882   0.045												
Solano         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.197         0.003         0.295         0.023         0.057         0.029         311.906         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.237         0.004         0.291         0.031         0.061         0.033         386.481         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         6.040         0.013         1.121         0.265         0.199         0.122         1400.296         0.027												
Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.237         0.004         0.291         0.031         0.061         0.033         386.481         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         6.040         0.013         1.121         0.265         0.199         0.122         1400.296         0.027	Solano											
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 6.040 0.013 1.121 0.265 0.199 0.122 1400.296 0.027												
NA I MC   Motorcycles   1 307   0 002   29 262   4 039   1 0.018   1 0.008   185 025   0.052		NA	MC	Motorcycles	1.307	0.002	29.262	4.039	0.018	0.008	185.025	0.052

Table 5-48 EMFAC County-Specific On-Road Vehicle EFs – 2016 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	recursors		
				NOx	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.147	0.003	1.557	0.166	0.047	0.020	333.514	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.292	0.004	2.444	0.336	0.047	0.020	436.043	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.668	0.007	3.804	0.520	0.056	0.024	656.338	0.045
Sonoma	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.370	0.003	0.426	0.037	0.065	0.037	319.360	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.163	0.004	0.290	0.038	0.064	0.037	382.058	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.997	0.011	1.115	0.290	0.221	0.145	1192.487	0.027
	NA	MC	Motorcycles	1.310	0.002	28.689	4.558	0.018	0.008	184.200	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.131	0.003	1.470	0.165	0.047	0.020	335.405	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.274	0.004	2.411	0.342	0.047	0.020	440.808	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.556	0.007	3.510	0.447	0.054	0.023	645.104	0.045
Stanislaus	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.229	0.003	0.326	0.026	0.058	0.030	298.492	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.189	0.004	0.282	0.034	0.061	0.033	374.442	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.082	0.014	1.020	0.268	0.193	0.122	1424.177	0.027
	NA	MC	Motorcycles	1.297	0.002	28.330	4.659	0.018	0.008	180.532	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.140	0.003	1.449	0.157	0.047	0.019	306.661	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.356	0.004	2.687	0.387	0.047	0.020	406.156	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.626	0.006	3.632	0.478	0.053	0.023	603.254	0.045
Sutter	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.216	0.003	0.253	0.021	0.056	0.028	275.061	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.166	0.003	0.243	0.033	0.063	0.035	332.656	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.838	0.014	0.960	0.254	0.182	0.114	1421.322	0.027
	NA	MC	Motorcycles	1.310	0.002	26.313	4.953	0.018	0.008	171.654	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.158	0.003	1.558	0.163	0.047	0.020	332.108	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.411	0.004	3.004	0.418	0.048	0.020	441,441	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.714	0.007	4.046	0.547	0.055	0.024	648.929	0.045
Tehama	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.298	0.003	0.377	0.030	0.060	0.033	303.955	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.391	0.004	0.523	0.066	0.082	0.053	376.407	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.282	0.013	1.091	0.277	0.186	0.118	1409.002	0.027
	NA	MC	Motorcycles	1.345	0.002	29.684	4.769	0.018	0.008	182.929	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.236	0.004	2.323	0.228	0.048	0.021	395.891	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.752	0.005	5.466	0.692	0.050	0.023	531.185	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.293	0.008	6.967	1.032	0.059	0.026	758.416	0.045
Trinity	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.503	0.003	0.723	0.069	0.080	0.052	358.759	0.008
,	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.551	0.004	1.179	0.192	0.159	0.127	439.057	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.539	0.013	1.189	0.300	0.193	0.125	1338.485	0.027
	NA	MC	Motorcycles	1.378	0.003	35.114	6.092	0.019	0.009	215.539	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.119	0.003	1.309	0.152	0.047	0.019	318,450	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.294	0.004	2.465	0.380	0.047	0.020	418.654	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.541	0.006	3.386	0.429	0.053	0.022	616.040	0.045
Tulare		LDDV			0.003	0.224		0.053	0.022		0.043
Tulaic	Diesel		Light-Duty Vehicles (Passenger Cars)	0.163 0.342			0.018	0.054		280.208	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)		0.003	0.427			0.047	351.297	0.008
	Diesel NA	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.057	0.014	1.049	0.268 4.375	0.195	0.122	1428.123	0.027
		MC	Motorcycles	1.295		27.147				172.068	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.234	0.003	2.280	0.235	0.048	0.020	338.143	0.029
	Gasoline	1	Light-Duty Trucks (0-8,500 lbs)	0.589	0.005	4.446	0.605	0.049	0.021	449.465	0.030
T1	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	1.112	0.007	5.984	0.876	0.057	0.025	665.275	0.045
Tuolumne	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.366	0.003	0.436	0.036	0.063	0.035	307.955	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.550	0.004	0.633	0.084	0.093	0.064	382.052	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.463	0.009	1.313	0.321	0.225	0.149	921.918	0.027
	NA	MC	Motorcycles	1.357	0.002	31.220	5.350	0.019	0.009	184.416	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.114	0.003	1.291	0.143	0.047	0.020	322.107	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.213	0.004	1.937	0.256	0.047	0.020	420.368	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.493	0.006	3.034	0.379	0.055	0.023	616.321	0.045
Ventura	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.175	0.003	0.298	0.025	0.057	0.030	297.413	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.175	0.004	0.245	0.030	0.059	0.031	370.095	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.434	0.011	0.999	0.197	0.202	0.127	1137.352	0.027
	NA	MC	Motorcycles	1.293	0.002	26.377	4.922	0.018	0.008	186.559	0.052

Table 5-48 EMFAC County-Specific On-Road Vehicle EFs – 2016 (cont.)

							Emission F	actors (g/m	i)		-
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	recursors		
				NO <sub>x</sub>	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.127	0.003	1.375	0.158	0.047	0.020	327.554	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.212	0.004	1.834	0.259	0.047	0.020	421.557	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.501	0.006	2.979	0.384	0.055	0.023	631.674	0.045
Yolo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.316	0.003	0.345	0.028	0.061	0.033	302.307	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.254	0.004	0.279	0.030	0.061	0.033	370.106	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.220	0.012	1.056	0.248	0.206	0.127	1305.258	0.027
	NA	MC	Motorcycles	1.300	0.002	28.013	4.253	0.018	0.008	176.127	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.145	0.003	1.486	0.153	0.047	0.020	316.985	0.029
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.431	0.004	3.165	0.432	0.048	0.020	425.299	0.030
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.752	0.006	4.280	0.565	0.055	0.024	621.959	0.045
Yuba	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.228	0.003	0.288	0.024	0.057	0.030	288.959	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.003	0.261	0.032	0.061	0.033	344.741	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.456	0.010	1.300	0.314	0.234	0.151	1036.241	0.027
	NA	MC	Motorcycles	1.301	0.002	27.287	4.370	0.018	0.008	171.916	0.052

Table 5-49 EMFAC County-Specific On-Road Vehicle EFs – 2017

							Emission F				
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors	1	1
				NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.117	0.003	1.286	0.145	0.047	0.020	319.833	0.027
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.190	0.004	1.674	0.222	0.047	0.020	415.560	0.028
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.473	0.006	2.823	0.356	0.055	0.023	621.532	0.045
Alameda	Diesel		Light-Duty Vehicles (Passenger Cars)	0.209	0.003	0.305	0.024	0.057	0.030	298.081	0.008
	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.129	0.004	0.206	0.024	0.055	0.028	368.300	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	5.685	0.014	0.979	0.238	0.203	0.120	1460.088	0.027
	NA	MC	Motorcycles	1.268	0.002	25.510	3.954	0.018	0.008	181.884	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.157	0.003	1.564	0.145	0.047	0.020	296.021	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.354	0.004	2.718	0.342	0.047	0.020	392.008	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.871	0.006	4.582	0.634	0.057	0.024	609.356	0.045
Alpine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.211	0.003	0.298	0.023	0.056	0.028	276.006	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.159	0.003	0.230	0.028	0.057	0.030	342.318	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	5.294	0.014	0.905	0.211	0.165	0.093	1416.561	0.027
	NA	MC	Motorcycles	1.389	0.002	29.225	4.394	0.018	0.008	172.571	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.171	0.003	1.658	0.180	0.047	0.019	286.056	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.430	0.004	3.275	0.514	0.047	0.020	381.340	0.028
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.957	0.006	5.120	0.831	0.057	0.025	599.784	0.045
Amador	Diesel		Light-Duty Vehicles (Passenger Cars)	0.334	0.003	0.287	0.023	0.058	0.031	264.102	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.205	0.003	0.316	0.043	0.070	0.042	316.208	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	6.122	0.009	1.162	0.285	0.204	0.132	972.997	0.027
	NA	MC	Motorcycles	1.311	0.002	26.496	4.255	0.018	0.008	158.418	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.153	0.003	1.585	0.171	0.047	0.020	322.071	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.412	0.004	3.104	0.427	0.048	0.021	431.835	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.701	0.006	4.003	0.552	0.056	0.024	637.111	0.045
Butte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.272	0.003	0.330	0.027	0.059	0.032	295.590	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.337	0.004	0.360	0.043	0.068	0.040	367.861	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.758	0.013	1.014	0.239	0.176	0.105	1343.806	0.027
	NA	MC	Motorcycles	1.289	0.002	27.245	4.777	0.018	0.008	177.080	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.173	0.003	1.750	0.176	0.047	0.020	315.390	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.664	0.005	5.240	0.827	0.049	0.021	448.611	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.048	0.007	5.738	0.918	0.058	0.025	645.572	0.045
Calaveras	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.330	0.003	0.394	0.032	0.061	0.033	289.732	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.216	0.003	0.434	0.064	0.080	0.051	355.703	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	6.092	0.010	1.139	0.277	0.195	0.125	1040.930	0.027
	NA	MC	Motorcycles	1.312	0.002	27.906	5.069	0.018	0.009	178.001	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.124	0.003	1.235	0.140	0.047	0.020	312.578	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.272	0.004	2.066	0.295	0.047	0.020	411.311	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.550	0.006	3.100	0.414	0.054	0.023	619.627	0.045
Colusa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.196	0.003	0.281	0.022	0.056	0.029	284.193	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.205	0.003	0.313	0.039	0.065	0.038	354.490	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	5.422	0.013	0.932	0.226	0.167	0.098	1360.608	0.027
	NA	MC	Motorcycles	1.282	0.002	25.604	4.140	0.018	0.008	176.676	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.109	0.003	1.204	0.136	0.047	0.020	316.465	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.183	0.004	1.637	0.218	0.047	0.020	413.902	0.028
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.437	0.006	2.697	0.338	0.054	0.023	613.472	0.045
Contra Costa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.158	0.003	0.262	0.021	0.056	0.028	293.043	0.008
	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.123	0.003	0.189	0.022	0.055	0.027	366.533	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	5.596	0.012	0.932	0.230	0.219	0.125	1318.154	0.027
	NA	MC	Motorcycles	1.271	0.002	25.769	4.021	0.018	0.008	180.654	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.194	0.003	1.794	0.189	0.047	0.020	332.528	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.616	0.005	4.129	0.584	0.049	0.021	448.964	0.028
* 47-	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.967	0.007	5.002	0.754	0.056	0.024	665.152	0.045
Del Norte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.284	0.003	0.417	0.032	0.060	0.033	314.730	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.622	0.004	1.174	0.170	0.150	0.119	391.758	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	6.058	0.008	1.235	0.286	0.196	0.125	847.938	0.027
	NA	MC	Motorcycles	1.366	0.002	30.472	4.969	0.018	0.009	189.497	0.052

Table 5-49 EMFAC County-Specific On-Road Vehicle EFs – 2017 (cont.)

				Emission Factors (g/mi)									
County	Fuel Type	•	Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors				
				NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	$CO_2$	NH <sub>3</sub> <sup>1</sup>		
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.104	0.003	1.188	0.122	0.047	0.020	318.453	0.027		
	Gasoline	LDGT Light-Duty T	rucks (0-8,500 lbs)	0.241	0.004	2.207	0.315	0.047	0.020	427.930	0.028		
	Gasoline	HDGV Heavy-Duty	Vehicles (8,501 + lbs)	0.551	0.006	3.509	0.501	0.054	0.023	629.313	0.045		
El Dorado	Diesel		ehicles (Passenger Cars)	0.219	0.003	0.303	0.024	0.057	0.029	293.437	0.008		
	Diesel		rucks (0-8,500 lbs)	0.210	0.004	0.265	0.032	0.060	0.032	371.540	0.008		
	Diesel		Vehicles (8,501 + lbs)	5.497	0.009	1.061	0.250	0.188	0.116	933.427	0.027		
	NA	MC Motorcycles		1.353	0.002	29.469	5.311	0.018	0.009	185.570	0.052		
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.10	0.00	1.11	0.13	0.05	0.02	311.40	0.027		
	Gasoline	LDGT Light-Duty T	rucks (0-8,500 lbs)	0.22	0.00	1.90	0.30	0.05	0.02	411.91	0.028		
	Gasoline		Vehicles (8,501 + lbs)	0.47	0.01	2.93	0.40	0.05	0.02	614.63	0.045		
Fresno	Diesel	LDDV Light-Duty V	ehicles (Passenger Cars)	0.12	0.00	0.19	0.01	0.05	0.02	275.06	0.008		
	Diesel	LDDT Light-Duty T	rucks (0-8,500 lbs)	0.14	0.00	0.21	0.03	0.06	0.03	354.07	0.008		
	Diesel	HDDV Heavy-Duty	Vehicles (8,501 + lbs)	5.54	0.01	0.88	0.22	0.17	0.10	1540.70	0.027		
	NA	MC Motorcycles		1.28	0.00	26.81	4.03	0.02	0.01	171.98	0.052		
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.131	0.003	1.356	0.147	0.047	0.020	324.137	0.027		
	Gasoline	LDGT Light-Duty T	rucks (0-8,500 lbs)	0.316	0.004	2.450	0.355	0.047	0.020	429.165	0.028		
	Gasoline	HDGV Heavy-Duty	Vehicles (8,501 + lbs)	0.604	0.006	3.523	0.482	0.055	0.023	641.634	0.045		
Glenn	Diesel	LDDV Light-Duty V	ehicles (Passenger Cars)	0.178	0.003	0.313	0.024	0.056	0.028	293.925	0.008		
	Diesel	LDDT Light-Duty T	rucks (0-8,500 lbs)	0.234	0.003	0.404	0.054	0.074	0.046	362.040	0.008		
	Diesel	HDDV Heavy-Duty	Vehicles (8,501 + lbs)	5.583	0.013	0.974	0.236	0.171	0.103	1318.864	0.027		
	NA	MC Motorcycles		1.281	0.002	26.473	4.531	0.018	0.008	182.018	0.052		
	Gasoline		ehicles (Passenger Cars)	0.203	0.003	1.867	0.195	0.047	0.020	312.248	0.027		
	Gasoline		rucks (0-8,500 lbs)	0.530	0.003	3.696	0.515	0.048	0.020	416.921	0.027		
	Gasoline		Vehicles (8,501 + lbs)	0.978	0.004	4.991	0.763	0.056	0.021	622.885	0.045		
Humboldt	Diesel		ehicles (Passenger Cars)	0.598	0.003	0.529	0.765	0.030	0.043	302.648	0.008		
riumoolut	Diesel		rucks (0-8,500 lbs)	0.253	0.003	0.329	0.040	0.071	0.052	363.647	0.008		
	Diesel		Vehicles (8,501 + lbs)	6.357	0.003	1.129	0.062	0.081	0.032	1153.909	0.008		
	NA	MC Motorcycles	Vehicles (8,501 + 108)	1.373	0.011	29.722	4.673	0.193	0.008	177.059	0.027		
			ehicles (Passenger Cars)	0.348	0.002	3.102	0.259	0.018	0.008	307.830	0.032		
	Gasoline			0.348	0.003	2.464	0.239	0.046	0.019	407.941	0.027		
	Gasoline		rucks (0-8,500 lbs)	0.663	0.004	3.719	0.447	0.047	0.020	600.135	0.028		
Y	Gasoline		Vehicles (8,501 + lbs)										
Imperial	Diesel		ehicles (Passenger Cars)	0.130	0.003	0.190	0.015	0.053	0.026	262.960	0.008		
	Diesel		rucks (0-8,500 lbs)	0.201	0.003	0.202	0.021	0.056	0.028	339.255	0.008		
	Diesel		Vehicles (8,501 + lbs)	4.532					0.081	1405.283			
	NA	MC Motorcycles	11.1 m G	1.198	0.002	23.049	3.849	0.018	0.008	166.560	0.052		
	Gasoline		ehicles (Passenger Cars)	0.147	0.003	1.443	0.168	0.047	0.020	327.871	0.027		
	Gasoline		rucks (0-8,500 lbs)	0.346	0.004	2.613	0.414	0.047	0.020	435.218	0.028		
Y	Gasoline		Vehicles (8,501 + lbs)	0.842	0.007	4.465	0.726	0.058	0.025	661.992	0.045		
Inyo	Diesel		ehicles (Passenger Cars)	0.205	0.003	0.327	0.025	0.057	0.029	294.668	0.008		
	Diesel		rucks (0-8,500 lbs)	0.171	0.004	0.291	0.036	0.061	0.034	366.965	0.008		
	Diesel		Vehicles (8,501 + lbs)	5.413	0.012	0.999	0.230	0.184	0.106	1298.629	0.027		
	NA	MC Motorcycles	11.1 0	1.318	0.002	27.971	4.664	0.018	0.008	184.713	0.052		
	Gasoline		ehicles (Passenger Cars)	0.099	0.003	1.054	0.127	0.047	0.020	336.685	0.027		
	Gasoline		rucks (0-8,500 lbs)	0.216	0.004	1.802	0.281	0.047	0.020	444.211	0.028		
**	Gasoline		Vehicles (8,501 + lbs)	0.475	0.007	2.863	0.394	0.055	0.023	668.071	0.045		
Kern	Diesel		ehicles (Passenger Cars)	0.120	0.003	0.240	0.017	0.053	0.025	302.742	0.008		
	Diesel		rucks (0-8,500 lbs)	0.120	0.004	0.208	0.023	0.055	0.027	387.115	0.008		
	Diesel		Vehicles (8,501 + lbs)	5.347	0.015	0.832	0.200	0.158	0.088	1535.142	0.027		
	NA	MC Motorcycles		1.289	0.002	28.055	4.099	0.018	0.008	185.396	0.052		
	Gasoline		ehicles (Passenger Cars)	0.111	0.003	1.131	0.128	0.047	0.019	311.280	0.027		
	Gasoline		rucks (0-8,500 lbs)	0.288	0.004	2.241	0.331	0.047	0.020	412.656	0.028		
	Gasoline		Vehicles (8,501 + lbs)	0.520	0.006	3.016	0.405	0.054	0.023	620.948	0.045		
Kings	Diesel		ehicles (Passenger Cars)	0.118	0.003	0.232	0.017	0.053	0.025	274.111	0.008		
	Diesel		rucks (0-8,500 lbs)	0.215	0.003	0.304	0.037	0.064	0.036	347.635	0.008		
	Diesel		Vehicles (8,501 + lbs)	5.536	0.015	0.831	0.201	0.151	0.083	1570.599	0.027		
	NA	MC Motorcycles		1.265	0.002	25.453	3.905	0.018	0.008	172.334	0.052		

Table 5-49 EMFAC County-Specific On-Road Vehicle EFs – 2017 (cont.)

Gi   Gi   Gi   Gi   Gi   Gi   Gi   Gi	Lasoline	DGV DGV DDV DDV DDV MC DGV DGV DDV DDV DDV DDV DDV DDV DDV	Vehicle Type  Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501 + lbs)  Motorcycles Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Trucks (0-8,500 lbs) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Motorcycles	NO <sub>x</sub> 0.210 0.471 1.121 0.356 0.466 6.428 0.178 0.427 1.060 0.258 0.217 5.937	SO <sub>x</sub> 0.003 0.004 0.007 0.003 0.010 0.002 0.003 0.005 0.007 0.003	Criteria I  CO  2.037 3.530 6.023 0.411 0.481 1.265 29.896 1.742 3.272 5.699 0.406	ROG 0.231 0.550 1.001 0.034 0.057 0.319 5.258 0.178 0.475 0.909	nd Ozone I PM <sub>10</sub> 0.047 0.048 0.059 0.063 0.076 0.218 0.019 0.047 0.048 0.058	PM <sub>2.5</sub> 0.020 0.021 0.025 0.035 0.048 0.145 0.009 0.020 0.021	CO <sub>2</sub> 323.332 425.758 651.658 295.980 361.987 1035.219 179.536 338.994 455.595	NH <sub>3</sub> <sup>1</sup> 0.027 0.028 0.045 0.008 0.008 0.027 0.052 0.027 0.028
Ga   Gi   Gi   Gi   Gi   Gi   Gi   Gi	Lasoline	DGT DGV DDV DDT DDV MC DGV DGT DGV DDV DDT DDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Motorcycles Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (8,501 + lbs) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.210 0.471 1.121 0.356 0.466 6.428 1.343 0.178 0.427 1.060 0.258 0.217	0.003 0.004 0.007 0.003 0.003 0.010 0.002 0.003 0.005 0.007	2.037 3.530 6.023 0.411 0.481 1.265 29.896 1.742 3.272 5.699	0.231 0.550 1.001 0.034 0.057 0.319 5.258 0.178 0.475 0.909	0.047 0.048 0.059 0.063 0.076 0.218 0.019 0.047	0.020 0.021 0.025 0.035 0.048 0.145 0.009 0.020	323.332 425.758 651.658 295.980 361.987 1035.219 179.536 338.994 455.595	0.027 0.028 0.045 0.008 0.008 0.027 0.052 0.027 0.028
Ga   Gi   Gi   Gi   Gi   Gi   Gi   Gi	Lasoline	DGT DGV DDV DDT DDV MC DGV DGT DGV DDV DDT DDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Motorcycles Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (8,501 + lbs) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.471 1.121 0.356 0.466 6.428 1.343 0.178 0.427 1.060 0.258	0.004 0.007 0.003 0.003 0.010 0.002 0.003 0.005 0.007	3.530 6.023 0.411 0.481 1.265 29.896 1.742 3.272 5.699	0.550 1.001 0.034 0.057 0.319 5.258 0.178 0.475 0.909	0.048 0.059 0.063 0.076 0.218 0.019 0.047 0.048	0.021 0.025 0.035 0.048 0.145 0.009 0.020	425.758 651.658 295.980 361.987 1035.219 179.536 338.994 455.595	0.028 0.045 0.008 0.008 0.027 0.052 0.027 0.028
Lake	issoline H Diesel L Diesel L Diesel H NA issoline L dissoline H Diesel L Diesel L Diesel H NA Siasoline L Diesel L Diesel L Diesel L Diesel L Diesel L Oisesel H NA	DGV DDV DDT DDV MC DGV DGT DGV DDV DDT DDV	Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Motorcycles Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	1.121 0.356 0.466 6.428 1.343 0.178 0.427 1.060 0.258	0.007 0.003 0.003 0.010 0.002 0.003 0.005 0.007	6.023 0.411 0.481 1.265 29.896 1.742 3.272 5.699	1.001 0.034 0.057 0.319 5.258 0.178 0.475	0.059 0.063 0.076 0.218 0.019 0.047 0.048	0.025 0.035 0.048 0.145 0.009 0.020 0.021	651.658 295.980 361.987 1035.219 179.536 338.994 455.595	0.045 0.008 0.008 0.027 0.052 0.027 0.028
Lake	Diesel	DDV DDT DDV MC DGV DGT DGV DDV DDT DDV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Motorcycles Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.356 0.466 6.428 1.343 0.178 0.427 1.060 0.258 0.217	0.003 0.003 0.010 0.002 0.003 0.005 0.007 0.003	0.411 0.481 1.265 29.896 1.742 3.272 5.699	0.034 0.057 0.319 5.258 0.178 0.475 0.909	0.063 0.076 0.218 0.019 0.047 0.048	0.035 0.048 0.145 0.009 0.020 0.021	295.980 361.987 1035.219 179.536 338.994 455.595	0.008 0.008 0.027 0.052 0.027 0.028
I	Diesel	DDT DDV MC DGV DGT DGV DDV DDT DDV	Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501 + lbs)  Motorcycles  Light-Duty Vehicles (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501 + lbs)  Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501 + lbs)  Light-Duty Trucks (0-8,500 lbs)  Heavy-Duty Vehicles (8,501 + lbs)	0.466 6.428 1.343 0.178 0.427 1.060 0.258 0.217	0.003 0.010 0.002 0.003 0.005 0.007 0.003	0.481 1.265 29.896 1.742 3.272 5.699	0.057 0.319 5.258 0.178 0.475 0.909	0.076 0.218 0.019 0.047 0.048	0.048 0.145 0.009 0.020 0.021	361.987 1035.219 179.536 338.994 455.595	0.008 0.027 0.052 0.027 0.028
Ci   Ci   Ci   Ci   Ci   Ci   Ci   Ci	Diesel H NA Gasoline L Gasoline L Gasoline H Diesel L Diesel L Diesel H NA Gasoline L Gasoline H L Gasoline L Gasoline L Gasoline L Gasoline L Gasoline L	DDV MC DGV DGT DGV DDV DDT DDV MC	Heavy-Duty Vehicles (8,501 + lbs) Motorcycles Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Trucks (0-8,501 + lbs)	6.428 1.343 0.178 0.427 1.060 0.258 0.217	0.010 0.002 0.003 0.005 0.007 0.003	1.265 29.896 1.742 3.272 5.699	0.319 5.258 0.178 0.475 0.909	0.218 0.019 0.047 0.048	0.145 0.009 0.020 0.021	1035.219 179.536 338.994 455.595	0.027 0.052 0.027 0.028
Gi   Gi   Gi   Gi   Gi   Gi   Gi   Gi	NA Gasoline L Gasoline H Diesel L Diesel L Diesel L Diesel H NA Gasoline L Gasoline L	MC DGV DGT DGV DDV DDT DDV MC	Motorcycles Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	1.343 0.178 0.427 1.060 0.258 0.217	0.002 0.003 0.005 0.007 0.003	29.896 1.742 3.272 5.699	5.258 0.178 0.475 0.909	0.019 0.047 0.048	0.009 0.020 0.021	179.536 338.994 455.595	0.052 0.027 0.028
Gi   Gi   Gi   Lassen	Jasoline L Jasoline L Jasoline H Diesel L Diesel L Diesel H NA Jasoline L Jasoline L Jasoline L Jasoline L Jasoline L	DGV DGT DGV DDV DDT DDV MC	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.178 0.427 1.060 0.258 0.217	0.003 0.005 0.007 0.003	1.742 3.272 5.699	0.178 0.475 0.909	0.047 0.048	0.020 0.021	338.994 455.595	0.027 0.028
Gi	iasoline L iasoline H Diesel L Diesel L Diesel H NA Gasoline L Gasoline L	DGT DGV DDV DDT DDV MC	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.427 1.060 0.258 0.217	0.005 0.007 0.003	3.272 5.699	0.475 0.909	0.048	0.021	455.595	0.028
Cassen	Jasoline H Diesel L Diesel L Diesel H NA Jasoline L Jasoline L Jasoline L	DGV DDV DDT DDV MC	Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	1.060 0.258 0.217	0.007 0.003	5.699	0.909				
Lassen I I I I I I I I I I I I I I I I I I I	Diesel L Diesel L Diesel H NA Gasoline L Gasoline L	DDV DDT DDV MC	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.258 0.217	0.003			0.058			
Gi Gi Los Angeles	Diesel L Diesel H NA Gasoline L Gasoline L	DDT DDV MC	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.217		0.406			0.025	682.527	0.045
Gi Gi Los Angeles	Diesel H NA Gasoline L Gasoline L	DDV MC	Heavy-Duty Vehicles (8,501 + lbs)		0.004		0.031	0.059	0.031	307.708	0.008
Gi Gi Gi Los Angeles	NA Gasoline L Gasoline L	MC		5.937		0.385	0.050	0.068	0.040	388.691	0.008
Ga   Ga   Ga   Los Angeles   D	Basoline L		Motorcycles		0.008	1.262	0.286	0.201	0.126	867.266	0.027
Ga   Ga   Ga   Los Angeles   I   I   I   I   I   I   I   I   I	asoline L	DGV	· ·	1.378	0.003	31.154	5.103	0.018	0.008	193.042	0.052
Los Angeles C			Light-Duty Vehicles (Passenger Cars)	0.109	0.003	1.307	0.142	0.047	0.020	344.484	0.027
Los Angeles		DGT	Light-Duty Trucks (0-8,500 lbs)	0.208	0.005	1.964	0.236	0.048	0.020	449.497	0.028
		DGV	Heavy-Duty Vehicles (8,501 + lbs)	0.443	0.007	2.891	0.338	0.055	0.024	649.384	0.045
		DDV	Light-Duty Vehicles (Passenger Cars)	0.128	0.003	0.333	0.027	0.057	0.029	302.235	0.008
		DDT	Light-Duty Trucks (0-8,500 lbs)	0.143	0.004	0.256	0.031	0.057	0.029	388.093	0.008
		DDV	Heavy-Duty Vehicles (8,501 + lbs)	4.957	0.012	1.156	0.198	0.197	0.113	1325.019	0.027
	NA	MC	Motorcycles	1.224	0.002	23.336	4.329	0.018	0.008	198.623	0.052
Ga	Basoline L	DGV	Light-Duty Vehicles (Passenger Cars)	0.105	0.003	1.235	0.132	0.047	0.020	328.616	0.027
Ga	Basoline L	DGT	Light-Duty Trucks (0-8,500 lbs)	0.252	0.004	2.292	0.341	0.048	0.020	437.063	0.028
		DGV	Heavy-Duty Vehicles (8,501 + lbs)	0.528	0.007	3.416	0.447	0.055	0.024	652.799	0.045
Madera I	Diesel L	DDV	Light-Duty Vehicles (Passenger Cars)	0.173	0.003	0.328	0.025	0.056	0.028	290.534	0.008
Г		DDT	Light-Duty Trucks (0-8,500 lbs)	0.223	0.003	0.307	0.038	0.062	0.034	364.204	0.008
		DDV	Heavy-Duty Vehicles (8,501 + lbs)	5.571	0.014	0.909	0.215	0.162	0.091	1477.322	0.027
		MC	Motorcycles	1.251	0.002	25.854	4.031	0.018	0.008	178.377	0.052
		DGV	Light-Duty Vehicles (Passenger Cars)	0.109	0.003	1.163	0.142	0.047	0.020	319.892	0.027
		DGT	Light-Duty Trucks (0-8,500 lbs)	0.180	0.004	1.559	0.225	0.047	0.020	418.047	0.028
		DGV	Heavy-Duty Vehicles (8,501 + lbs)	0.438	0.006	2.584	0.354	0.055	0.023	620.865	0.045
		DDV	Light-Duty Vehicles (Passenger Cars)	0.217	0.003	0.315	0.024	0.058	0.030	308.835	0.008
		DDT	Light-Duty Trucks (0-8,500 lbs)	0.109	0.004	0.196	0.022	0.054	0.027	387.832	0.008
		DDV	Heavy-Duty Vehicles (8,501 + lbs)	6.129	0.012	1.369	0.290	0.283	0.170	1250.032	0.027
		MC	Motorcycles	1.299	0.002	26.794	4.094	0.018	0.008	184.570	0.052
		DGV	Light-Duty Vehicles (Passenger Cars)	0.177	0.003	1.776	0.189	0.047	0.020	327.606	0.027
		DGT	Light-Duty Trucks (0-8,500 lbs)	0.576	0.005	4.350	0.636	0.049	0.021	444.690	0.028
		DGV	Heavy-Duty Vehicles (8,501 + lbs)	1.056	0.007	5.752	0.921	0.058	0.025	664.559	0.045
		DDV	Light-Duty Vehicles (Passenger Cars)	0.403	0.003	0.478	0.041	0.065	0.038	305.746	0.008
		DDT DDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.436 6.281	0.004	0.813 1.225	0.127	0.121	0.090 0.126	366.704 836.479	0.008
		MC	Motorcycles	1.348	0.008	30.278	5.264	0.200	0.126	185.559	0.027
		DGV		0.177	0.002	1.683	0.176	0.018	0.009	308.262	0.052
		DGT	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.177	0.003	3.711	0.176	0.047	0.020	415.481	0.027
		DGV	Heavy-Duty Vehicles (8,501 + lbs)	0.516	0.004	5.147	0.522	0.048	0.021	629.402	0.028
		DDV	Light-Duty Vehicles (Passenger Cars)	0.993	0.006	0.529	0.780	0.057	0.024	301.083	0.045
		DDT	Light-Duty Trucks (0-8,500 lbs)	0.036	0.003	0.329	0.043	0.071	0.043	356,921	0.008
		DDV	Heavy-Duty Vehicles (8,501 + lbs)	6.070	0.003	1.054	0.062	0.081	0.032	1273.265	0.008
		MC	Motorcycles	1.348	0.002	28.947	4.661	0.184	0.008	175.890	0.052
		DGV	Light-Duty Vehicles (Passenger Cars)	0.114	0.002	1.274	0.139	0.018	0.008	323.765	0.032
		DGT	Light-Duty Trucks (0-8,500 lbs)	0.114	0.003	2.204	0.139	0.047	0.020	427.036	0.027
		DGV	Heavy-Duty Vehicles (8,501 + lbs)	0.233	0.004	3.380	0.318	0.047	0.020	642.197	0.028
		DDV	Light-Duty Vehicles (Passenger Cars)	0.203	0.003	0.302	0.423	0.056	0.024	288.963	0.043
		DDT	Light-Duty Venicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.203	0.003	0.302	0.023	0.036	0.029	366.771	0.008
		DDV	Heavy-Duty Vehicles (8,501 + lbs)	5.652	0.004	0.861	0.037	0.160	0.030	1568.353	0.008
		MC	Motorcycles	1.254	0.013	25.918	3,733	0.100	0.008	174.943	0.027

Table 5-49 EMFAC County-Specific On-Road Vehicle EFs – 2017 (cont.)

				Emission Factors (g/mi)									
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors	I			
				NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>		
	Gasoline	LDGV Light-Duty V	Vehicles (Passenger Cars)	0.196	0.004	1.942	0.189	0.048	0.021	377.017	0.027		
	Gasoline	LDGT Light-Duty T	rucks (0-8,500 lbs)	0.479	0.005	3.661	0.489	0.049	0.021	504.406	0.028		
	Gasoline	HDGV Heavy-Duty	Vehicles (8,501 + lbs)	1.202	0.007	6.598	1.035	0.058	0.026	738.048	0.045		
Modoc	Diesel		Vehicles (Passenger Cars)	0.254	0.003	0.550	0.042	0.061	0.034	342.545	0.008		
	Diesel	LDDT Light-Duty T	rucks (0-8,500 lbs)	0.422	0.004	0.519	0.055	0.067	0.039	459.270	0.008		
	Diesel		Vehicles (8,501 + lbs)	5.981	0.009	1.221	0.285	0.195	0.122	925.289	0.027		
	NA	MC Motorcycles		1.394	0.003	32.355	5.412	0.019	0.009	215.326	0.052		
	Gasoline	LDGV Light-Duty V	Vehicles (Passenger Cars)	0.156	0.003	1.484	0.144	0.047	0.020	315.885	0.027		
	Gasoline	LDGT Light-Duty T	rucks (0-8,500 lbs)	0.378	0.004	2.779	0.375	0.047	0.020	424.346	0.028		
	Gasoline		Vehicles (8,501 + lbs)	0.907	0.006	4.816	0.696	0.057	0.024	642.337	0.045		
Mono	Diesel	LDDV Light-Duty V	Pehicles (Passenger Cars)	0.262	0.003	0.377	0.030	0.060	0.032	298.707	0.008		
	Diesel	LDDT Light-Duty T	rucks (0-8,500 lbs)	0.512	0.004	0.461	0.047	0.069	0.041	381.275	0.008		
	Diesel	HDDV Heavy-Duty	Vehicles (8,501 + lbs)	5.369	0.013	0.938	0.222	0.166	0.096	1342.161	0.027		
	NA	MC Motorcycles		1.449	0.003	33.691	4.891	0.018	0.008	185.738	0.052		
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.156	0.003	1.577	0.166	0.047	0.020	339.254	0.027		
	Gasoline	LDGT Light-Duty T	rucks (0-8,500 lbs)	0.368	0.005	2.689	0.346	0.048	0.021	453.114	0.028		
	Gasoline	HDGV Heavy-Duty	Vehicles (8,501 + lbs)	0.667	0.007	3.714	0.453	0.056	0.024	671.872	0.045		
Monterey	Diesel	LDDV Light-Duty V	ehicles (Passenger Cars)	0.228	0.003	0.422	0.034	0.060	0.033	311.610	0.008		
	Diesel	LDDT Light-Duty T	rucks (0-8,500 lbs)	0.185	0.004	0.346	0.043	0.063	0.036	394.918	0.008		
	Diesel	HDDV Heavy-Duty	Vehicles (8,501 + lbs)	5.678	0.012	1.103	0.253	0.211	0.127	1290.990	0.027		
	NA	MC Motorcycles		1.267	0.002	25.764	3.895	0.018	0.008	188.237	0.052		
	Gasoline		ehicles (Passenger Cars)	0.111	0.003	1.227	0.130	0.047	0.020	307.297	0.027		
	Gasoline		rucks (0-8,500 lbs)	0.218	0.003	1.939	0.264	0.047	0.020	405.861	0.027		
	Gasoline	0	Vehicles (8,501 + lbs)	0.545	0.004	3.275	0.426	0.056	0.024	623.612	0.045		
Napa	Diesel		Vehicles (Passenger Cars)	0.183	0.003	0.274	0.022	0.057	0.024	288.061	0.008		
Napa	Diesel		rucks (0-8,500 lbs)	0.103	0.003	0.274	0.022	0.057	0.029	363.150	0.008		
	Diesel		Vehicles (8,501 + lbs)	5.806	0.003	0.171	0.020	0.033	0.020	1310.812	0.008		
	NA	MC Motorcycles	Vehicles (8,501 + 108)	1.276	0.012	25,663	3.931	0.192	0.008	174.444	0.027		
	Gasoline	_	ehicles (Passenger Cars)	0.150	0.002	1.483	0.158	0.018	0.020	304.678	0.032		
	Gasoline	,	rucks (0-8,500 lbs)	0.130	0.003	2.782	0.138	0.047	0.020	415.970	0.027		
	Gasoline		Vehicles (8,501 + lbs)	0.382	0.004	4.078	0.564	0.047	0.020	615.267	0.028		
Manada	Diesel			0.746	0.003	0.373	0.031	0.053	0.024	290.330	0.043		
Nevada	Diesel		Vehicles (Passenger Cars)	0.543	0.003	0.373	0.031	0.062	0.034	369.210	0.008		
		0	rucks (0-8,500 lbs)		0.004	0.440	0.046	0.070			0.008		
	Diesel		Vehicles (8,501 + lbs)	5.736			5.019		0.101	1281.332			
	NA	MC Motorcycles	(11:1- (D	1.387	0.002	30.616		0.018		174.443	0.052		
	Gasoline		Vehicles (Passenger Cars)	0.091	0.003	1.087	0.123	0.047	0.020	320.758	0.027		
	Gasoline		rucks (0-8,500 lbs)	0.155	0.004	1.517	0.192	0.047	0.020	419.091	0.028		
0	Gasoline		Vehicles (8,501 + lbs)	0.404	0.006	2.606	0.318	0.055	0.023	618.740	0.045		
Orange	Diesel		Vehicles (Passenger Cars)	0.097	0.003	0.252	0.019	0.053	0.026	286.485	0.008		
	Diesel		rucks (0-8,500 lbs)	0.087	0.004	0.178	0.022	0.053	0.025	366.955	0.008		
	Diesel		Vehicles (8,501 + lbs)	4.337	0.011	0.962	0.165	0.201	0.118	1183.954	0.027		
	NA	MC Motorcycles	71:1 @ ~ :	1.214	0.002	22.770	4.156	0.018	0.008	187.086	0.052		
	Gasoline		Vehicles (Passenger Cars)	0.103	0.003	1.161	0.126	0.047	0.019	308.000	0.027		
	Gasoline		rucks (0-8,500 lbs)	0.185	0.004	1.688	0.224	0.047	0.020	406.153	0.028		
***	Gasoline		Vehicles (8,501 + lbs)	0.454	0.006	2.844	0.366	0.054	0.023	609.382	0.045		
Placer	Diesel		Vehicles (Passenger Cars)	0.201	0.003	0.270	0.022	0.056	0.029	281.694	0.008		
	Diesel		rucks (0-8,500 lbs)	0.172	0.003	0.216	0.025	0.057	0.029	353.694	0.008		
	Diesel		Vehicles (8,501 + lbs)	4.995	0.012	0.882	0.213	0.174	0.101	1294.867	0.027		
	NA	MC Motorcycles		1.319	0.002	27.424	4.389	0.018	0.008	175.259	0.052		
	Gasoline		Pehicles (Passenger Cars)	0.187	0.004	1.915	0.195	0.048	0.020	350.550	0.027		
	Gasoline		rucks (0-8,500 lbs)	0.516	0.005	4.007	0.526	0.049	0.021	480.713	0.028		
	Gasoline		Vehicles (8,501 + lbs)	1.234	0.007	6.765	1.012	0.058	0.026	699.406	0.045		
Plumas	Diesel		ehicles (Passenger Cars)	0.309	0.003	0.518	0.041	0.063	0.035	325.640	0.008		
	Diesel		rucks (0-8,500 lbs)	0.209	0.004	0.404	0.049	0.064	0.036	418.235	0.008		
	Diesel		Vehicles (8,501 + lbs)	6.266	0.010	1.231	0.291	0.200	0.130	1012.473	0.027		
	NA	MC Motorcycles		1.376	0.003	32.045	5.588	0.019	0.009	201.535	0.052		

Table 5-49 EMFAC County-Specific On-Road Vehicle EFs – 2017 (cont.)

Fuel Type								Emission F	actors (g/m	i)	,	
Gaostine   IDOV   Light Day Vehicles (Passenger Cary)   0.095   0.003   1.086   0.126   0.017   0.019   310.533   0.027	County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
Giasoline   LDGT   Light-Dury Tracks (0.8.500 lbs)					NOx	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
Gasoline   HDGV   Havy-Dury Vehicles (S.S.01 + lbs)		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.095	0.003	1.086	0.126	0.047	0.019	310.553	0.027
Private   Diesel   LIDW   Light-Day Vehicles (Brasenger Cars)   0.125   0.033   0.008   0.016   0.053   0.025   274/979   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)		0.004		0.236				0.028
Diesel   LDDT   Light-Duy Trucks (0.5.500 lbs)   0.099   0.0031   0.170   0.021   0.055   0.027   344.180   0.002												
Disest   HDDV   Harv-Duty Vehicles (\$5.91 + lbs)	Riverside											
NA			1									
Gasoline   LDGV   Light-Day Vehicles (Passenger Cars)   0.112   0.003   1.319   0.146   0.047   0.020   319.409   0.027												
Sacrimento   Gasoline   LiDGT   Light-Dhy Tracks (0.8500 lbs)   0.207   0.004   1.927   0.261   0.017   0.030   418.763   0.035				Motorcycles	1.230							
Sacrimento   Gasoline   HDGV   Heavy-Duny Vehicles (Passenger Carp)   0.171   0.003   0.280   0.023   0.057   0.0029   28.35.05   0.008												
Diesel   LIDPY   Light-Darky Vehicles (Passenger Carp)   0.171   0.003   0.280   0.023   0.057   0.029   283.505   0.008												
Diesel   IDDT   Light-Duty Tracks (08-500 lbs)   0.496   0.004   0.482   0.057   0.078   0.049   367.089   0.008												
Diesel   HDDV   Heavy-Duty Vehicles (8.501 + Ibs)   5.691   0.012   1.263   0.248   0.203   0.121   1285.077   0.027	Sacramento											
NA												
Gasoline   LDGV   Light-Dury Venkies (Rassenger Cars)   0.123   0.003   1.225   0.121   0.047   0.020   300.052   0.027			+									
Gasoline   IDGT   Light-Duty Trucks (0-8.500 lbs)   0.270   0.004   2.048   0.291   0.047   0.020   306.239   0.028					_							
San Benardino   Gasoline   HDGV   Heavy-Duty Vehicles (S.501 + lbs)   0.587   0.006   3.275   0.035   0.045   0.057   0.036   0.285   0.041   0.008									0.00.1.			
San Benito   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.285   0.003   0.322   0.025   0.037   0.030   0.285   4.47   0.008												
Diesel   IDDT   Light-Dury Tracks (0.8,500 lbs)   0.041   0.003   0.145   0.017   0.050   0.023   359.490   0.008						0.000			0.00			
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.643   0.015   0.880   0.219   0.158   0.092   1536.477   0.027	San Benito			<u> </u>								
San Diego   NA												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.107   0.003   1.175   0.128   0.047   0.020   316.963   0.027				1 1 1								
San Bernardino   Gasoline   LIDGT   Light-Dury Trucks (0.8.500 lbs)   0.227   0.004   1.946   0.264   0.047   0.020   414.730   0.028												
San Bernardino   Diesel   LIDDV   Light-Duty Vehicles (R5.501 + lbs)   0.489   0.006   2.944   0.371   0.054   0.023   609.885   0.045												
San Bernardino   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   Diesel   Loght Duty Trucks (0-8,500 lbs)   Diesel   Loght Duty Trucks (0-8,500 lbs)   A,685   O.013   O.026   O.025   O.056   O.029   355,645   O.008												
Diesel   LIDDT   Light-Duty Trucks (0.8.500 lbs)   Dissel   HIDDV   Revy-Duty Vehicles (8.501 + lbs)   4.685   0.013   0.768   0.139   0.164   0.091   335.645   0.008												
Diesel HDDV   Heavy-Duty Vehicles (8,501 + lbs)	San Bernardino											
NA   MC   Motorcycles   1.256   0.002   25.454   3.748   0.018   0.008   174.300   0.052												
San Diego												
San Diego   Casoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.188   0.004   1.6666   0.235   0.047   0.020   433.658   0.028				-								
San Diego   Diesel   LDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.415   0.006   2.532   0.329   0.055   0.023   640.337   0.045												
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   D.133   D.003   D.269   D.020   D.055   D.027   306.314   D.008												
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.161   0.004   0.260   0.030   0.059   0.032   388.853   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 lbs)   5.264   0.012   1.214   0.240   0.201   0.117   1317.678   0.027     NA   MC   Motorcycles   1.256   0.002   25.427   4.002   0.018   0.008   189.944   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.104   0.003   1.207   0.139   0.047   0.020   345.248   0.027     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.156   0.004   1.501   0.196   0.047   0.020   345.248   0.027     Gasoline   HDGV   Heavy-Duty Vehicles (Ressenger Cars)   0.188   0.003   0.375   0.027   0.055   0.028   322.986   0.008     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.154   0.004   0.286   0.033   0.056   0.029   406.805   0.008     Diesel   HDDV   Heavy-Duty Vehicles (Resenger Cars)   0.111   0.00   1.17   0.13   0.05   0.02   319.80   0.052     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.22   0.00   1.86   0.27   0.055   0.02   319.80   0.027     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.22   0.00   1.86   0.27   0.05   0.02   319.80   0.027     San Joaquin   Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.22   0.00   1.17   0.13   0.05   0.02   319.80   0.027     NA   MC   Motorcycles   0.49   0.018   0.049   0.018   0.027   0.055   0.02   319.80   0.052     San Joaquin   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.11   0.00   1.17   0.13   0.05   0.02   319.80   0.027     San Joaquin   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.17   0.00   0.24   0.02   0.05   0.02   319.80   0.022     NA   MC   Motorcycles   1.30   0.00   0.24   0.02   0.05   0.03   363.53   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.17   0.00   0.24   0.02   0.05   0.03   363.53   0.008     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.124   0.003   0.06   0.03   0.06   0.03   363.53   0.008     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.124   0.003   0.266   0												
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.264   0.012   1.214   0.240   0.201   0.117   1317.678   0.027	San Diego											
NA   MC   Motorcycles   1.256   0.002   25.427   4.002   0.018   0.008   189.944   0.052												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.104   0.003   1.207   0.139   0.047   0.020   345.248   0.027												
San Francisco   Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.156   0.004   1.501   0.196   0.047   0.020   445.872   0.028												
San Francisco   Diesel   LDDV   Light-Duty Vehicles (8,501 + lbs)   0.451   0.007   2.654   0.347   0.060   0.026   678.713   0.045												
San Francisco   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.138   0.003   0.375   0.027   0.055   0.028   322,986   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.156	0.004	1.501	0.196	0.047	0.020	445.872	0.028
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.154   0.004   0.286   0.033   0.056   0.029   406,805   0.008		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.451	0.007	2.654	0.347	0.060	0.026	678.713	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   6.381   0.013   1.557   0.322   0.316   0.192   1408.729   0.027	San Francisco	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.138	0.003	0.375	0.027	0.055	0.028	322.986	0.008
NA   MC   Motorcycles   1.284   0.003   26.299   4.649   0.018   0.008   201.388   0.052		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.154	0.004	0.286	0.033	0.056	0.029	406.805	0.008
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.11   0.00   1.17   0.13   0.05   0.02   319.80   0.027		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.381	0.013	1.557	0.322	0.316	0.192	1408.729	0.027
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.22   0.00   1.86   0.27   0.05   0.02   420.73   0.028		NA	MC	Motorcycles	1.284	0.003	26.299	4.649	0.018	0.008	201.388	0.052
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.22   0.00   1.86   0.27   0.05   0.02   420.73   0.028		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.11	0.00	1.17	0.13	0.05	0.02	319.80	0.027
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   D.17   D.00   D.24   D.02   D.05   D.03   289.13   D.008		Gasoline	LDGT		0.22	0.00	1.86	0.27	0.05	0.02	420.73	0.028
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   D.17   D.00   D.24   D.02   D.05   D.03   D.03   D.08		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.49	0.01	2.99	0.40	0.05	0.02	624.00	0.045
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.20   0.00   0.24   0.03   0.06   0.03   363.53   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.48   0.01   0.96   0.23   0.18   0.10   1416.92   0.027     NA   MC   Motorcycles   1.30   0.00   27.72   4.13   0.02   0.01   178.98   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.124   0.003   1.226   0.134   0.047   0.019   301.499   0.027     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.318   0.004   2.303   0.315   0.047   0.020   406.842   0.028     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.618   0.006   3.368   0.459   0.056   0.024   612.127   0.045     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.214   0.003   0.286   0.022   0.056   0.029   289.710   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.201   0.003   0.303   0.037   0.065   0.037   360.505   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.870   0.011   1.104   0.263   0.199   0.125   1121.854   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.201   0.003   0.201   0.003   0.201   0.005   0.007     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.201   0.003   0.303   0.037   0.065   0.037   360.505   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.001   0.001   0.002   0.003   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.002   0.003   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.002   0.003   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.001   0.002   0.003   0.0008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.001   0.002   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003   0.003	San Joaquin		LDDV					0.02		0.03		
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.48   0.01   0.96   0.23   0.18   0.10   1416.92   0.027     NA   MC   Motorcycles   1.30   0.00   27.72   4.13   0.02   0.01   178.98   0.052     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.124   0.003   1.226   0.134   0.047   0.019   301.499   0.027     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.318   0.004   2.303   0.315   0.047   0.020   406.842   0.028     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.618   0.006   3.368   0.459   0.056   0.024   612.127   0.045     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.214   0.003   0.286   0.022   0.056   0.029   289.710   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.201   0.003   0.303   0.303   0.0365   0.065   0.037   360.505   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.870   0.011   1.104   0.263   0.199   0.125   1121.854   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.870   0.011   1.104   0.263   0.199   0.125   1121.854   0.027     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.001   0.002   0.003   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.001   0.002   0.003   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.001   0.002   0.003   0.0008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.001   0.002   0.003   0.0008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.001   0.002   0.003   0.0008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.001   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0.002   0	1		1									
NA   MC   Motorcycles   1.30   0.00   27.72   4.13   0.02   0.01   178.98   0.052												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.124   0.003   1.226   0.134   0.047   0.019   301.499   0.027												
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.318   0.004   2.303   0.315   0.047   0.020   406.842   0.028					_							
Gasoline HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.618   0.006   3.368   0.459   0.056   0.024   612.127   0.045						0.000						
San Luis Obispo         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.214         0.003         0.286         0.022         0.056         0.029         289.710         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.201         0.003         0.303         0.037         0.065         0.037         360.505         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         5.870         0.011         1.104         0.263         0.199         0.125         1121.854         0.027												
Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.201         0.003         0.303         0.037         0.065         0.037         360.505         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         5.870         0.011         1.104         0.263         0.199         0.125         1121.854         0.027	San Luis Obispo											
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 5.870 0.011 1.104 0.263 0.199 0.125 1121.854 0.027												
		NA	MC	Motorcycles	1.334	0.002	27.437	4.578	0.018	0.008	175.302	0.052

Table 5-49 EMFAC County-Specific On-Road Vehicle EFs – 2017 (cont.)

Gasoline	Vehicles (Passenger Cars) Trucks (0-8,500 lbs) Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) selvential (1,500 lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs)	NO <sub>x</sub> 0.101 0.137 0.361 0.133 0.068 4.720 1.234 0.137 0.627 0.193 0.162 5.787 1.292 0.104 0.190 0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.388	SO <sub>x</sub> 0.003 0.004 0.006 0.003 0.011 0.002 0.003 0.001 0.003 0.003 0.001 0.002 0.003 0.003 0.003 0.001 0.002 0.003 0.003 0.001 0.002 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003	Criteria I  CO  1.121 1.245 2.206 0.228 0.131 1.083 22.710 1.334 2.358 3.396 0.252 0.222 1.150 24.793 1.176 1.712 2.812 0.230 0.171 0.991 23.907 1.698	ROG 0.138 0.168 0.290 0.018 0.090 0.018 0.016 0.242 3.426 0.152 0.337 0.454 0.019 0.026 0.254 3.668 0.133 0.229 0.362 0.017 0.021 0.241 3.908	nd Ozone F PM16 0.047 0.047 0.055 0.054 0.051 0.253 0.018 0.047 0.061 0.055 0.058 0.035 0.018 0.047 0.047 0.055 0.058 0.235 0.018 0.047 0.047 0.047 0.047 0.047 0.047 0.047 0.055 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058 0.058	PM <sub>2.5</sub> 0.020 0.020 0.023 0.023 0.151 0.002 0.020 0.020 0.020 0.020 0.020 0.020 0.026 0.028 0.031 0.143 0.008 0.020 0.020 0.020 0.020 0.020 0.020 0.023 0.023 0.025 0.026 0.026 0.026	CO <sub>2</sub> 304.481 390.834 587.551 281.430 354.448 1206.841 179.365 293.074 394.217 280.881 346.315 1265.117 167.460 309.101 407.847 602.130 283.046 359.656 1343.193	NH <sub>3</sub> <sup>1</sup> 0.027 0.028 0.045 0.008 0.008 0.027 0.052 0.027 0.052 0.027 0.052 0.028 0.045 0.008 0.008 0.027 0.055 0.008 0.027 0.055 0.028 0.027 0.055 0.027 0.055 0.028 0.027 0.027 0.027 0.027 0.027 0.028 0.028
Gasoline   LDGT   Light-Duty	Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Wehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Wehicles (Rassenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) es Wehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) Yehicles (8,501 + lbs) y Vehicles (8,501 + lbs) es Wehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Vehicles (8,501 + lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs)	0.101 0.137 0.361 0.133 0.068 4,720 1.234 0.133 0.627 0.193 0.627 0.193 0.162 5.787 1.292 0.104 0.132 0.096 5.477 1.252 0.168 0.404 0.404 0.705 0.338	0.003 0.004 0.006 0.003 0.003 0.011 0.002 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 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0.235 0.018 0.047 0.047 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 0.055 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Gasoline   LDGT   Light-Duty	Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Wehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Wehicles (Rassenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) es Wehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) Yehicles (8,501 + lbs) y Vehicles (8,501 + lbs) es Wehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Vehicles (8,501 + lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs) y Vehicles (8,501 lbs)	0.137 0.361 0.133 0.068 4.720 1.234 0.137 0.627 0.193 0.162 5.787 1.292 0.104 0.132 0.996 5.477 1.252 0.168 0.404 0.705 0.388	0.004 0.006 0.003 0.003 0.011 0.002 0.003 0.004 0.006 0.003 0.012 0.002 0.002 0.003 0.004 0.006 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San Mateo	Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) ts Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (8,501 + lbs) Vehicles (8,501 + lbs) Vehicles (8,501 + lbs) ty Vehicles (8,501 + lbs) ty Vehicles (8,501 + lbs) ty Vehicles (8,501 + lbs) ty Vehicles (8,501 + lbs) ty Vehicles (8,500 lbs) ty Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) ty Vehicles (8,501 + lbs) ty Vehicles (8,501 + lbs) ty Vehicles (Passenger Cars) Trucks (0-8,500 lbs) ty Vehicles (Passenger Cars) Trucks (0-8,500 lbs) ty Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Vehicles (Passenger Cars) Vehicles (Rassenger Cars)	0.133 0.068 4.720 1.234 0.137 0.335 0.162 5.787 1.292 0.104 0.190 0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.388	0.003 0.003 0.001 0.011 0.002 0.003 0.004 0.006 0.003 0.012 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.	0.228 0.131 1.083 22.710 1.334 2.358 3.396 0.252 0.222 1.150 1.176 1.712 2.812 0.230 0.171 0.991 1.698	0.018 0.016 0.242 3.426 0.152 0.337 0.454 0.019 0.026 0.254 3.668 0.133 0.229 0.362 0.017 0.021	0.054 0.051 0.253 0.018 0.047 0.047 0.055 0.058 0.235 0.018 0.047 0.047 0.047 0.047 0.055 0.055	0.026 0.023 0.151 0.008 0.020 0.020 0.020 0.028 0.031 0.143 0.008 0.020 0.022 0.023 0.023 0.023 0.023	281.430 354.448 1206.841 179.365 293.074 394.217 604.772 280.881 346.315 1265.117 167.460 309.101 407.847 602.130 283.046 359.656 1343.193	0.008 0.008 0.027 0.052 0.027 0.028 0.045 0.008 0.027 0.052 0.027 0.028 0.008 0.008 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.009 0.
Diesel   LDDT   Light-Duty	Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) ss Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) ss Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) ss Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (8,501 + lbs)	0.068 4.720 1.234 0.137 0.335 0.627 0.193 0.162 5.787 1.292 0.104 0.190 0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.388	0.003 0.011 0.002 0.003 0.004 0.006 0.003 0.003 0.012 0.002 0.003 0.003 0.004 0.006 0.003 0.003 0.003 0.003 0.004 0.006 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.	0.131 1.083 22.710 1.334 2.358 3.396 0.252 0.222 1.150 24.793 1.176 1.712 2.812 0.230 0.171 0.991	0.016 0.242 3.426 0.152 0.337 0.454 0.019 0.026 0.254 3.668 0.133 0.229 0.362 0.017 0.021	0.051 0.253 0.018 0.047 0.047 0.061 0.055 0.058 0.235 0.018 0.047 0.047 0.055 0.055	0.023 0.151 0.008 0.020 0.020 0.026 0.028 0.031 0.143 0.008 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.020 0.	354.448 1206.841 179.365 293.074 394.217 604.772 280.881 346.315 1265.117 167.460 309.101 407.847 602.130 283.046 359.656 1343.193	0.008 0.027 0.052 0.027 0.028 0.045 0.008 0.008 0.027 0.052 0.027 0.028 0.045 0.008
Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Gasoline HDGV Heavy-Dut Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Gasoline HDGV Heavy-Dut Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Gasoline LDGT Light-Duty Gasoline LDGT Light-Duty Gasoline LDGT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT Light-Duty Diesel LDGT LDGT Light-Duty Diesel LDGT LDGT LDGT LDGT LDGT LDGT LDGT LDGT	y Vehicles (8,501 + lbs)  28  Vehicles (Passenger Cars)  Trucks (0-8,500 lbs)  y Vehicles (8,501 + lbs)  Vehicles (Rassenger Cars)  Trucks (0-8,500 lbs)  y Vehicles (8,501 + lbs)  y Vehicles (8,501 + lbs)  vehicles (Passenger Cars)  Trucks (0-8,500 lbs)  y Vehicles (8,501 + lbs)  Vehicles (8,501 + lbs)  Vehicles (8,501 + lbs)  vehicles (8,501 + lbs)  vehicles (8,501 + lbs)  vehicles (8,501 + lbs)  y Vehicles (8,501 bs)  y Vehicles (8,501 + lbs)  vehicles (8,501 + lbs)  vehicles (8,501 + lbs)  vehicles (8,501 + lbs)	4.720 1.234 0.137 0.137 0.162 0.162 5.787 1.292 0.104 0.145 0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.705 0.388	0.011 0.002 0.003 0.004 0.006 0.003 0.0012 0.002 0.003 0.002 0.003 0.004 0.003 0.003 0.003 0.003 0.003 0.004 0.003 0.003 0.004 0.003 0.003 0.004 0.003 0.003 0.004 0.003 0.003 0.004 0.003 0.003 0.004 0.003 0.003 0.004 0.003 0.003 0.004 0.003 0.003 0.003 0.004 0.003 0.003 0.003 0.003 0.004 0.003 0.003 0.003 0.003 0.003 0.004 0.003 0.003 0.003 0.003 0.004 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.004 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0	1.083 22.710 1.334 2.358 3.396 0.252 0.222 1.150 24.793 1.176 1.712 2.812 0.230 0.171 0.991	0.242 3.426 0.152 0.337 0.454 0.019 0.026 0.254 3.668 0.133 0.229 0.362 0.017 0.021	0.253 0.018 0.047 0.047 0.061 0.055 0.058 0.235 0.018 0.047 0.047 0.047 0.053 0.053 0.054	0.151 0.008 0.020 0.020 0.026 0.028 0.031 0.143 0.008 0.020 0.020 0.020 0.020 0.020 0.020	1206.841 179.365 293.074 394.217 604.772 280.881 346.315 1265.117 167.460 309.101 407.847 602.130 283.046 139.656 1343.193	0.027 0.052 0.027 0.028 0.045 0.008 0.008 0.027 0.052 0.027 0.028 0.045 0.008
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LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty	Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Rasenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (9,500 lbs) y Vehicles (8,501 + lbs) Vehicles (9,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (8,501 + lbs)	1.234 0.137 0.335 0.627 0.193 0.162 5.787 1.292 0.104 0.190 0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 0.404 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Gasoline	Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) Trucks (0-8,500 lbs) y Vehicles (0-8,500 lbs) y Vehicles (8,501 + lbs) es Vehicles (8,501 + lbs) ty Vehicles (8,501 + lbs) y Vehicles (9,500 lbs) y Vehicles (9,500 lbs) y Vehicles (9,500 lbs) y Vehicles (9,501 + lbs)	0.137 0.335 0.627 0.193 0.162 5.787 1.292 0.104 0.190 0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.388	0.003 0.004 0.006 0.003 0.012 0.002 0.003 0.004 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003	1.334 2.358 3.396 0.252 0.222 1.150 24.793 1.176 1.712 2.812 0.230 0.171 0.991 23.907 1.698	0.152 0.337 0.454 0.019 0.026 0.254 3.668 0.133 0.229 0.362 0.017 0.021 0.241	0.047 0.047 0.061 0.055 0.058 0.235 0.018 0.047 0.047 0.055 0.053 0.054	0.020 0.020 0.026 0.028 0.031 0.143 0.008 0.020 0.020 0.023 0.026 0.026 0.026	293.074 394.217 604.772 280.881 346.315 1265.117 167.460 309.101 407.847 602.130 283.046 359.656 1343.193	0.027 0.028 0.045 0.008 0.008 0.027 0.052 0.027 0.028 0.045 0.008
Santa Barbara  Gasoline Gasoline HDGV Heavy-Dut Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGT Light-Duty Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Light-Duty Gasoline HDGV Heavy-Dut Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDT	Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) y Vehicles (8,501 + lbs) Trucks (0-8,500 lbs) y Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (8,501 + lbs) Vehicles (Rasenger Cars)	0.335 0.627 0.193 0.162 5.787 1.292 0.104 0.190 0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.388	0.004 0.006 0.003 0.012 0.002 0.003 0.004 0.006 0.003 0.013 0.002 0.003 0.003 0.013 0.002	2.358 3.396 0.252 0.222 1.150 24.793 1.176 1.712 2.812 0.230 0.171 0.991 23.907 1.698	0.337 0.454 0.019 0.026 0.254 3.668 0.133 0.229 0.362 0.017 0.021 0.241 3.908	0.047 0.061 0.055 0.058 0.235 0.018 0.047 0.047 0.055 0.053 0.054 0.208	0.020 0.026 0.028 0.031 0.143 0.008 0.020 0.020 0.023 0.026 0.026	394.217 604.772 280.881 346.315 1265.117 167.460 309.101 407.847 602.130 602.130 359.656 1343.193	0.028 0.045 0.008 0.008 0.027 0.052 0.027 0.028 0.045 0.008
Santa Barbara  Gasoline  Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Diesel LDDV Light-Duty Gasoline LDGT Light-Duty Gasoline HDGV Heavy-Dut Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGT Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Gasoline LDGV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty	y Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (8,501 + lbs) Vehicles (8,501 + lbs) Vehicles (8,501 + lbs) es Vehicles (8,501 + lbs) ts Vehicles (8,501 + lbs) y Vehicles (8,501 bs) y Vehicles (8,501 + lbs) vehicles (8,501 + lbs) Vehicles (Passenger Cars) Vehicles (8,501 + lbs) Vehicles (8,501 + lbs)	0.627 0.193 0.162 5.787 1.292 0.104 0.190 0.454 0.192 0.096 5.477 1.252 0.168 0.404 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.405 0.	0.006 0.003 0.003 0.012 0.002 0.003 0.004 0.006 0.003 0.003 0.013 0.002 0.003	3.396 0.252 0.222 1.150 24.793 1.176 1.712 2.812 0.230 0.171 0.991 23.907 1.698	0.454 0.019 0.026 0.254 3.668 0.133 0.229 0.362 0.017 0.021 0.241 3.908	0.061 0.055 0.058 0.235 0.018 0.047 0.047 0.055 0.053 0.054	0.026 0.028 0.031 0.143 0.008 0.020 0.020 0.023 0.026 0.026	604.772 280.881 346.315 1265.117 167.460 309.101 407.847 602.130 283.046 359.656 1343.193	0.045 0.008 0.008 0.027 0.052 0.027 0.028 0.045 0.008
Santa Barbara  Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Diesel LDDT Light-Duty Gasoline HDGV Heavy-Dut Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty	Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Rasonger Cars) Trucks (0-8,500 lbs) y Vehicles (Rasonger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Rasonger Cars)	0.193 0.162 5.787 1.292 0.104 0.190 0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.388	0.003 0.003 0.012 0.002 0.003 0.004 0.006 0.003 0.003 0.013 0.002 0.003 0.004	0.252 0.222 1.150 24.793 1.176 1.712 2.812 0.230 0.171 0.991 23.907 1.698	0.019 0.026 0.254 3.668 0.133 0.229 0.362 0.017 0.021 0.241 3.908	0.055 0.058 0.235 0.018 0.047 0.047 0.055 0.053 0.054 0.208	0.028 0.031 0.143 0.008 0.020 0.020 0.023 0.026 0.026 0.125	280.881 346.315 1265.117 167.460 309.101 407.847 602.130 283.046 359.656 1343.193	0.008 0.008 0.027 0.052 0.027 0.028 0.045 0.008
Diesel LDDT Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGT Light-Duty Gasoline LDGT Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGT Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGT Light-Duty Gasoline LDGT Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGT Light-Duty Gasoline LDGT Light-Duty Gasoline LDGT Light-Duty Gasoline LDGT Light-Duty Gasoline LDGT Light-Duty Gasoline HDGV Heavy-Dut	Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) s Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (R501 + lbs) Vehicles (0-8,500 lbs) y Vehicles (0-8,500 lbs) y Vehicles (8,501 + lbs) s Vehicles (8,501 + lbs) ts Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (R501 + lbs)	0.162 5.787 1.292 0.104 0.190 0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.705	0.003 0.012 0.002 0.003 0.004 0.006 0.003 0.003 0.003 0.002 0.003 0.003	0.222 1.150 24.793 1.176 1.712 2.812 0.230 0.171 0.991 23.907 1.698	0.026 0.254 3.668 0.133 0.229 0.362 0.017 0.021 0.241 3.908	0.058 0.235 0.018 0.047 0.047 0.055 0.053 0.054 0.208	0.031 0.143 0.008 0.020 0.020 0.023 0.026 0.026 0.125	346.315 1265.117 167.460 309.101 407.847 602.130 283.046 359.656 1343.193	0.008 0.027 0.052 0.027 0.028 0.045 0.008 0.008
Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Gasoline HDGV Heavy-Dut Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGT Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGT Light-Duty Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle NA MC Motorcycle Gasoline LDGT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Diesel LDGT Light-Duty NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut	y Vehicles (8,501 + lbs) 28 Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) 29 Vehicles (8,501 + lbs) 29 Vehicles (Passenger Cars) Trucks (0-8,500 lbs) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (8,501 + lbs)	5.787 1.292 0.104 0.190 0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.388	0.012 0.002 0.003 0.004 0.006 0.003 0.003 0.013 0.002 0.003	1.150 24.793 1.176 1.712 2.812 0.230 0.171 0.991 23.907 1.698	0.254 3.668 0.133 0.229 0.362 0.017 0.021 0.241 3.908	0.235 0.018 0.047 0.047 0.055 0.053 0.054 0.208	0.143 0.008 0.020 0.020 0.023 0.026 0.026 0.125	1265.117 167.460 309.101 407.847 602.130 283.046 359.656 1343.193	0.027 0.052 0.027 0.028 0.045 0.008 0.008
NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty	Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) vehicles (8,501 + lbs) vehicles (8,501 + lbs) vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars)	1.292 0.104 0.190 0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.388	0.002 0.003 0.004 0.006 0.003 0.003 0.013 0.002 0.003	24.793 1.176 1.712 2.812 0.230 0.171 0.991 23.907 1.698	3.668 0.133 0.229 0.362 0.017 0.021 0.241 3.908	0.018 0.047 0.047 0.055 0.053 0.054 0.208	0.008 0.020 0.020 0.023 0.026 0.026 0.125	167.460 309.101 407.847 602.130 283.046 359.656 1343.193	0.052 0.027 0.028 0.045 0.008 0.008
Gasoline   LDGV   Light-Duty	Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) ss Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (8,501 + lbs)	0.104 0.190 0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.388	0.003 0.004 0.006 0.003 0.003 0.013 0.002 0.003 0.003	1.176 1.712 2.812 0.230 0.171 0.991 23.907 1.698	0.133 0.229 0.362 0.017 0.021 0.241 3.908	0.047 0.047 0.055 0.053 0.054 0.208	0.020 0.020 0.023 0.026 0.026 0.125	309.101 407.847 602.130 283.046 359.656 1343.193	0.027 0.028 0.045 0.008 0.008
Gasoline LDGT Light-Duty Gasoline HDGV Heavy-Dut Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Na MC Motorcycle LDGV Light-Duty Gasoline HDGV Heavy-Dut Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Diesel LDDV Light-Duty Diesel HDDV Light-Duty Diesel LDGV Light-Duty Diesel LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Gasoline HDGV Heavy-Dut	Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (Passenger Cars) y Vehicles (8,501 + lbs) Vehicles (8,501 + lbs)	0.190 0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.388	0.004 0.006 0.003 0.003 0.013 0.002 0.003 0.004	1.712 2.812 0.230 0.171 0.991 23.907 1.698	0.229 0.362 0.017 0.021 0.241 3.908	0.047 0.055 0.053 0.054 0.208	0.020 0.023 0.026 0.026 0.125	407.847 602.130 283.046 359.656 1343.193	0.028 0.045 0.008 0.008
Santa Clara  Gasoline  Diesel  Diesel  DDV Light-Duty  Diesel  DDV Light-Duty  Diesel  HDDV Heavy-Dut  NA  MC Motorcycle  Gasoline  LDGV Light-Duty  NA  MC Motorcycle  Gasoline  Gasoline  DBGT Light-Duty  Gasoline  HDGV Heavy-Dut  Diesel  LDDT Light-Duty  Diesel  LDDT Light-Duty  Diesel  LDDT Light-Duty  Diesel  HDDV Heavy-Dut  NA  MC Motorcycle  Gasoline  LDGT Light-Duty  Diesel  LDDT Light-Duty  Diesel  LDDT Light-Duty  Diesel  LDGT Light-Duty  Diesel  LDGT Light-Duty  Diesel  LDGT Light-Duty  Gasoline  LDGT Light-Duty  Gasoline  LDGT Light-Duty  Gasoline  LDGT Light-Duty  Gasoline  LDGT Light-Duty  Gasoline  LDGT Light-Duty  Gasoline  LDGT Light-Duty  Gasoline  LDGT Light-Duty  Gasoline  LDGT Light-Duty  Gasoline  LDGT Light-Duty  Gasoline  LDGT Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Light-Duty  Lig	y Vehicles (8,501 + lbs) Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (8,501 + lbs)	0.454 0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.388	0.006 0.003 0.003 0.013 0.002 0.003 0.004	2.812 0.230 0.171 0.991 23.907 1.698	0.362 0.017 0.021 0.241 3.908	0.055 0.053 0.054 0.208	0.023 0.026 0.026 0.125	602.130 283.046 359.656 1343.193	0.045 0.008 0.008
Santa Clara  Diesel LDDV Light-Duty Diesel IDDT Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGT Light-Duty Gasoline IDGT Light-Duty Diesel IDDV Light-Duty Diesel IDDV Light-Duty Diesel IDDT Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut	Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars)	0.132 0.096 5.477 1.252 0.168 0.404 0.705 0.388	0.003 0.003 0.013 0.002 0.003 0.004	0.230 0.171 0.991 23.907 1.698	0.017 0.021 0.241 3.908	0.053 0.054 0.208	0.026 0.026 0.125	283.046 359.656 1343.193	0.008
Diesel LDDT Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline HDGV Heavy-But Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut	Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) es Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars)	0.096 5.477 1.252 0.168 0.404 0.705 0.388	0.003 0.013 0.002 0.003 0.004	0.171 0.991 23.907 1.698	0.021 0.241 3.908	0.054 0.208	0.026 0.125	359.656 1343.193	0.008
Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Gasoline HDGV Heavy-Dut Diesel LDDV Light-Duty Diesel LDDT Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGT Light-Duty Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGT Light-Duty Gasoline HDGV Heavy-Dut Heavy-Dut NA HOTORCYCLE HODV Light-Duty Heavy-Dut HODV Heavy-Dut HODV Heavy-Dut HODV Heavy-Dut HODV Heavy-Dut	y Vehicles (8,501 + lbs) es Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars)	5.477 1.252 0.168 0.404 0.705 0.388	0.013 0.002 0.003 0.004	0.991 23.907 1.698	0.241 3.908	0.208	0.125	1343.193	
NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Diesel LDDT Light-Duty Diesel LDDT Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut Heavy-Dut Gasoline HDGV Heavy-Dut Gasoline HDGV Heavy-Dut	Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars)	1.252 0.168 0.404 0.705 0.388	0.002 0.003 0.004	23.907 1.698	3.908				0.027
Gasoline LDGV Light-Duty Gasoline LDGT Light-Duty Gasoline HDGV Heavy-Dut Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut	Vehicles (Passenger Cars) Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars)	0.168 0.404 0.705 0.388	0.003 0.004	1.698		0.018			
Gasoline LDGT Light-Duty Gasoline HDGV Heavy-Dut Diesel LDDV Light-Duty Diesel LDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGV Light-Duty Gasoline HDGV Heavy-Dut	Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs) Vehicles (Passenger Cars)	0.404 0.705 0.388	0.004		0.174		0.008	178.095	0.052
Santa Cruz Diesel IDDV Light-Duty Diesel IDDV Light-Duty Diesel IDDV Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline IDGV Light-Duty Gasoline HDGV Heavy-Dut Gasoline HDGV Heavy-Dut	y Vehicles (8,501 + lbs) Vehicles (Passenger Cars)	0.705 0.388		2 982		0.047	0.020	326.956	0.027
Santa Cruz  Diesel LDDV Light-Duty  Diesel IDDT Light-Duty  Diesel HDDV Heavy-Dut  NA MC Motorcycle  Gasoline LDGV Light-Duty  Gasoline IDGT Light-Duty  Gasoline HDGV Heavy-Dut	Vehicles (Passenger Cars)	0.388	0.007		0.398	0.048	0.021	436.937	0.028
Diesel LDDT Light-Duty Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline IDGT Light-Duty Gasoline HDGV Heavy-Dut				3.916	0.496	0.057	0.025	648.289	0.045
Diesel HDDV Heavy-Dut NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGT Light-Duty Gasoline HDGV Heavy-Dut	Trucks (0-8.500 lbs)		0.003	0.482	0.043	0.067	0.039	313.249	0.008
NA MC Motorcycle Gasoline LDGV Light-Duty Gasoline LDGT Light-Duty Gasoline HDGV Heavy-Dut		0.222	0.004	0.312	0.039	0.062	0.034	371.408	0.008
Gasoline LDGV Light-Duty Gasoline LDGT Light-Duty Gasoline HDGV Heavy-Dut	y Vehicles (8,501 + lbs)	6.608 1.316	0.011	1.353	0.318	0.270	0.174	1199.193 185.221	0.027
Gasoline LDGT Light-Duty Gasoline HDGV Heavy-Dut		0.137	0.002	27.501	4.737	0.018	0.009	326,978	0.052
Gasoline HDGV Heavy-Dut	Vehicles (Passenger Cars)		0.003	1.423	0.156	0.047	0.020		0.027
	y Vehicles (8,501 + lbs)	0.324 0.683	0.004	2.486 3.910	0.570	0.047	0.020	434.536 652.853	0.028
	Vehicles (8,501 + 108) Vehicles (Passenger Cars)	0.083	0.007	0.349	0.028	0.057	0.024	294.546	0.043
	Trucks (0-8,500 lbs)	0.248	0.003	0.362	0.028	0.058	0.031	368.425	0.008
	y Vehicles (8,501 + lbs)	5.851	0.004	0.957	0.235	0.170	0.101	1356.736	0.027
NA MC Motorcycle	•	1.326	0.002	28.900	5.050	0.018	0.008	183.633	0.052
	Vehicles (Passenger Cars)	0.175	0.002	1.758	0.171	0.048	0.000	361.280	0.032
	Trucks (0-8,500 lbs)	0.435	0.005	3.320	0.423	0.048	0.020	483.585	0.027
	y Vehicles (8,501 + lbs)	1.032	0.007	5.643	0.423	0.057	0.025	708.861	0.045
		4	0.007		0.033	0.057	0.023		0.043
Bleser EBB v Eight Buty	Vehicles (Passenger Cars)	0.145 0.251	0.003	0.461	0.033	0.056	0.028	326.711 408.351	0.008
	Trucks (0-8,500 lbs)	5.900	0.004	1.252	0.078	0.083	0.054	908.134	0.008
NA MC Motorcycle	y Vehicles (8,501 + lbs)	1.374	0.009	31.506	5.362	0.188	0.117	207.609	0.027
	Vehicles (Passenger Cars)	0.177	0.003	1.730	0.172	0.019	0.009	350.002	0.032
	Trucks (0-8,500 lbs)	0.177	0.004	3.329	0.172	0.047	0.020	468.103	0.027
	y Vehicles (8,501 + lbs)	1.006	0.003	5.519	0.463	0.048	0.021	689.801	0.028
	Vehicles (Passenger Cars)	0.289	0.007	0.477	0.037	0.038	0.023	323.382	0.043
	Trucks (0-8,500 lbs)	0.289	0.003	0.477	0.037	0.061	0.054	402.903	0.008
	y Vehicles (8,501 + lbs)	5.635	0.004	0.522	0.068	0.079	0.050	1430.686	0.008
NA MC Motorcycle	*	1.396	0.014	32.454	5.262	0.163	0.093	200.327	0.027
	Vehicles (Passenger Cars)	0.106	0.003	1.121	0.132	0.018	0.009	327.660	0.032
	Trucks (0-8,500 lbs)	0.106	0.003	1.671	0.132	0.047	0.020	430.288	0.027
	y Vehicles (8,501 + lbs)	0.196	0.004	2.801	0.242	0.047	0.020	646.484	0.028
	Vehicles (8,501 + 108) Vehicles (Passenger Cars)	0.474	0.007	0.268	0.020	0.056	0.023	302.553	0.043
		0.158	0.003	0.268	0.020	0.055	0.028	379.012	0.008
		5.452			0.027	0.038	0.103	1394.952	0.008
NA MC Motorcycle	Trucks (0-8,500 lbs) y Vehicles (8,501 + lbs)		0.013	1.000					

Table 5-49 EMFAC County-Specific On-Road Vehicle EFs – 2017 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	recursors		
				NOx	SO <sub>x</sub>	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.128	0.003	1.373	0.147	0.047	0.020	325.091	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.256	0.004	2.181	0.306	0.047	0.020	426.093	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.625	0.007	3.573	0.505	0.056	0.024	646.879	0.045
Sonoma	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.312	0.003	0.390	0.033	0.063	0.035	311.329	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.136	0.004	0.258	0.033	0.061	0.033	374.403	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.486	0.011	1.007	0.252	0.202	0.126	1195.791	0.027
	NA	MC	Motorcycles	1.305	0.002	27.986	4.524	0.018	0.008	185.124	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.114	0.003	1.296	0.144	0.047	0.020	326.804	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.239	0.004	2.145	0.309	0.047	0.020	430.940	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.521	0.006	3.318	0.436	0.054	0.023	637.945	0.045
Stanislaus	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.180	0.003	0.298	0.023	0.056	0.028	289.769	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.157	0.004	0.255	0.031	0.059	0.031	367.806	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.491	0.014	0.895	0.225	0.172	0.101	1423.252	0.027
	NA	MC	Motorcycles	1.291	0.002	27.697	4.637	0.018	0.008	181.355	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.121	0.003	1.263	0.136	0.047	0.019	298.426	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.307	0.004	2.358	0.346	0.047	0.020	395.431	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.590	0.006	3.443	0.469	0.053	0.022	596.086	0.045
Sutter	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.169	0.003	0.228	0.018	0.054	0.027	267.049	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.124	0.003	0.200	0.027	0.059	0.031	325.897	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.306	0.014	0.852	0.217	0.164	0.096	1423.895	0.027
	NA	MC	Motorcycles	1.304	0.002	25.759	4.940	0.018	0.008	172.471	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.137	0.003	1.364	0.143	0.047	0.020	323.294	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.358	0.004	2.657	0.377	0.048	0.020	430.777	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.665	0.006	3.797	0.530	0.055	0.023	640.457	0.045
Tehama	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.239	0.003	0.344	0.027	0.058	0.030	295.118	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.325	0.004	0.454	0.057	0.076	0.047	369.343	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.728	0.013	0.933	0.226	0.161	0.094	1414.179	0.027
	NA	MC	Motorcycles	1.340	0.002	29.014	4.749	0.018	0.008	183.873	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.205	0.004	2.035	0.200	0.048	0.021	385.799	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.682	0.005	4.985	0.644	0.050	0.023	522.514	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.229	0.008	6.623	1.014	0.059	0.026	750.084	0.045
Trinity	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.425	0.003	0.680	0.062	0.075	0.047	349.098	0.008
•	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.466	0.004	1.031	0.165	0.141	0.110	431.586	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.037	0.013	1.042	0.253	0.170	0.104	1348.625	0.027
	NA	MC	Motorcycles	1.379	0.003	34.512	6.083	0.019	0.009	216.574	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.104	0.003	1.152	0.133	0.047	0.019	310.156	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.254	0.004	2.171	0.339	0.047	0.020	408.874	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.507	0.006	3.205	0.418	0.053	0.022	609.690	0.045
Tulare	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.125	0.003	0.200	0.015	0.053	0.025	271.790	0.008
Tunio	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.123	0.003	0.200	0.013	0.069	0.023	344.295	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.478	0.003	0.918	0.042	0.009	0.101	1427.064	0.008
	NA	MC	Motorcycles	1.287	0.014	26.437	4.344	0.173	0.101	172.882	0.027
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.203	0.002	1.999	0.207	0.018	0.008	329.401	0.032
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.203	0.003	4.072	0.207	0.047	0.020	441.626	0.027
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	1.061	0.004	5.708	0.864	0.049	0.021	658.162	0.028
Tuolumne	Diesel	LDDV	Light-Duty Vehicles (8,301 + 108)	0.302	0.007	0.408	0.032	0.037	0.023	299.897	0.043
1 uotumine	Diesel	LDDV		0.302	0.003		0.032	0.083	0.032	373.077	0.008
	Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	6.167	0.004	0.533 1.220	0.070	0.083	0.035	934.907	0.008
	NA	MC	Motorcycles  Motorcycles	1.355	0.009	30.757	5.332	0.211	0.135	185.152	0.027
				_	0.002		0.129	0.019	0.009		0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.102	0.003	1.158		0.047	0.020	313.369 410.044	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.186	0.004	1.732	0.235	0.047	0.020	606,961	
Vantura	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.458		2.843	0.369				0.045
Ventura	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.144	0.003	0.279	0.022	0.056	0.028	288.687	0.008
i	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.150	0.003	0.227	0.027	0.057	0.029	363.479	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.853	0.010	0.900	0.168	0.185	0.111	1134.486	0.027
	NA	MC	Motorcycles	1.288	0.002	25.730	4.890	0.018	0.008	187.491	0.052

Table 5-49 EMFAC County-Specific On-Road Vehicle EFs – 2017 (cont.)

							Emission Fa	actors (g/m	i)		-
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	recursors		
				NO <sub>x</sub>	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.112	0.003	1.225	0.141	0.047	0.020	319.412	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.186	0.004	1.637	0.235	0.047	0.020	411.459	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.466	0.006	2.795	0.373	0.055	0.023	622.228	0.045
Yolo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.259	0.003	0.309	0.025	0.059	0.031	294.054	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.207	0.003	0.242	0.026	0.058	0.031	362.982	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.664	0.012	0.934	0.211	0.188	0.110	1304.151	0.027
	NA	MC	Motorcycles	1.293	0.002	27.288	4.226	0.018	0.008	177.040	0.052
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.125	0.003	1.294	0.133	0.047	0.019	308.564	0.027
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.377	0.004	2.805	0.391	0.048	0.020	415.094	0.028
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.704	0.006	4.029	0.548	0.055	0.024	614.594	0.045
Yuba	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.181	0.003	0.262	0.020	0.055	0.028	280.643	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.179	0.003	0.219	0.027	0.058	0.030	338.493	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.084	0.010	1.192	0.280	0.217	0.135	1048.129	0.027
	NA	MC	Motorcycles	1.297	0.002	26.780	4.377	0.018	0.008	172.820	0.052

Table 5-50 EMFAC County-Specific On-Road Vehicle EFs – 2018

				Emission Factors (g/mi)								
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors			
				NOx	SO <sub>x</sub>	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.104	0.003	1.156	0.132	0.047	0.020	311.633	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.166	0.004	1.500	0.203	0.047	0.020	404.885	0.027	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.435	0.006	2.623	0.342	0.055	0.023	607.079	0.045	
Alameda	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.173	0.003	0.285	0.022	0.056	0.028	290.045	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.109	0.003	0.191	0.022	0.054	0.027	360.821	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.174	0.014	0.901	0.210	0.188	0.106	1445.226	0.027	
	NA	MC	Motorcycles	1.262	0.002	24.799	3.906	0.018	0.008	182.771	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.139	0.003	1.403	0.132	0.047	0.020	288.006	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.312	0.004	2.446	0.320	0.047	0.020	382.428	0.027	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.820	0.006	4.337	0.630	0.056	0.024	599.127	0.045	
Alpine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.174	0.003	0.283	0.021	0.054	0.027	268.082	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.133	0.003	0.214	0.026	0.055	0.028	335.531	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.864	0.014	0.802	0.179	0.149	0.077	1416.784	0.027	
	NA	MC	Motorcycles	1.384	0.002	28.554	4.366	0.018	0.008	173.663	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.151	0.003	1.483	0.163	0.047	0.019	278.357	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.389	0.004	2.989	0.486	0.047	0.020	373.430	0.027	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.914	0.006	4.894	0.831	0.057	0.024	592.328	0.045	
Amador	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.272	0.002	0.256	0.020	0.056	0.029	256.540	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.164	0.003	0.263	0.035	0.065	0.037	310.140	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.811	0.009	1.056	0.255	0.190	0.118	991.762	0.027	
	NA	MC	Motorcycles	1.306	0.002	26.071	4.280	0.018	0.008	159.303	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.132	0.003	1.388	0.149	0.047	0.020	313,531	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.365	0.004	2.789	0.391	0.048	0.020	421.818	0.027	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.655	0.006	3.763	0.537	0.056	0.024	628.063	0.045	
Butte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.224	0.003	0.305	0.024	0.057	0.030	288.103	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.283	0.003	0.321	0.038	0.065	0.037	360.376	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.326	0.013	0.936	0.213	0.164	0.093	1350.715	0.027	
	NA	MC	Motorcycles	1.286	0.002	26.760	4.785	0.018	0.008	177.950	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.153	0.003	1.564	0.159	0.047	0.020	306.947	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.413	0.004	3.327	0.525	0.048	0.021	413.365	0.027	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.999	0.006	5.477	0.918	0.058	0.025	637.145	0.045	
Calaveras	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.277	0.003	0.372	0.030	0.059	0.031	282.192	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.182	0.003	0.386	0.056	0.074	0.046	349,516	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.788	0.010	1.026	0.244	0.180	0.109	1061.150	0.027	
	NA	MC	Motorcycles	1.311	0.002	27.518	5.110	0.018	0.009	179.078	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.109	0.003	1.101	0.125	0.047	0.020	303.955	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.236	0.004	1.833	0.268	0.047	0.020	400.508	0.027	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.512	0.006	2.911	0.405	0.054	0.023	610.122	0.045	
Colusa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.161	0.003	0.261	0.020	0.055	0.027	276.147	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.169	0.003	0.274	0.033	0.062	0.034	347.425	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.996	0.013	0.845	0.197	0.153	0.085	1364.828	0.027	
	NA	MC	Motorcycles	1.276	0.002	24.943	4.115	0.018	0.008	177.552	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.097	0.003	1.082	0.123	0.047	0.020	307.776	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.160	0.004	1.469	0.201	0.047	0.020	403.243	0.027	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.405	0.006	2.522	0.328	0.054	0.023	602.783	0.045	
Contra Costa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.130	0.003	0.245	0.019	0.054	0.027	284.748	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.103	0.003	0.174	0.020	0.054	0.026	359.067	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.107	0.012	0.858	0.202	0.204	0.112	1310.585	0.027	
	NA	MC	Motorcycles	1.265	0.002	25.051	3.979	0.018	0.008	181.596	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.169	0.003	1.585	0.169	0.047	0.020	324.110	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.558	0.004	3.773	0.552	0.049	0.021	440.879	0.027	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.924	0.007	4.800	0.757	0.056	0.024	657.162	0.045	
Del Norte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.241	0.003	0.398	0.030	0.059	0.031	307.963	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.525	0.004	1.009	0.145	0.134	0.103	383.598	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.846	0.008	1.144	0.258	0.183	0.112	860.236	0.027	
	NA	MC	Motorcycles	1.365	0.003	29,981	5.008	0.019	0.009	190.683	0.053	
						_,,,,,,,	2.500			-, -, -, -, -, -, -, -, -, -, -, -, -, -		

Table 5-50 EMFAC County-Specific On-Road Vehicle EFs – 2018 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type	Vehicle Typ	oe .			Criteria I	Pollutants a	nd Ozone I	Precursors	I	
				NOx	SO <sub>x</sub>	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV Light-Duty Vehicles (Pas	ssenger Cars)	0.092	0.003	1.067	0.110	0.047	0.020	309.295	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,5	500 lbs)	0.216	0.004	2.012	0.297	0.047	0.020	417.933	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8	,501 + lbs)	0.520	0.006	3.332	0.499	0.054	0.023	619.391	0.045
El Dorado	Diesel	LDDV Light-Duty Vehicles (Pas		0.175	0.003	0.283	0.021	0.055	0.027	284.887	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,5		0.176	0.003	0.242	0.029	0.058	0.030	364.042	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8	,501 + lbs)	5.210	0.009	1.009	0.235	0.182	0.110	952.405	0.027
	NA	MC Motorcycles		1.352	0.002	28.983	5.349	0.019	0.009	186.907	0.053
	Gasoline	LDGV Light-Duty Vehicles (Pas	ssenger Cars)	0.09	0.00	1.00	0.12	0.05	0.02	303.68	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,5	500 lbs)	0.19	0.00	1.69	0.27	0.05	0.02	403.00	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8	,501 + lbs)	0.44	0.01	2.77	0.39	0.05	0.02	607.75	0.045
Fresno	Diesel	LDDV Light-Duty Vehicles (Pas	ssenger Cars)	0.09	0.00	0.18	0.01	0.05	0.02	267.93	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,5	500 lbs)	0.12	0.00	0.19	0.02	0.06	0.03	348.12	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8	,501 + lbs)	5.06	0.01	0.80	0.19	0.16	0.09	1531.57	0.027
	NA	MC Motorcycles		1.27	0.00	26.18	4.04	0.02	0.01	173.46	0.053
	Gasoline	LDGV Light-Duty Vehicles (Pas	ssenger Cars)	0.115	0.003	1.202	0.131	0.047	0.020	315.280	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,5	500 lbs)	0.275	0.004	2.175	0.324	0.047	0.020	417.960	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8	,501 + lbs)	0.566	0.006	3.321	0.474	0.055	0.023	632.732	0.045
Glenn	Diesel	LDDV Light-Duty Vehicles (Pas	ssenger Cars)	0.146	0.003	0.298	0.021	0.054	0.027	286.035	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,5	500 lbs)	0.193	0.003	0.353	0.047	0.069	0.041	354.849	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8	,501 + lbs)	5.175	0.013	0.882	0.206	0.156	0.089	1328.954	0.027
	NA	MC Motorcycles		1.277	0.002	25.895	4.535	0.018	0.008	183.026	0.053
	Gasoline	LDGV Light-Duty Vehicles (Pas	ssenger Cars)	0.177	0.003	1.651	0.175	0.047	0.020	304.696	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,5		0.483	0.003	3,394	0.173	0.047	0.020	410.126	0.023
	Gasoline	HDGV Heavy-Duty Vehicles (8		0.932	0.004	4.769	0.762	0.056	0.021	614.640	0.045
Humboldt	Diesel	LDDV Light-Duty Vehicles (Pas		0.532	0.003	0.482	0.762	0.068	0.040	295.909	0.008
riumbolat	Diesel	LDDT Light-Duty Trucks (0-8,5		0.212	0.003	0.403	0.054	0.008	0.046	357.723	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8		6.035	0.003	1.054	0.054	0.181	0.110	1172.602	0.027
	NA	MC Motorcycles	,501 + 108)	1.371	0.002	29.306	4.721	0.181	0.008	178.198	0.027
	Gasoline	LDGV Light-Duty Vehicles (Pas	congor Core)	0.329	0.002	2.948	0.243	0.016	0.019	299.224	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,5		0.329	0.003	2.200	0.243	0.047	0.019	397.412	0.023
	Gasoline	HDGV Heavy-Duty Vehicles (8		0.625	0.004	3.534	0.546	0.054	0.023	592.177	0.045
Toron and all	Diesel			0.023	0.000	0.173	0.013	0.054	0.025	255.268	0.043
Imperial	Diesel	LDDV Light-Duty Vehicles (Past LDDT Light-Duty Trucks (0-8,5)		0.103	0.002	0.178	0.013	0.052	0.023	331.996	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8		4.064	0.003	0.178	0.019	0.034	0.027	1399.177	0.008
	NA		,501 + 108)	1.192	0.002	22.446	3.837	0.138	0.008	167.364	0.027
				0.129	0.002	1.291	0.152	0.018	0.008	318.818	0.055
	Gasoline	LDGV Light-Duty Vehicles (Pas			0.003						
	Gasoline	LDGT Light-Duty Trucks (0-8,5		0.306		2.355	0.389	0.047	0.020	424.784	0.027
Torre	Gasoline Diesel	HDGV Heavy-Duty Vehicles (8 LDDV Light-Duty Vehicles (Page 1977)		0.795 0.167	0.007	4.231 0.306	0.724	0.057	0.025	651.688 286.070	0.045
Inyo	Diesel			0.167	0.003	0.306	0.022	0.055	0.027	359.657	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,5 HDDV Heavy-Duty Vehicles (8		5.033	0.003	0.261	0.032	0.059	0.031	1305.686	0.008
	NA	MC Motorcycles	JUI + IDS)	1.314	0.012	27.350	4.678	0.168	0.091	185.823	0.027
				0.088	0.002	0.950	0.115	0.018	0.008	326.272	0.055
	Gasoline				0.003	1.599	0.115	0.047	0.020		
	Gasoline	LDGT Light-Duty Trucks (0-8,5		0.186						431.915	0.027
<b>1</b> 7	Gasoline	HDGV Heavy-Duty Vehicles (8		0.442	0.007	2.695	0.387	0.055	0.023	656.833	0.045
Kem	Diesel	LDDV Light-Duty Vehicles (Pas		0.098	0.003	0.227	0.015	0.052	0.024	293.373	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,5		0.102	0.004	0.192	0.021	0.053	0.026	378.768	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8	,5U1 + IDS)	4.898	0.015	0.763	0.176	0.147	0.077	1529.258	0.027
	NA	MC Motorcycles	<i>a</i> )	1.282	0.002	27.204	4.081	0.018	0.008	186.285	0.053
	Gasoline	LDGV Light-Duty Vehicles (Pas		0.098	0.003	1.019	0.114	0.047	0.019	299.236	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,		0.248	0.004	1.994	0.299	0.047	0.020	398.061	0.027
***	Gasoline	HDGV Heavy-Duty Vehicles (8		0.485	0.006	2.861	0.399	0.054	0.023	607.211	0.045
Kings	Diesel	LDDV Light-Duty Vehicles (Pas		0.094	0.003	0.221	0.015	0.051	0.024	262.738	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,5		0.173	0.003	0.260	0.032	0.060	0.033	336.566	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8	,501 + lbs)	5.071	0.015	0.761	0.176	0.139	0.072	1563.579	0.027
	NA	MC Motorcycles		1.254	0.002	24.306	3.882	0.018	0.008	171.460	0.053

Table 5-50 EMFAC County-Specific On-Road Vehicle EFs – 2018 (cont.)

						Emission F	actors (g/m	i)		
County	Fuel Type	Vehicle Type			Criteria I	Pollutants a	nd Ozone I	recursors		
			NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV Light-Duty Vehicles (Passenger		0.003	1.809	0.208	0.047	0.020	315.410	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs		0.004	3.186	0.515	0.048	0.021	417.118	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 +		0.007	5.741	0.997	0.058	0.025	643.420	0.045
Lake	Diesel	LDDV Light-Duty Vehicles (Passenger		0.003	0.378	0.030	0.060	0.033	288.129	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs		0.003	0.405	0.047	0.070	0.042	353.818	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 +		0.010	1.145	0.284	0.201	0.128	1058.630	0.027
	NA	MC Motorcycles	1.341	0.002	29.478	5.313	0.019	0.009	180.611	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger		0.003	1.543	0.159	0.047	0.020	329.762	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs		0.005	2.966	0.448	0.048	0.021	445.933	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 +		0.007	5.453	0.913	0.057	0.025	674.159	0.045
Lassen	Diesel	LDDV Light-Duty Vehicles (Passenger		0.003	0.386	0.028	0.057	0.029	298.933	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs		0.004	0.350	0.044	0.064	0.036	381.291	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 +		0.008	1.172	0.259	0.188	0.114	880.061	0.027
	NA	MC Motorcycles	1.377	0.003	30.617	5.125	0.018	0.009	194.201	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger		0.003	1.189	0.130	0.047	0.020	335.572	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs		0.004	1.757	0.216	0.048	0.020	437.966	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 +		0.006	2.672	0.322	0.055	0.024	637.356	0.045
Los Angeles	Diesel	LDDV Light-Duty Vehicles (Passenger		0.003	0.322	0.025	0.055	0.028	293.534	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs	,	0.004	0.244	0.030	0.055	0.028	380.728	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 +		0.012	1.049	0.170	0.181	0.100	1306.511	0.027
	NA	MC Motorcycles	1.222	0.002	22.845	4.296	0.018	0.009	199.501	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger	Cars) 0.094	0.003	1.126	0.118	0.047	0.020	325.945	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs	0.221	0.004	2.076	0.310	0.048	0.020	434.589	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 +	lbs) 0.493	0.007	3.247	0.438	0.055	0.024	654.182	0.045
Madera	Diesel	LDDV Light-Duty Vehicles (Passenger	Cars) 0.139	0.003	0.324	0.024	0.054	0.027	287.210	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs	0.180	0.003	0.284	0.035	0.059	0.032	363.574	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 +	lbs) 5.117	0.014	0.838	0.190	0.150	0.080	1475.440	0.027
	NA	MC Motorcycles	1.246	0.002	25.470	4.100	0.018	0.008	182.930	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger	Cars) 0.097	0.003	1.051	0.130	0.047	0.020	311.234	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs	0.159	0.004	1.405	0.209	0.047	0.020	407.522	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 +	lbs) 0.402	0.006	2.398	0.342	0.055	0.023	608.397	0.045
Marin	Diesel	LDDV Light-Duty Vehicles (Passenger	Cars) 0.183	0.003	0.295	0.022	0.056	0.029	301.056	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs	0.098	0.004	0.188	0.021	0.053	0.026	381.666	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 +		0.012	1.269	0.262	0.264	0.154	1235.623	0.027
	NA	MC Motorcycles	1.293	0.002	26.040	4.062	0.018	0.008	185.610	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger	Cars) 0.155	0.003	1.571	0.168	0.047	0.020	318.581	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs	0.523	0.004	3.980	0.600	0.049	0.021	435.943	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 +		0.007	5.493	0.920	0.058	0.025	656.302	0.045
Mariposa	Diesel	LDDV Light-Duty Vehicles (Passenger		0.003	0.447	0.036	0.063	0.035	297.691	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs		0.003	0.688	0.106	0.106	0.077	359.632	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 +		0.008	1.150	0.268	0.190	0.116	848.174	0.027
	NA	MC Motorcycles	1.347	0.002	29.842	5.293	0.019	0.009	186.615	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger		0.003	1.489	0.157	0.047	0.020	300.406	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs		0.004	3.397	0.494	0.048	0.021	408.514	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 +		0.006	4.924	0.780	0.056	0.024	621.430	0.045
Mendocino	Diesel	LDDV Light-Duty Vehicles (Passenger		0.003	0.484	0.040	0.068	0.040	294.093	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs		0.003	0.420	0.052	0.074	0.046	349.115	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 +		0.012	0.962	0.235	0.169	0.101	1287.553	0.027
	NA	MC Motorcycles	1.346	0.002	28.520	4.704	0.018	0.008	176.994	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger		0.003	1.140	0.124	0.047	0.020	317.361	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs		0.004	1.972	0.288	0.047	0.020	419.382	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 +		0.006	3.204	0.414	0.056	0.024	638.097	0.045
Merced	Diesel	LDDV Light-Duty Vehicles (Passenger		0.003	0.288	0.021	0.054	0.027	282.213	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs		0.003	0.285	0.034	0.061	0.033	362.111	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 +		0.015	0.788	0.183	0.147	0.077	1560.533	0.027
	NA	MC Motorcycles	1.248	0.002	25.346	3.742	0.018	0.008	177.055	0.053

Table 5-50 EMFAC County-Specific On-Road Vehicle EFs – 2018 (cont.)

							actors (g/m			-
County	Fuel Type	Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
			NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.172	0.004	1.720	0.168	0.048	0.021	366.751	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.424	0.005	3.293	0.455	0.049	0.021	492.844	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.144	0.007	6.302	1.033	0.058	0.025	729.033	0.045
Modoc	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.212	0.003	0.535	0.039	0.059	0.032	333.001	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.363	0.004	0.491	0.052	0.064	0.037	449.801	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.739	0.009	1.105	0.251	0.180	0.108	941.274	0.027
	NA	MC Motorcycles	1.394	0.003	31.669	5.389	0.019	0.009	216.462	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	1.324	0.130	0.047	0.020	307.041	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.336	0.004	2.516	0.353	0.047	0.020	414.241	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.861	0.006	4.592	0.696	0.057	0.024	633.139	0.045
Mono	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.214	0.003	0.349	0.027	0.057	0.030	290.209	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.426	0.004	0.407	0.042	0.065	0.038	372.804	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	4.972	0.013	0.834	0.189	0.151	0.082	1347.633	0.027
	NA	MC Motorcycles	1.444	0.003	32.910	4.868	0.018	0.008	186.871	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.137	0.003	1.400	0.149	0.047	0.020	330.556	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.327	0.004	2.419	0.318	0.048	0.021	442.959	0.027
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.628	0.007	3.514	0.445	0.056	0.024	663.274	0.045
Monterey	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.190	0.003	0.403	0.031	0.058	0.031	303.166	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.160	0.004	0.327	0.040	0.061	0.033	387.592	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.235	0.012	1.021	0.225	0.197	0.114	1291.809	0.027
	NA	MC Motorcycles	1.263	0.002	25.139	3.865	0.018	0.008	189.218	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.098	0.003	1.097	0.117	0.047	0.020	298,962	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.191	0.003	1.736	0.117	0.047	0.020	395.713	0.023
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.509	0.006	3.080	0.416	0.056	0.024	613.689	0.045
Napa	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.151	0.003	0.256	0.020	0.055	0.024	280.362	0.008
rvapa	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.090	0.003	0.163	0.020	0.053	0.025	356.441	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.375	0.003	0.103	0.221	0.033	0.104	1313.529	0.027
	NA	MC Motorcycles	1.270	0.002	24.986	3.892	0.178	0.008	175.374	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.131	0.002	1.308	0.140	0.047	0.020	296.193	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.345	0.003	2.549	0.140	0.047	0.020	407.913	0.023
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	0.708	0.004	3.884	0.558	0.055	0.023	607.199	0.027
Nevada	Diesel	LDDV Light-Duty Vehicles (8,301 + 108)	0.285	0.003	0.343	0.028	0.060	0.023	283.080	0.043
Nevaua	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.438	0.003	0.343	0.028	0.067	0.032	361.519	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.349	0.003	0.390	0.041	0.067	0.039	1296.926	0.008
	NA		1.384	0.012	30.166	5.065	0.134	0.009	175.588	0.027
	Gasoline	1 1 1	0.082	0.002	0.992	0.114	0.018	0.009		0.033
	Gasoline		0.137	0.003	1.373	0.114	0.047	0.020	311.685 408.011	0.023
	Gasoline		0.137	0.004	2.439	0.179	0.047	0.020	607.587	0.027
0	Diesel		0.374	0.006	0.244	0.310	0.053	0.025	278.047	0.045
Orange	Diesel		0.082	0.003	0.244	0.018	0.052	0.025	359.512	0.008
	Diesel		3.893	0.003	0.172	0.021	0.052	0.025	359.512 1174.896	0.008
	NA	HDDV Heavy-Duty Vehicles (8,501 + lbs)  MC Motorcycles	1.212	0.011	22.303	4.140	0.188	0.106	187.991	0.027
	Gasoline		0.091	0.002	1.047	0.114	0.018	0.008	299,209	0.055
			0.091	0.003		0.114	0.047	0.020		
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)  HDGV Heavy-Duty Vehicles (8.501 + lbs)	0.164	0.004	1.524 2.668	0.207	0.047	0.020	395.864 598.619	0.027
Dla	Gasoline									0.045
Placer	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.162 0.141	0.003	0.249 0.195	0.019	0.055	0.027	273.436 346.246	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	4.563	0.003 0.012	0.195	0.023	0.055	0.028	1297.417	0.008
	Diesel NA	HDDV Heavy-Duty Vehicles (8,501 + lbs)  MC Motorcycles	1.315	0.012	26.836	4.396	0.163	0.091	176.355	0.027
		1 1 1								
	Gasoline	LDGV Light-Duty Vehicles (Passenger Cars)	0.162	0.003	1.688	0.173	0.048	0.020	340.498	0.025
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.467	0.005	3.665	0.499	0.048	0.021	471.685	0.027
PM.	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lbs)	1.180	0.007	6.491	1.011	0.058	0.025	691.637	0.045
Plumas	Diesel	LDDV Light-Duty Vehicles (Passenger Cars)	0.261	0.003	0.500	0.038	0.061	0.033	316.896	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.189	0.004	0.396	0.047	0.062	0.034	413.355	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lbs)	5.954	0.010	1.104	0.254	0.182	0.112	1039.413	0.027
	NA	MC Motorcycles	1.377	0.003	31.542	5.604	0.019	0.009	202.729	0.053

Table 5-50 EMFAC County-Specific On-Road Vehicle EFs – 2018 (cont.)

County				•				Emission F	actors (g/m	i)		
Gasoline   LDGV   Light-Dav Vehicles (Passenger Care)   0.085   0.033   0.989   0.116   0.017   0.019   3.01-979   0.025	County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone F	recursors		
Gasoline   LDCT   Light-Day Trucks (0.5.500 lbs)					NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
Gasoline   HDGV   Heavy-Dany Vehicles (8,501 + lbs)   0.488   0.006   2.589   0.349   0.054   0.022   585,175   0.045												
Riverside   Diesel   LDDV   Light-Day Vehicles (Rissonger Cars)   0.102   0.003   0.106   0.014   0.052   206.949   0.008												
Diesel   LIDDT   Light-Duty Trucks of 8-500 lbs)   0.084   0.003   0.156   0.019   0.033   0.026   330 122   0.008     NA												
Diesel   HDDV   Havy-Duty Vehicles (8,50) + Pe)	Riverside											
NA MC												
Gasoline   LDGV   Light-Duy Vehicles (Plasenger Cam)   0.099   0.003   1.176   0.132   0.047   0.020   310.878   0.025												
Gasoline   LDGT   Light-Duy Trucks (0.8,500 hs)   0,182   0,004   1,737   0,241   0,047   0,020   408,529   0,025   0,025												-
Sacramento   Diesel   LIDPV   Light-Day Vehicles (0.8501 + lbs)   0.471   0.005   0.278   0.396   0.056   0.024   0.26.651   0.045												
Diesel   LIDPY   Light-Duty Vehicles (Passenger Cars)   0.137   0.003   0.262   0.020   0.055   0.027   275.416   0.008												
Diesel   IDDT   Light-Duty Tracks (18-St00 lbs)   0.417   0.003   0.425   0.050   0.073   0.045   360.373   0.008	Sacramento											
Dissel   HDDV   Heavy-Duty Vehicles (8.501 + lbs)   5.212   0.012   1.170   0.222   0.190   0.109   1285.177   0.027	Sucramento											
NA												
Gasoline   IDGT   Light-Duty Trucks (0-8.500 lbs)   0.235   0.004   1.821   0.266   0.047   0.020   386.046   0.021		NA	MC		1.259	0.002	24.957	4.361	0.018	0.008	179.180	0.053
San Benito   Discal   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.553   0.006   0.3111   0.433   0.054   0.023   596.223   0.045   0.008   0.021   0.008   0.0022   0.0076   0.008   277.340   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.008   0.00		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.109	0.003	1.100	0.110	0.047	0.020	291.746	0.025
San Benito   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.236   0.003   0.143   0.016   0.002   0.056   0.023   352,120   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.235	0.004	1.821	0.266	0.047	0.020	386.046	0.027
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.038   0.003   0.143   0.016   0.050   0.023   352,120   0.008		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)					0.054	0.023	596.223	0.045
Diesel   HDDV   Heavy-Duty Vehicles (6,501 + lbs)   5.150   0.015   0.798   0.189   0.144   0.078   1532,860   0.027	San Benito											
NA   MC   Moorreycles   1.295   0.002   25.870   3.901   0.018   0.008   171.121   0.053												
Gasoline   LDGV   Light-Dury Vehicles (Passenger Cars)   0.095   0.003   1.062   0.117   0.047   0.020   308.309   0.025												
San Bernardino   Gasoline   LDGT   Light-Duty Vehicles (8.501 + lbs)   0.198   0.004   1.742   0.242   0.047   0.020   404.110   0.027   0.035   0.035   0.035   0.035   599.739   0.045   0.036   0.035   0.035   599.739   0.045   0.036   0.035   0.035   599.739   0.045   0.036   0.035   0.035   599.739   0.045   0.036   0.035   0.035   599.739   0.045   0.036   0.036   0.035   0.035   599.739   0.045   0.036   0.036   0.036   0.035   599.739   0.045   0.036   0.036   0.036   0.035   0.037   348.755   0.008   0.036   0.036   0.036   0.037   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.035   0.0												
San Bernardino   Diesel   LIDDV   Light-Duty Vehicles (RSS01 + lbs)   0.454   0.006   2.762   0.362   0.054   0.023   599,739   0.045												
Diesel LIDDY   Light-Duty Vehicles (Passenger Cars)   0.096   0.003   0.212   0.015   0.052   0.025   271.593   0.008												
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   Diesel   LDDV   Light-Duty Vehicles (8,501 + lbs)   A,185   D.012   D.694   D.120   D.152   D.080   D.080   T.53.46   D.027   D.080   D.08	Con Domondino											
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)	San Bernardino											
NA												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.111   0.003   1.137   0.124   0.047   0.020   318.470   0.025												
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.165   0.004   1.506   0.220   0.047   0.020   422.652   0.027				· · ·								
San Diego   Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.382   0.006   2.354   0.318   0.055   0.023   628.334   0.045			LDGT		0.165	0.004	1.506	0.220	0.047	0.020	422.652	0.027
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.138   0.004   0.240   0.028   0.058   0.030   381.128   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 lbs)   4.760   0.012   1.127   0.211   0.186   0.104   1308.709   0.027     NA   MC   Motorcycles   1.252   0.002   24.824   3.996   0.018   0.008   190.916   0.053     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.093   0.003   1.096   0.128   0.047   0.020   335.561   0.025     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.137   0.004   1.357   0.182   0.047   0.020   434.252   0.027     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 lbs)   0.411   0.007   2.446   0.332   0.060   0.025   662.118   0.045     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.133   0.004   0.277   0.032   0.055   0.028   399.330   0.008     Diesel   LDDV   Light-Duty Trucks (0-8,500 lbs)   0.133   0.004   0.277   0.032   0.055   0.028   399.330   0.008     NA   MC   Motorcycles   1.284   0.003   2.5804   4.663   0.018   0.008   202.619   0.053     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.19   0.00   1.05   0.12   0.05   0.02   310.17   0.025     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.19   0.00   1.67   0.25   0.05   0.02   310.17   0.025     Gasoline   LDGV   Light-Duty Vehicles (Rasenger Cars)   0.10   0.00   1.67   0.25   0.05   0.02   310.17   0.025     Gasoline   LDGV   Light-Duty Vehicles (Rasenger Cars)   0.10   0.00   1.67   0.25   0.05   0.02   310.17   0.025     Gasoline   LDGV   Light-Duty Vehicles (Rasenger Cars)   0.10   0.00   1.67   0.25   0.05   0.02   310.17   0.025     Diesel   LDDV   Light-Duty Vehicles (Rasenger Cars)   0.13   0.00   0.21   0.02   0.05   0.03   354.84   0.008     Diesel   LDDV   Light-Duty Vehicles (Rasenger Cars)   0.13   0.00   0.21   0.02   0.05   0.03   354.84   0.008     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.16   0.00   0.28   0.020   0.16   0.09   0.03   354.84   0.008     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.16   0.00   0.27   0.035   0.02   0.05		Gasoline	HDGV		0.382	0.006			0.055	0.023		0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   4.760   0.012   1.127   0.211   0.186   0.104   1308.709   0.027	San Diego	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.109	0.003	0.254	0.018	0.053	0.026	297.644	0.008
NA   MC   Motorcycles   1.252   0.002   24.824   3.996   0.018   0.008   190.916   0.053		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.138	0.004	0.240	0.028	0.058	0.030	381.128	0.008
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.093   0.003   1.096   0.128   0.047   0.020   335.561   0.025												
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.137   0.004   1.357   0.182   0.047   0.020   434,252   0.027				·								
San Francisco   Diesel   LDDV   Light-Duty Vehicles (8,501 + lbs)   0.411   0.007   2.446   0.332   0.060   0.025   662.118   0.045												
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.118   0.003   0.369   0.025   0.054   0.027   314.278   0.008			1	Light-Duty Trucks (0-8,500 lbs)							434.252	
Diesel   LIDDT   Light-Duty Trucks (0-8,500 lbs)   0.133   0.004   0.277   0.032   0.055   0.028   399,330   0.008				1 1 1								
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.734   0.013   1.419   0.283   0.290   0.171   1378.789   0.027	San Francisco											
NA   MC   Motorcycles   1.284   0.003   25.804   4.663   0.018   0.008   202.619   0.053												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.10   0.00   1.05   0.12   0.05   0.02   310.17   0.025												
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.19   0.00   1.67   0.25   0.05   0.02   408.99   0.027												
Gasoline HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.46   0.01   2.81   0.39   0.05   0.02   613.01   0.045												
San Joaquin   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.13   0.00   0.21   0.02   0.05   0.03   279.62   0.008												
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.16   0.00   0.21   0.02   0.06   0.03   354.84   0.008	Con Incomin											
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.02   0.01   0.89   0.20   0.16   0.09   1413.76   0.027     NA   MC   Motorcycles   1.29   0.00   26.81   4.10   0.02   0.01   179.35   0.053     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.109   0.003   1.095   0.121   0.047   0.020   293.189   0.025     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.283   0.004   2.085   0.294   0.047   0.020   397.743   0.027     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.475   0.006   2.949   0.353   0.052   0.022   573.003   0.045     San Luis Obispo   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.179   0.003   0.268   0.020   0.055   0.027   282.352   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.174   0.003   0.278   0.034   0.063   0.035   354.445   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.495   0.011   1.039   0.240   0.187   0.114   1131.469   0.027	San Joaquin											
NA   MC   Motorcycles   1.29   0.00   26.81   4.10   0.02   0.01   179.35   0.053												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.109   0.003   1.095   0.121   0.047   0.020   293.189   0.025												
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.283   0.004   2.085   0.294   0.047   0.020   397.743   0.027												
Gasoline HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.475   0.006   2.949   0.353   0.052   0.022   573.003   0.045												
San Luis Obispo         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.179         0.003         0.268         0.020         0.055         0.027         282.352         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.174         0.003         0.278         0.034         0.063         0.035         354.445         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         5.495         0.011         1.039         0.240         0.187         0.114         1131.469         0.027												
Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.174         0.003         0.278         0.034         0.063         0.035         354.445         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         5.495         0.011         1.039         0.240         0.187         0.114         1131.469         0.027	San Luis Obispo											
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 5.495 0.011 1.039 0.240 0.187 0.114 1131.469 0.027												

Table 5-50 EMFAC County-Specific On-Road Vehicle EFs – 2018 (cont.)

				Emission Factors (g/mi)								
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors			
				NOx	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.091	0.003	1.028	0.130	0.047	0.020	296.377	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.119	0.004	1.122	0.154	0.047	0.020	380.678	0.027	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.325	0.006	2.023	0.275	0.055	0.023	575.145	0.045	
San Mateo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.111	0.003	0.216	0.016	0.053	0.026	273.249	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.059	0.003	0.126	0.015	0.050	0.023	347.378	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.190	0.011	0.992	0.213	0.234	0.135	1182.954	0.027	
	NA	MC	Motorcycles	1.229	0.002	22.153	3.387	0.018	0.008	180.223	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.120	0.003	1.187	0.137	0.047	0.020	285.288	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.297	0.004	2.125	0.312	0.047	0.020	385.182	0.027	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.587	0.006	3.200	0.445	0.061	0.026	595.188	0.045	
Santa Barbara	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.162	0.003	0.235	0.017	0.054	0.027	273.670	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.136	0.003	0.201	0.024	0.057	0.029	340.190	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.319	0.012	1.080	0.226	0.219	0.129	1265.022	0.027	
	NA	MC	Motorcycles	1.287	0.002	24.298	3.675	0.018	0.008	168.386	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.093	0.003	1.059	0.121	0.047	0.020	300.736	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.167	0.004	1.539	0.212	0.047	0.020	397.650	0.027	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.417	0.006	2.609	0.348	0.055	0.023	590.900	0.045	
Santa Clara	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.109	0.003	0.217	0.016	0.052	0.025	274.975	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.082	0.003	0.162	0.019	0.053	0.026	352.841	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.953	0.013	0.910	0.212	0.192	0.110	1328.803	0.027	
	NA	MC	Motorcycles	1.247	0.002	23.323	3.877	0.018	0.008	179.001	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.147	0.003	1.504	0.155	0.047	0.020	318.962	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.360	0.004	2.694	0.369	0.048	0.021	427.346	0.027	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.659	0.006	3.675	0.482	0.057	0.024	638.211	0.045	
Santa Cruz	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.335	0.003	0.457	0.039	0.065	0.037	306.726	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.183	0.003	0.288	0.035	0.060	0.032	364.007	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	6.130	0.011	1.258	0.287	0.252	0.159	1198.833	0.027	
	NA	MC	Motorcycles	1.315	0.002	27.011	4.750	0.019	0.009	186.329	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.120	0.003	1.258	0.139	0.047	0.020	317.897	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.282	0.004	2.212	0.330	0.047	0.020	423.193	0.027	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.637	0.006	3.672	0.556	0.057	0.024	642.719	0.045	
Shasta	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.197	0.003	0.324	0.024	0.056	0.029	285.940	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.215	0.003	0.320	0.040	0.064	0.036	360.555	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.409	0.013	0.879	0.208	0.158	0.089	1366.557	0.027	
	NA	MC	Motorcycles	1.324	0.002	28.432	5.099	0.018	0.008	184.743	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.154	0.004	1.566	0.154	0.048	0.020	351,292	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.388	0.005	3.011	0.398	0.048	0.021	473.057	0.027	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.976	0.007	5.357	0.805	0.057	0.025	698.765	0.045	
Sierra	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.121	0.007	0.455	0.031	0.054	0.023	317.249	0.008	
Bicita	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.121	0.003	0.433	0.069	0.034	0.027	400.372	0.008	
	Diesel	HDDV		5.616	0.004	1.161	0.069	0.076	0.105	922.471	0.008	
	NA	MC	Heavy-Duty Vehicles (8,501 + lbs)	1.374	0.009	30.820	5.341	0.176	0.103	208.850	0.027	
		LDGV	Motorcycles	0.155			0.154	0.019	0.009			
	Gasoline Gasoline		Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.155	0.003	1.535 3.007	0.154	0.047	0.020	340.387 457.682	0.025	
Cial.	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.950	0.007	5.241	0.825	0.058	0.025	679.954	0.045	
Siskiyou	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.240	0.003	0.455	0.034	0.059	0.031	314.339	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.278	0.004	0.472	0.060	0.073	0.045	395.224	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.207	0.014	0.864	0.200	0.150	0.082	1435.783	0.027	
	NA C. J.	MC	Motorcycles	1.394	0.003	31.763	5.251	0.019	0.009	201.493	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.094	0.003	1.010	0.120	0.047	0.020	318.609	0.025	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.172	0.004	1.496	0.222	0.047	0.020	419.157	0.027	
0.1	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.440	0.006	2.622	0.370	0.056	0.023	635.246	0.045	
Solano	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.128	0.003	0.247	0.018	0.054	0.026	293.691	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.158	0.004	0.225	0.024	0.056	0.029	371.289	0.008	
İ	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.991	0.013	0.927	0.201	0.166	0.091	1391.423	0.027	
	NA	MC	Motorcycles	1.294	0.002	27.558	3.991	0.018	0.008	187.249	0.053	

Table 5-50 EMFAC County-Specific On-Road Vehicle EFs – 2018 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	recursors		
				NO <sub>x</sub>	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.113	0.003	1.222	0.131	0.047	0.020	316.569	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.224	0.004	1.950	0.281	0.047	0.020	415.386	0.027
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.586	0.006	3.364	0.495	0.056	0.024	636.514	0.045
Sonoma	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.261	0.003	0.360	0.029	0.060	0.032	303.189	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.115	0.003	0.234	0.030	0.059	0.031	366.525	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.062	0.011	0.934	0.225	0.189	0.113	1200.333	0.027
	NA	MC	Motorcycles	1.301	0.002	27.342	4.509	0.018	0.008	186.139	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.100	0.003	1.157	0.129	0.047	0.020	321.898	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.210	0.004	1.925	0.282	0.047	0.020	425.791	0.027
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.489	0.006	3.151	0.429	0.054	0.023	636.423	0.045
Stanislaus	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.144	0.003	0.298	0.021	0.054	0.027	284.108	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.132	0.003	0.248	0.029	0.057	0.029	364.332	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.036	0.014	0.823	0.199	0.159	0.089	1423.742	0.027
	NA	MC	Motorcycles	1.288	0.002	27.303	4.697	0.018	0.008	184.487	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.105	0.003	1.117	0.120	0.047	0.019	290.066	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.265	0.004	2.080	0.312	0.047	0.020	384.498	0.027
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.556	0.006	3.263	0.463	0.053	0.022	587.937	0.045
Sutter	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.133	0.002	0.211	0.016	0.053	0.025	259.362	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.098	0.003	0.175	0.023	0.056	0.029	319.478	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.889	0.014	0.780	0.191	0.152	0.084	1427.631	0.027
	NA	MC	Motorcycles	1.300	0.002	25.280	4.958	0.018	0.008	173.447	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.120	0.003	1.207	0.128	0.047	0.020	314.393	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.312	0.004	2.362	0.344	0.048	0.020	419.704	0.027
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.620	0.006	3.569	0.519	0.055	0.023	630.955	0.045
Tehama	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.192	0.003	0.319	0.024	0.056	0.028	286.580	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.271	0.003	0.400	0.050	0.071	0.043	362.041	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.270	0.014	0.848	0.198	0.148	0.081	1420,945	0.027
	NA	MC	Motorcycles	1.336	0.002	28.415	4.756	0.018	0.008	184.939	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.179	0.004	1.799	0.178	0.048	0.021	375,669	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.619	0.005	4.556	0.604	0.050	0.022	513.106	0.027
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.168	0.008	6.310	1.006	0.058	0.026	741.148	0.045
Trinity	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.359	0.003	0.645	0.056	0.070	0.042	339.601	0.008
,	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.396	0.004	0.912	0.144	0.126	0.095	423.727	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.640	0.013	0.933	0.218	0.154	0.088	1361.345	0.027
	NA	MC	Motorcycles	1.380	0.003	33.936	6.101	0.019	0.009	217.804	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.091	0.003	1.030	0.118	0.047	0.019	300.121	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.220	0.004	1.928	0.306	0.047	0.020	396.542	0.027
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.474	0.006	3.045	0.411	0.053	0.022	599.793	0.045
Tulare	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.098	0.003	0.184	0.013	0.052	0.022	262.398	0.008
runic	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.098	0.003	0.184	0.015	0.032	0.024	335.330	0.008
	Diesel	HDDV		5.041	0.003	0.288	0.033	0.161	0.036	1427.507	0.008
	NA	MC	Heavy-Duty Vehicles (8,501 + lbs) Motorcycles	1.277	0.014	25.500	4.322	0.161	0.089	172.899	0.027
		LDGV				1.764	0.184	0.018	0.008		
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.178	0.003			0.047	0.020	320.485	0.025
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.489 1.013		3.734	0.535		0.021	433.160 650.343	
Tuolumne	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)		0.007	5.462	0.862	0.057			0.045
i uoiumne	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.248	0.003	0.384	0.029	0.058	0.030	291.794	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.358	0.003	0.460	0.060	0.076	0.048	364.566	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.898	0.009	1.106	0.259	0.195	0.120	950.721	0.027
	NA	MC	Motorcycles	1.354	0.002	30.318	5.349	0.019	0.009	186.131	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.091	0.003	1.050	0.118	0.047	0.020	304.712	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.163	0.004	1.557	0.217	0.047	0.020	399.223	0.027
***	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.426	0.006	2.664	0.360	0.055	0.023	596.597	0.045
Ventura	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.120	0.003	0.266	0.020	0.054	0.027	280.380	0.008
i	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.129	0.003	0.214	0.025	0.056	0.028	356.450	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.387	0.010	0.832	0.147	0.173	0.099	1132.849	0.027
	NA	MC	Motorcycles	1.284	0.002	25.183	4.886	0.019	0.009	188.515	0.053

Table 5-50 EMFAC County-Specific On-Road Vehicle EFs – 2018 (cont.)

							Emission F	actors (g/m	i)		-
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	recursors		
				NO <sub>x</sub>	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.099	0.003	1.101	0.128	0.047	0.020	311.069	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.163	0.004	1.471	0.216	0.047	0.020	401.044	0.027
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.433	0.006	2.623	0.364	0.055	0.023	611.842	0.045
Yolo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.211	0.003	0.280	0.022	0.057	0.029	285.881	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.171	0.003	0.215	0.023	0.056	0.029	355.740	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.229	0.012	0.844	0.186	0.177	0.099	1303.548	0.027
	NA	MC	Motorcycles	1.287	0.002	26.637	4.221	0.018	0.008	178.042	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.109	0.003	1.140	0.118	0.047	0.020	299.982	0.025
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.329	0.004	2.495	0.357	0.047	0.020	404.428	0.027
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.659	0.006	3.798	0.537	0.055	0.023	606.275	0.045
Yuba	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.145	0.003	0.244	0.018	0.054	0.026	272.613	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.140	0.003	0.192	0.023	0.055	0.028	332.218	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.753	0.010	1.089	0.248	0.201	0.119	1062.681	0.027
	NA	MC	Motorcycles	1.294	0.002	26.310	4.406	0.018	0.008	173.872	0.053

Table 5-51 EMFAC County-Specific On-Road Vehicle EFs – 2019

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.093	0.003	1.047	0.120	0.047	0.020	303.116	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.146	0.004	1.348	0.186	0.047	0.020	394.003	0.025
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.399	0.006	2.431	0.327	0.055	0.023	597.427	0.045
Alameda	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.144	0.003	0.269	0.020	0.054	0.027	282.002	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.092	0.003	0.179	0.021	0.053	0.026	353.605	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.798	0.014	0.862	0.194	0.179	0.099	1431.178	0.027
	NA	MC	Motorcycles	1.257	0.002	24.187	3.866	0.018	0.008	183.546	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.124	0.003	1.271	0.121	0.047	0.020	279.935	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.275	0.004	2.206	0.299	0.047	0.020	372.663	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.769	0.006	4.098	0.624	0.056	0.024	588.300	0.045
Alpine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.143	0.002	0.271	0.019	0.053	0.026	260.311	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.113	0.003	0.202	0.024	0.054	0.027	328.986	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.500	0.014	0.759	0.164	0.142	0.072	1415.693	0.027
	NA	MC	Motorcycles	1.379	0.002	27.953	4.340	0.018	0.008	174.668	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.134	0.003	1.336	0.149	0.047	0.019	270.487	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.350	0.004	2.726	0.459	0.047	0.020	365.038	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.870	0.006	4.672	0.833	0.057	0.024	584.103	0.045
Amador	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.221	0.002	0.232	0.018	0.055	0.027	249.039	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.134	0.003	0.224	0.029	0.061	0.034	304.316	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.498	0.010	0.988	0.234	0.182	0.110	1011.413	0.027
	NA	MC	Motorcycles	1.302	0.002	25.648	4.310	0.018	0.008	160.213	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.115	0.003	1.228	0.131	0.047	0.020	304.731	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.323	0.004	2.509	0.360	0.048	0.020	411.270	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.611	0.006	3.531	0.522	0.056	0.024	617.986	0.045
Butte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.183	0.003	0.284	0.022	0.056	0.028	280.488	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.237	0.003	0.288	0.034	0.062	0.034	352.945	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.967	0.013	0.878	0.194	0.155	0.085	1357.753	0.027
	NA	MC	Motorcycles	1.283	0.002	26.280	4.796	0.018	0.009	178.850	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.136	0.003	1.409	0.145	0.047	0.020	298.451	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.371	0.004	3.025	0.494	0.048	0.021	403.942	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.951	0.006	5.233	0.920	0.057	0.025	627.962	0.045
Calaveras	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.231	0.003	0.354	0.027	0.057	0.030	274.569	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.156	0.003	0.350	0.049	0.070	0.041	343.300	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.491	0.010	0.968	0.226	0.173	0.102	1081.890	0.027
	NA	MC	Motorcycles	1.310	0.002	27.129	5.154	0.018	0.009	180.180	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.097	0.003	0.994	0.113	0.047	0.020	295.266	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.205	0.004	1.634	0.244	0.047	0.020	389.624	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.475	0.006	2.727	0.395	0.054	0.023	599.683	0.045
Colusa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.132	0.003	0.245	0.018	0.053	0.026	268.293	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.142	0.003	0.245	0.030	0.059	0.032	340.603	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.658	0.013	0.799	0.181	0.146	0.078	1368.389	0.027
	NA	MC	Motorcycles	1.270	0.002	24.358	4.095	0.018	0.008	178.345	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.086	0.003	0.981	0.112	0.047	0.020	298.900	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.140	0.004	1.322	0.184	0.047	0.020	392.348	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.374	0.006	2.355	0.318	0.054	0.023	591.531	0.045
Contra Costa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	0.232	0.017	0.053	0.026	276.569	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.087	0.003	0.163	0.019	0.053	0.025	351.827	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.744	0.012	0.827	0.188	0.196	0.105	1303.566	0.027
	NA	MC	Motorcycles	1.260	0.002	24.425	3.942	0.018	0.008	182.416	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.149	0.003	1.417	0.153	0.047	0.020	315.524	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.504	0.004	3.445	0.522	0.048	0.021	432.252	0.025
D 127	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.882	0.007	4.611	0.760	0.056	0.024	648.310	0.045
Del Norte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.204	0.003	0.381	0.028	0.057	0.030	300.819	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.442	0.004	0.868	0.124	0.119	0.089	375.518	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.637	0.008	1.118	0.249	0.180	0.108	873.569	0.027
	NA	MC	Motorcycles	1.364	0.003	29.520	5.054	0.019	0.009	191.885	0.053

Table 5-51 EMFAC County-Specific On-Road Vehicle EFs – 2019 (cont.)

				Emission Factors (g/mi)								
County	Fuel Type		Vehicle Type			Criteria 1	Pollutants a	nd Ozone I	Precursors			
				NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.082	0.003	0.970	0.100	0.047	0.020	297.346	0.024	
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.193	0.004	1.836	0.280	0.047	0.020	404.032	0.025	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.490	0.006	3.159	0.495	0.054	0.023	604.540	0.045	
El Dorado	Diesel		Light-Duty Vehicles (Passenger Cars)	0.140	0.003	0.256	0.018	0.053	0.026	274.188	0.008	
	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.149	0.003	0.218	0.025	0.056	0.028	354.011	0.008	
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	4.894	0.009	0.951	0.217	0.176	0.103	971.194	0.027	
	NA	MC	Motorcycles	1.350	0.002	28.323	5.349	0.019	0.009	186.623	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.08	0.00	0.90	0.11	0.05	0.02	294.86	0.024	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.17	0.00	1.52	0.25	0.05	0.02	392.57	0.025	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.41	0.01	2.60	0.38	0.05	0.02	598.33	0.045	
Fresno	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.07	0.00	0.17	0.01	0.05	0.02	260.47	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.10	0.00	0.17	0.02	0.05	0.03	341.49	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.72	0.01	0.76	0.18	0.15	0.08	1521.81	0.027	
	NA	MC	Motorcycles	1.27	0.00	25.56	4.04	0.02	0.01	174.36	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.101	0.003	1.077	0.117	0.047	0.020	306.350	0.024	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.239	0.004	1.938	0.296	0.047	0.020	406.603	0.025	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.528	0.006	3.124	0.466	0.055	0.023	622.653	0.045	
Glenn	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.121	0.003	0.286	0.020	0.053	0.026	278.235	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.161	0.003	0.315	0.041	0.065	0.037	347.909	0.008	
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	4.848	0.013	0.832	0.189	0.148	0.081	1338.630	0.027	
	NA	MC	Motorcycles	1.273	0.002	25.364	4.543	0.018	0.008	183.995	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.247	0.003	2.282	0.261	0.047	0.020	329.059	0.024	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.439	0.004	3.116	0.466	0.048	0.020	402.791	0.025	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.887	0.006	4.558	0.762	0.056	0.024	605.917	0.045	
Humboldt	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.432	0.003	0.440	0.036	0.065	0.037	288.734	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.179	0.003	0.358	0.047	0.070	0.042	351.782	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.744	0.011	0.992	0.232	0.172	0.101	1191.595	0.027	
	NA	MC	Motorcycles	1.370	0.002	28.917	4.776	0.018	0.008	179.363	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.312	0.003	2.817	0.230	0.047	0.019	290.451	0.024	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.238	0.004	1.979	0.385	0.047	0.020	386.562	0.025	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.587	0.006	3.364	0.543	0.054	0.023	583.217	0.045	
Imperial	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.083	0.002	0.162	0.012	0.051	0.024	247.713	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.137	0.003	0.160	0.017	0.053	0.026	324.705	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	3.697	0.013	0.421	0.087	0.134	0.067	1392.933	0.027	
	NA	MC	Motorcycles	1.185	0.002	21.851	3.833	0.018	0.008	167.987	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.115	0.003	1.167	0.139	0.047	0.020	309.771	0.024	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.270	0.004	2.127	0.366	0.047	0.020	414.096	0.025	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.749	0.006	4.002	0.721	0.057	0.024	640.668	0.045	
Inyo	Diesel		Light-Duty Vehicles (Passenger Cars)	0.136	0.003	0.290	0.020	0.054	0.026	277.756	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.118	0.003	0.240	0.029	0.057	0.029	352.651	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.689	0.013	0.849	0.182	0.161	0.085	1311.758	0.027	
	NA	MC	Motorcycles	1.310	0.002	26.779	4.695	0.018	0.008	186.864	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.078	0.003	0.867	0.105	0.047	0.020	316.601	0.024	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.162	0.004	1.429	0.232	0.047	0.020	420.542	0.025	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.410	0.006	2.528	0.378	0.055	0.023	645.770	0.045	
Kem	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.081	0.003	0.218	0.014	0.051	0.024	284.954	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.087	0.004	0.180	0.020	0.053	0.025	371.588	0.008	
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	4.585	0.014	0.737	0.166	0.142	0.073	1522.181	0.027	
	NA	MC	Motorcycles	1.277	0.002	26.504	4.072	0.018	0.008	187.391	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.087	0.003	0.925	0.104	0.047	0.019	290.564	0.024	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.216	0.004	1.774	0.271	0.047	0.020	387.825	0.025	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.453	0.006	2.692	0.393	0.054	0.023	598.060	0.045	
Kings	Diesel		Light-Duty Vehicles (Passenger Cars)	0.077	0.002	0.213	0.014	0.051	0.023	255.350	0.008	
	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.143	0.003	0.234	0.028	0.058	0.030	330.279	0.008	
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	4.762	0.015	0.740	0.167	0.135	0.068	1555.681	0.027	
	NA	MC	Motorcycles	1.249	0.002	23.795	3.889	0.018	0.008	172.345	0.053	

Table 5-51 EMFAC County-Specific On-Road Vehicle EFs – 2019 (cont.)

					Emission Factors (g/mi)								
County	Fuel Type	,	Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors				
				NO <sub>x</sub>	SO <sub>x</sub>	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>		
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.163	0.003	1.616	0.188	0.047	0.020	307.249	0.024		
	Gasoline	LDGT Light-Duty T	rucks (0-8,500 lbs)	0.375	0.004	2.873	0.481	0.048	0.020	407.972	0.025		
	Gasoline	HDGV Heavy-Duty	Vehicles (8,501 + lbs)	1.016	0.006	5.471	0.993	0.058	0.025	634.478	0.045		
Lake	Diesel		ehicles (Passenger Cars)	0.246	0.003	0.351	0.027	0.058	0.031	280.284	0.008		
	Diesel		rucks (0-8,500 lbs)	0.299	0.003	0.348	0.040	0.065	0.037	346.055	0.008		
	Diesel		Vehicles (8,501 + lbs)	5.775	0.010	1.076	0.262	0.192	0.119	1082.382	0.027		
	NA	MC Motorcycles		1.340	0.002	29.080	5.377	0.019	0.009	181.726	0.053		
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.137	0.003	1.382	0.143	0.047	0.020	320.531	0.024		
	Gasoline	LDGT Light-Duty T	rucks (0-8,500 lbs)	0.340	0.004	2.692	0.422	0.048	0.020	435.857	0.025		
	Gasoline	HDGV Heavy-Duty	Vehicles (8,501 + lbs)	0.967	0.007	5.215	0.918	0.057	0.025	665.101	0.045		
Lassen	Diesel	LDDV Light-Duty V	ehicles (Passenger Cars)	0.174	0.003	0.371	0.026	0.055	0.028	290.389	0.008		
	Diesel	LDDT Light-Duty T	rucks (0-8,500 lbs)	0.152	0.004	0.324	0.040	0.061	0.034	374.148	0.008		
	Diesel	HDDV Heavy-Duty	Vehicles (8,501 + lbs)	5.480	0.009	1.134	0.246	0.184	0.109	893.094	0.027		
	NA	MC Motorcycles		1.376	0.003	30.122	5.153	0.018	0.009	195.336	0.053		
	Gasoline	LDGV Light-Duty V	ehicles (Passenger Cars)	0.088	0.003	1.087	0.120	0.047	0.020	325.438	0.024		
	Gasoline	LDGT Light-Duty T	rucks (0-8,500 lbs)	0.158	0.004	1.576	0.198	0.048	0.020	424.925	0.025		
	Gasoline	HDGV Heavy-Duty	Vehicles (8,501 + lbs)	0.368	0.006	2.460	0.306	0.055	0.024	622.715	0.045		
Los Angeles	Diesel	LDDV Light-Duty V	ehicles (Passenger Cars)	0.092	0.003	0.313	0.023	0.054	0.027	284.354	0.008		
C	Diesel	LDDT Light-Duty T	rucks (0-8,500 lbs)	0.108	0.004	0.235	0.028	0.054	0.027	372.392	0.008		
	Diesel	HDDV Heavy-Duty	Vehicles (8,501 + lbs)	3.989	0.012	0.975	0.152	0.173	0.092	1285.254	0.027		
	NA	MC Motorcycles		1.221	0.002	22.413	4.261	0.019	0.009	199.626	0.053		
	Gasoline	,	ehicles (Passenger Cars)	0.083	0.003	1.020	0.106	0.047	0.020	316.525	0.024		
	Gasoline		rucks (0-8,500 lbs)	0.192	0.003	1.852	0.281	0.048	0.020	422.985	0.024		
	Gasoline	0	Vehicles (8,501 + lbs)	0.152	0.004	3.035	0.425	0.055	0.024	643.676	0.025		
Madera	Diesel		ehicles (Passenger Cars)	0.113	0.003	0.314	0.022	0.053	0.024	278.985	0.008		
Mauera	Diesel		rucks (0-8,500 lbs)	0.113	0.003	0.263	0.022	0.057	0.020	356.513	0.008		
	Diesel		Vehicles (8,501 + lbs)	4.793	0.003	0.808	0.032	0.146	0.076	1472.766	0.003		
	NA	MC Motorcycles	venicles (8,501 + 10s)	1.243	0.014	24,924	4.085	0.018	0.008	183,885	0.027		
	Gasoline	_	ehicles (Passenger Cars)	0.087	0.002	0.959	0.120	0.018	0.020	302.453	0.033		
	Gasoline	,	rucks (0-8,500 lbs)	0.140	0.003	1.273	0.120	0.047	0.020	396.834	0.024		
	Gasoline	,	Vehicles (8,501 + lbs)	0.368	0.004	2.227	0.330	0.055	0.023	595.772	0.025		
Marin	Diesel			0.368	0.008	0.278	0.020	0.055	0.023	293.019	0.043		
Marin	Diesel		rucks (0-8,500 lbs)	0.134	0.003	0.278	0.020	0.053	0.027	375.223	0.008		
	Diesel		Vehicles (8,501 + lbs)	5.143	0.004	1.199	0.020	0.033	0.023	1222,479	0.008		
			venicies (8,501 + lbs)	1.288	0.011	25.393	4.035	0.248	0.142	186.520	0.027		
	NA	_	(1: 1. (P C )										
	Gasoline		ehicles (Passenger Cars)	0.136	0.003	1.404	0.151	0.047	0.020	309.582	0.024		
	Gasoline		rucks (0-8,500 lbs)	0.473	0.004	3.637	0.566	0.048	0.021	426.568	0.025		
Madain	Gasoline		Vehicles (8,501 + lbs)	0.958	0.007	5.251	0.921	0.057	0.025	647.172	0.045		
Mariposa	Diesel		ehicles (Passenger Cars)	0.280	0.003	0.422	0.033	0.060	0.032	289.430	0.008		
	Diesel		rucks (0-8,500 lbs)	0.295 5.821	0.003	0.594	0.090	0.095	0.066	352.727	0.008		
	Diesel		Vehicles (8,501 + lbs)	_	0.008	1.107		0.185	0.111	861.055	0.027		
	NA Constitute	MC Motorcycles	(1:1- (D) C )	1.346	0.002	29.392	5.325	0.019	0.009	187.724	0.053		
	Gasoline		ehicles (Passenger Cars)	0.137	0.003	1.331	0.142	0.047	0.020	292.426	0.024		
	Gasoline		rucks (0-8,500 lbs)	0.425	0.004	3.108	0.467	0.048	0.020	401.001	0.025		
	Gasoline		Vehicles (8,501 + lbs)	0.905	0.006	4.711	0.779	0.056	0.024	612.791	0.045		
Mendocino	Diesel		ehicles (Passenger Cars)	0.469	0.003	0.443	0.036	0.065	0.037	286.653	0.008		
	Diesel		rucks (0-8,500 lbs)	0.276	0.003	0.362	0.045	0.069	0.041	341.769	0.008		
	Diesel		Vehicles (8,501 + lbs)	5.380	0.012	0.905	0.215	0.161	0.093	1301.515	0.027		
	NA	MC Motorcycles		1.344	0.002	28.115	4.752	0.018	0.008	178.103	0.053		
	Gasoline		ehicles (Passenger Cars)	0.088	0.003	1.023	0.111	0.047	0.020	308.384	0.024		
	Gasoline		rucks (0-8,500 lbs)	0.194	0.004	1.757	0.261	0.047	0.020	408.319	0.025		
	Gasoline		Vehicles (8,501 + lbs)	0.464	0.006	3.010	0.402	0.056	0.024	629.346	0.045		
Merced	Diesel		ehicles (Passenger Cars)	0.130	0.003	0.273	0.019	0.053	0.026	274.072	0.008		
	Diesel		rucks (0-8,500 lbs)	0.152	0.003	0.261	0.031	0.059	0.031	355.347	0.008		
	Diesel		Vehicles (8,501 + lbs)	4.852	0.015	0.764	0.173	0.143	0.073	1551.951	0.027		
	NA	MC Motorcycles		1.243	0.002	24.761	3.722	0.018	0.008	177.891	0.053		

Table 5-51 EMFAC County-Specific On-Road Vehicle EFs – 2019 (cont.)

						Emission F	actors (g/m	i)		
County	Fuel Type	Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors	I	
			NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV Light-Duty Vehicles (Passenger C	Cars) 0.151	0.004	1.540	0.152	0.048	0.021	356.451	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.375	0.005	2.967	0.424	0.048	0.021	480.959	0.025
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lb		0.007	6.013	1.031	0.058	0.025	719.279	0.045
Modoc	Diesel	LDDV Light-Duty Vehicles (Passenger C		0.003	0.524	0.037	0.057	0.030	323.579	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.312	0.004	0.467	0.049	0.062	0.034	439.856	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lb		0.009	1.063	0.235	0.175	0.102	957.305	0.027
	NA	MC Motorcycles	1.395	0.003	31.065	5.376	0.019	0.009	217.533	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger C	Cars) 0.122	0.003	1.194	0.119	0.047	0.020	298.266	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.298	0.004	2.281	0.332	0.047	0.020	403.838	0.025
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lb		0.006	4.373	0.695	0.057	0.024	623.215	0.045
Mono	Diesel	LDDV Light-Duty Vehicles (Passenger C		0.003	0.328	0.024	0.056	0.028	281.840	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.353	0.003	0.362	0.037	0.062	0.035	364.484	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lb	s) 4.634	0.013	0.793	0.175	0.145	0.076	1351.845	0.027
	NA	MC Motorcycles	1.440	0.003	32.194	4.850	0.018	0.009	187.938	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger C	Cars) 0.121	0.003	1.254	0.134	0.047	0.020	321.620	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.290	0.004	2.182	0.293	0.048	0.020	432.589	0.025
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lb	s) 0.590	0.007	3.319	0.436	0.056	0.024	653.839	0.045
Monterey	Diesel	LDDV Light-Duty Vehicles (Passenger C	Cars) 0.159	0.003	0.390	0.029	0.056	0.029	294.796	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.139	0.004	0.311	0.038	0.059	0.032	380.413	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lb	s) 4.858	0.012	0.957	0.202	0.187	0.104	1292.565	0.027
	NA	MC Motorcycles	1.260	0.002	24.569	3.839	0.018	0.008	190.117	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger C		0.003	0.990	0.105	0.047	0.020	290.491	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.168	0.003	1.557	0.222	0.047	0.020	385.166	0.024
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lb		0.004	2.893	0.407	0.056	0.024	603.045	0.025
Napa	Diesel	LDDV Light-Duty Vehicles (Passenger C		0.003	0.242	0.018	0.054	0.024	272.648	0.008
Napa	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.078	0.003	0.242	0.018	0.052	0.027	349.728	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lb		0.003	0.137	0.205	0.171	0.023	1316.438	0.027
	NA	MC Motorcycles	1.264	0.012	24.380	3.858	0.171	0.008	176.212	0.027
	Gasoline	LDGV Light-Duty Vehicles (Passenger C		0.002	1.167	0.126	0.018	0.020	287.614	0.033
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.312	0.003	2.337	0.120	0.047	0.020	399.412	0.024
	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lb		0.004	3.702	0.553	0.055	0.023	598.589	0.025
Name de	Diesel			0.008	0.318	0.025	0.053	0.023	275.543	0.043
Nevada	Diesel	LDDV Light-Duty Vehicles (Passenger C LDDT Light-Duty Trucks (0-8,500 lbs)	0.236	0.003	0.318	0.023	0.038	0.036	353.754	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lb		0.003	0.349	0.036	0.064	0.036	1311.535	0.008
	NA		1.382	0.012	29.745	5.119	0.019	0.009	176.743	0.027
				0.002	0.919	0.106	0.019	0.009	303.949	0.053
	Gasoline			0.003						
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.121		1.253	0.168	0.047	0.020	398.688	0.025
0	Gasoline Diesel	HDGV Heavy-Duty Vehicles (8,501 + lb LDDV Light-Duty Vehicles (Passenger C		0.006	2.282 0.248	0.301	0.055 0.052	0.023	598.460 270.746	0.045
Orange	Diesel	8 ,	0.068	0.003	0.248	0.017	0.052	0.024	353.422	0.008
	Diesel			0.003	0.174	0.020	0.051	0.024	353.422 1170.409	0.008
	NA	HDDV Heavy-Duty Vehicles (8,501 + lb MC Motorcycles	1.211	0.011	21.946	4.154	0.180	0.099	189.586	0.027
	Gasoline			0.002	0.961	0.105	0.018	0.009	290.580	0.053
				0.003	1.395	0.105	0.047	0.020		
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)  HDGV Heavy-Duty Vehicles (8,501 + lb	0.145 (s) 0.390	0.004	2,509	0.193	0.047	0.020	385.702 587.347	0.025
Dla	Gasoline									0.045
Placer	Diesel	LDDV Light-Duty Vehicles (Passenger C	Cars) 0.131 0.117	0.003	0.235 0.180	0.018	0.054	0.026 0.026	265.312 339.032	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)		0.003						
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lb		0.012	0.756	0.172	0.157	0.084	1299.447	0.027
	NA	MC Motorcycles	1.308	0.002	26.178	4.417	0.018	0.008	177.681	0.053
	Gasoline	LDGV Light-Duty Vehicles (Passenger C		0.003	1.504	0.155	0.048	0.020	330.520	0.024
	Gasoline	LDGT Light-Duty Trucks (0-8,500 lbs)	0.421	0.005	3.352	0.473	0.048	0.021	462.065	0.025
Total Control	Gasoline	HDGV Heavy-Duty Vehicles (8,501 + lb		0.007	6.225	1.009	0.057	0.025	683.098	0.045
Plumas	Diesel	LDDV Light-Duty Vehicles (Passenger C		0.003	0.484	0.035	0.058	0.031	307.982	0.008
	Diesel	LDDT Light-Duty Trucks (0-8,500 lbs)	0.172	0.004	0.389	0.045	0.061	0.033	408.092	0.008
	Diesel	HDDV Heavy-Duty Vehicles (8,501 + lb		0.010	1.034	0.231	0.172	0.103	1066.764	0.027
	NA	MC Motorcycles	1.378	0.003	31.071	5.627	0.019	0.009	203.907	0.053

Table 5-51 EMFAC County-Specific On-Road Vehicle EFs – 2019 (cont.)

County   Fuel Type   Vehicle Type   No.   Col.   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow   Follow								Emission F	actors (g/m	i)		
Gasoline   LDV   Light-Day Vehicles (Passenger Cary)	County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
Ganoline   LDGT   Light-Day Tracks (0.8.500 lbs)   0.379   0.006   2.244   0.341   0.024   0.020   3.8.565   0.025					$NO_x$	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
Ganoline   HDGV   Havy-Duny Vehicles (SS-01 + hb)   0.379   0.006   2.424   0.341   0.054   0.023   574.339   0.045		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.076	0.003	0.910	0.107	0.047	0.020	293.188	0.024
Priese   Diese   LIDW   Light-Day Vehicles (Passenger Cars)   0.084   0.002   0.188   0.013   0.051   0.024   29.089   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)		0.004		0.201			383.565	0.025
Diesel   LDDT   Light Duy Procks of 0.500 hs   0.072   0.0031   0.146   0.007   0.0052   0.025   332.319   0.008												
Diseal   HDDV   Harv-Daty Vehicles (S.90 + lbs)   3,745   0.012   0.073   0.098   0.145   0.074   1320,016   0.027	Riverside											
NA												
Gasoline   LDGV   Light-Dhry Vehicles (Passenger Cars)   0.088   0.003   1.070   0.120   0.047   0.020   300.607   0.023   300.637   0.025												
Sacrimento   Giscoline   LDGT   Light-Dhy Trucks (0.8500 lbs)   0.161   0.004   1.578   0.222   0.017   0.020   396.013   0.025					_							
Sacrimento   Gaoline   HiGW   Heavy-Duty Vehicles (9.501 e-lbs)   0.435   0.006   0.2786   0.383   0.056   0.023   61.1950   0.045     Diesel   LDDT   Light-Duty Princks (0.8500 lbs)   0.347   0.003   0.271   0.044   0.009   0.041   351.629   0.008     Diesel   LDDT   Light-Duty Princks (0.8500 lbs)   0.347   0.003   0.371   0.044   0.009   0.041   351.629   0.002     NA												
Dissel   LDDY   Light-Darty Vehicles (Passenger Carp)   0.111   0.003   0.245   0.018   0.054   0.026   2.66,224   0.008												
Diesel   IDDY   Light-Duy Tracks (08-500 lbs)   0.347   0.003   0.371   0.044   0.069   0.044   31.629   0.008												
Diesel   HDDV   Heavy-Duty Vehicles (8.501 + lbs)	Sacramento											
NA   MC   Motorcycles   1,233   0,002   24,277   4,340   0,018   0,008   179,245   0,053												
Gasoline   LDGV   Light-Dury Venkies (Rassonger Cars)   0.007   0.003   0.996   0.100   0.047   0.020   283 304   0.024												
Gasoline   IDGT   Light-Duty Trucks (08.500 lbs)   0.206   0.004   1.628   0.243   0.047   0.020   375.965   0.025					_							
San Benide   Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.522   0.006   2.951   0.429   0.054   0.023   857.285   0.045   0.008									0.00.1.			
San Benito   Dieset   LDDV   Light-Dury Verbicles (Passenger Cars)   0.193   0.003   0.280   0.020   0.024   0.027   2.029   163   0.008   0.008   0.008   0.009   0.005   0.009   0.002   0.044   0.009   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.002   0.044   0.009   0.004   0.009   0.002   0.044   0.009   0.009   0.002   0.044   0.009   0.009   0.003   0.004   0.009   0.009   0.003   0.004   0.009   0.009   0.003   0.004   0.009   0.004   0.009   0.003   0.004   0.005   0.003   0.004   0.005   0.005   0.003   0.004   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0.005   0												
Diesel   IDDT   Light-Dury Trucks (0.8,500 lbs)   0.003   0.003   0.143   0.016   0.050   0.022   344.849   0.008						0.000			0.00			
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)	San Benito											
San Diego   NA												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.085   0.003   0.964   0.107   0.047   0.020   298.274   0.024												
Gasoline   LDGT   Light-Duty Vehicles (8.500 lbs)   0.173   0.004   1.557   0.222   0.047   0.020   391.714   0.025     Diesel   LDDV   Light-Duty Vehicles (8.501 + lbs)   0.420   0.006   2.571   0.351   0.054   0.023   586.559   0.045     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.079   0.003   0.200   0.014   0.051   0.024   262.974   0.008     Diesel   LDDV   Light-Duty Trucks (0.8.500 lbs)   0.097   0.003   0.174   0.020   0.054   0.026   340.936   0.008     Diesel   LDDV   Light-Duty Trucks (0.8.500 lbs)   0.097   0.003   0.174   0.020   0.054   0.026   340.936   0.008     NA   MC   Motorcycles   1.245   0.002   24.176   3.725   0.018   0.008   175.666   0.053     Gasoline   LDGV   Light-Duty Vehicles (R.501 lbs)   0.146   0.004   1.364   0.205   0.047   0.020   391.155   0.024     Gasoline   LDGV   Light-Duty Vehicles (8.501 lbs)   0.146   0.004   1.364   0.205   0.047   0.020   411.361   0.025     Diesel   LDDV   Light-Duty Vehicles (R.500 lbs)   0.350   0.006   2.183   0.306   0.055   0.023   615.760   0.045     Diesel   LDDV   Light-Duty Vehicles (R.500 lbs)   0.120   0.004   0.224   0.026   0.055   0.023   373.585   0.008     Diesel   LDDV   Light-Duty Vehicles (R.501 lbs)   0.120   0.004   0.224   0.026   0.056   0.029   373.585   0.008     Diesel   LDDV   Light-Duty Vehicles (R.501 lbs)   4.370   0.012   1.076   0.193   0.118   0.007   1300.569   0.037     NA   MC   Motorcycles   1.249   0.002   24.291   3.993   0.018   0.008   191.785   0.053     Gasoline   LDGV   Light-Duty Vehicles (R.501 lbs)   0.350   0.004   0.224   0.026   0.056   0.029   373.585   0.008     Gasoline   LDGV   Light-Duty Vehicles (R.501 lbs)   0.120   0.004   0.224   0.026   0.050   0.025   0.025   0.025   0.025     Gasoline   LDGV   Light-Duty Vehicles (R.501 lbs)   0.120   0.004   0.237   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004   0.004												
San Bernardino   Diesel   LIDDV   Light-Duty Vehicles (R5.01 + lbs)   0.420   0.006   2.571   0.351   0.054   0.023   586.559   0.045												
San Bernardino   Diesel   LIDDV   Light-Duty Vehicles (Rasenger Cars)   0.079   0.003   0.200   0.014   0.051   0.024   2c2.974   0.008												
Diesel   LIDDT   Light-Duty Trucks (0-8,500 lbs)   0.097   0.003   0.174   0.020   0.054   0.026   340.936   0.008     NA												
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   3,783   0.012   0.648   0.108   0.147   0.075   1325,461   0.027	San Bernardino											
NA   MC   Motorcycles   1.245   0.002   24.176   3.725   0.018   0.008   175.666   0.053												
San Diego												
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.146   0.004   1.364   0.205   0.047   0.020   411.361   0.025				· · ·								
San Diego   Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.350   0.006   2.183   0.306   0.055   0.023   615.760   0.045						0.000						
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.091   0.003   0.243   0.017   0.052   0.025   289.092   0.008												
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.120   0.004   0.224   0.026   0.056   0.029   373.585   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 lbs)   4,370   0.012   1.076   0.193   0.178   0.097   1300.569   0.027     NA   MC   Motorcycles   1.249   0.002   24,291   3.993   0.018   0.008   191.785   0.053     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.084   0.003   1.004   0.119   0.047   0.020   325.823   0.024     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.121   0.004   1.237   0.170   0.047   0.020   422.786   0.025     Gasoline   HDGV   Heavy-Duty Vehicles (Ressenger Cars)   0.101   0.003   0.364   0.024   0.053   0.026   305.459   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.115   0.004   0.269   0.030   0.054   0.027   391.757   0.008     Diesel   HDDV   Heavy-Duty Vehicles (Ressenger Cars)   0.09   0.00   0.95   0.11   0.05   0.02   301.42   0.024     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.17   0.09   0.00   0.95   0.11   0.05   0.02   301.42   0.024     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.17   0.00   0.95   0.11   0.05   0.02   301.42   0.024     Gasoline   LDGV   Light-Duty Trucks (0-8,500 lbs)   0.17   0.00   0.20   0.01   0.05   0.02   301.42   0.024     Gasoline   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.17   0.00   0.20   0.01   0.05   0.02   301.42   0.025     Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.11   0.00   0.20   0.01   0.05   0.02   271.66   0.008     Diesel   LDDT   Light-Duty Vehicles (Passenger Cars)   0.11   0.00   0.20   0.01   0.05   0.02   271.66   0.008     Diesel   LDDT   Light-Duty Vehicles (Passenger Cars)   0.11   0.00   0.20   0.01   0.05   0.02   271.66   0.008     Diesel   LDDT   Light-Duty Vehicles (Passenger Cars)   0.01   0.05   0.02   0.01   180.22   0.053     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.01   0.05   0.02   0.01   180.22   0.053     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.097   0.003   0.098   0.110   0.097												
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   4.370   0.012   1.076   0.193   0.178   0.097   1300.569   0.027	San Diego											
NA   MC   Motorcycles   1.249   0.002   24.291   3.993   0.018   0.008   191.785   0.053												
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.084   0.003   1.004   0.119   0.047   0.020   325.823   0.024												
San Francisco   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.121   0.004   1.237   0.170   0.047   0.020   422.786   0.025				·								
San Francisco   Diesel   LDDV   Light-Duty Vehicles (8,501 + lbs)   0.378   0.006   2.274   0.319   0.060   0.025   646.302   0.045												
San Francisco   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.101   0.003   0.364   0.024   0.053   0.026   305.459   0.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.121	0.004	1.237	0.170	0.047	0.020	422.786	0.025
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   Diesel   HDDV   Heavy-Duty Vehicles (Passenger Cars)   Diesel   HDDV   Heavy-Duty Vehicles (Passenger Cars)   Diesel   HDDV   Heavy-Duty Vehicles (Passenger Cars)   Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   Diesel   LDDT   Light-Duty Vehicles (Passenger Cars)   Diesel   DIGT   Light-Duty V		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.378	0.006	2.274	0.319	0.060	0.025	646.302	0.045
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.188   0.012   1.314   0.252   0.269   0.155   1351.878   0.027	San Francisco	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.101	0.003	0.364	0.024	0.053	0.026	305.459	0.008
NA   MC   Motorcycles   1.285   0.003   25.370   4.677   0.019   0.009   203.723   0.053		Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.115	0.004	0.269	0.030	0.054	0.027	391.757	0.008
Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.09   0.00   0.95   0.11   0.05   0.02   301.42   0.024		Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.188	0.012	1.314	0.252	0.269	0.155	1351.878	0.027
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.17   0.00   1.49   0.23   0.05   0.02   398.42   0.025		NA	MC	Motorcycles	1.285	0.003	25.370	4.677	0.019	0.009	203.723	0.053
San Joaquin   Diesel   LDDV   Light-Duty Vehicles (8,501 + lbs)   0.42   0.01   2.62   0.38   0.05   0.02   602.82   0.045		Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.09	0.00	0.95	0.11	0.05	0.02	301.42	0.024
Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   D.11   D.00   D.20   D.01   D.05   D.02   271.66   D.008		Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.17	0.00	1.49	0.23	0.05	0.02	398.42	0.025
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.13   0.00   0.19   0.02   0.05   0.03   347.95   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   4,67   0.01   0.85   0.19   0.16   0.09   1410.26   0.027     NA		Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.42	0.01	2.62	0.38	0.05	0.02	602.82	0.045
Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.13   0.00   0.19   0.02   0.05   0.03   347.95   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   4,67   0.01   0.85   0.19   0.16   0.09   1410.26   0.027     NA   MC   Motorcycles   1.28   0.00   26.15   4.09   0.02   0.01   180.22   0.053     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.097   0.003   0.989   0.110   0.047   0.020   284.798   0.024     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.253   0.004   1.893   0.274   0.047   0.020   388.438   0.025     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.543   0.006   2.994   0.443   0.055   0.023   592.008   0.045     San Luis Obispo   Diesel   LDDV   Light-Duty Vehicles (Passenger Cars)   0.148   0.003   0.254   0.018   0.054   0.026   274.766   0.008     Diesel   LDDT   Light-Duty Trucks (0-8,500 lbs)   0.150   0.003   0.255   0.031   0.060   0.033   348.320   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.170   0.011   0.988   0.220   0.179   0.105   1141.518   0.027     Diesel   LDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.988   0.220   0.179   0.105   1141.518   0.027     Diesel   LDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.988   0.220   0.179   0.105   0.141.518   0.027     Diesel   LDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.988   0.220   0.179   0.105   0.141.518   0.027     Diesel   LDDV   Heavy-Duty Vehicles (8,501 + lbs)   0.001   0.001   0.001   0.000   0.001   0.000   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0.001   0	San Joaquin	Diesel	LDDV		0.11	0.00	0.20	0.01	0.05	0.02	271.66	0.008
Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   4.67   0.01   0.85   0.19   0.16   0.09   1410.26   0.027     NA   MC   Motorcycles   1.28   0.00   26.15   4.09   0.02   0.01   180.22   0.053     Gasoline   LDGV   Light-Duty Vehicles (Passenger Cars)   0.097   0.003   0.989   0.110   0.047   0.020   284.798   0.024     Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.253   0.004   1.893   0.274   0.047   0.020   388.438   0.025     Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.543   0.006   2.994   0.443   0.055   0.023   592.008   0.045     Diesel   LDDV   Light-Duty Tucks (0-8,500 lbs)   0.148   0.003   0.254   0.018   0.054   0.026   274.766   0.008     Diesel   LDDT   Light-Duty Tucks (0-8,500 lbs)   0.150   0.003   0.255   0.031   0.060   0.033   348.320   0.008     Diesel   HDDV   Heavy-Duty Vehicles (8,501 + lbs)   5.170   0.011   0.988   0.220   0.179   0.105   1141.518   0.027	_		LDDT		0.13	0.00	0.19	0.02	0.05	0.03		0.008
NA   MC   Motorcycles   1.28   0.00   26.15   4.09   0.02   0.01   180.22   0.053			HDDV			0.01		0.19	0.16	0.09		0.027
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.253   0.004   1.893   0.274   0.047   0.020   388.438   0.025		NA	MC	Motorcycles	1.28	0.00	26.15	4.09	0.02	0.01	180.22	0.053
Gasoline   LDGT   Light-Duty Trucks (0-8,500 lbs)   0.253   0.004   1.893   0.274   0.047   0.020   388.438   0.025		Gasoline	LDGV		_	0.003	0.989	0.110	0.047	0.020	284.798	0.024
Gasoline   HDGV   Heavy-Duty Vehicles (8,501 + lbs)   0.543   0.006   2.994   0.443   0.055   0.023   592.008   0.045						0.004						
San Luis Obispo         Diesel         LDDV         Light-Duty Vehicles (Passenger Cars)         0.148         0.003         0.254         0.018         0.054         0.026         274.766         0.008           Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.150         0.003         0.255         0.031         0.060         0.033         348.320         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         5.170         0.011         0.988         0.220         0.179         0.105         1141.518         0.027			HDGV			0.006			0.055	0.023		0.045
Diesel         LDDT         Light-Duty Trucks (0-8,500 lbs)         0.150         0.003         0.255         0.031         0.060         0.033         348.320         0.008           Diesel         HDDV         Heavy-Duty Vehicles (8,501 + lbs)         5.170         0.011         0.988         0.220         0.179         0.105         1141.518         0.027	San Luis Obispo											
Diesel HDDV Heavy-Duty Vehicles (8,501 + lbs) 5.170 0.011 0.988 0.220 0.179 0.105 1141.518 0.027												
		NA	MC	Motorcycles	1.326	0.002	26.380	4.635	0.018	0.009	177.582	0.053

Table 5-51 EMFAC County-Specific On-Road Vehicle EFs – 2019 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	recursors		
				NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.082	0.003	0.949	0.122	0.047	0.020	288.203	0.024
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.105	0.004	1.024	0.142	0.047	0.020	370.963	0.025
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.294	0.006	1.868	0.261	0.055	0.023	563.334	0.045
San Mateo	Diesel		Light-Duty Vehicles (Passenger Cars)	0.094	0.003	0.206	0.015	0.052	0.025	265.273	0.008
	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.052	0.003	0.123	0.014	0.050	0.023	340.674	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	3.749 1.227	0.011	0.925	0.190	0.219	0.124	1162.169	0.027
	NA Gasoline		Motorcycles Light-Duty Vehicles (Passenger Cars)	0.107	0.002	21.734 1.066	3.363 0.124	0.018	0.008	180.930 277.376	0.053
	Gasoline		Light-Duty Venicies (Passenger Cars)  Light-Duty Trucks (0-8,500 lbs)	0.107	0.003	1.922	0.124	0.047	0.020	376.033	0.024
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.549	0.004	3.010	0.436	0.047	0.026	585.107	0.025
Santa Barbara	Diesel		Light-Duty Vehicles (Passenger Cars)	0.136	0.003	0.221	0.016	0.053	0.026	266.366	0.008
Sunu Burouru	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.114	0.003	0.184	0.021	0.055	0.028	334.141	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	4.923	0.012	1.027	0.203	0.207	0.118	1265.345	0.027
	NA	MC	Motorcycles	1.282	0.002	23.831	3.682	0.018	0.008	169.261	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.083	0.003	0.964	0.111	0.047	0.020	292.237	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.147	0.004	1.389	0.196	0.047	0.020	387.220	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.382	0.006	2.422	0.334	0.055	0.023	579.419	0.045
Santa Clara	Diesel		Light-Duty Vehicles (Passenger Cars)	0.090	0.003	0.209	0.014	0.052	0.024	267.104	0.008
	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.071	0.003	0.154	0.018	0.052	0.025	346.143	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	4.553	0.012	0.867	0.195	0.182	0.102	1315.731	0.027
	NA		Motorcycles	1.243	0.002	22.831	3.852	0.018	0.008	179.783	0.053
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.130	0.003	1.344	0.140	0.047	0.020	310.672	0.024
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.321	0.004	2.438	0.343	0.048	0.020	417.490	0.025
Santa Cruz	Gasoline Diesel		Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars)	0.616 0.287	0.006	3.453 0.437	0.469	0.057	0.024	627.415 299.741	0.045
Santa Cruz	Diesel		Light-Duty Venicies (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.287	0.003	0.437	0.030	0.063	0.033	356.863	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	5.659	0.003	1.161	0.032	0.235	0.143	1198.530	0.003
	NA		Motorcycles	1.313	0.002	26.539	4.764	0.019	0.009	187.395	0.053
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.106	0.003	1.126	0.125	0.047	0.020	308.738	0.024
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.246	0.004	1.977	0.302	0.047	0.020	411.658	0.025
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.592	0.006	3.440	0.543	0.056	0.024	631.513	0.045
Shasta	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.158	0.003	0.305	0.022	0.054	0.027	277.575	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.178	0.003	0.288	0.035	0.061	0.033	352.904	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	5.054	0.013	0.826	0.190	0.150	0.082	1376.081	0.027
	NA		Motorcycles	1.322	0.002	27.971	5.150	0.018	0.009	185.875	0.053
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.136	0.003	1.408	0.140	0.048	0.020	341.223	0.024
	Gasoline	1	Light-Duty Trucks (0-8,500 lbs)	0.346	0.005	2.734	0.375	0.048	0.021	462.100	0.025
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.920	0.007	5.073	0.796	0.057	0.025	687.828	0.045
Sierra	Diesel		Light-Duty Vehicles (Passenger Cars)	0.103	0.003	0.451	0.030	0.053	0.026	308.026	0.008
	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.178	0.004	0.452	0.062	0.071	0.043	392.623	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	5.303	0.009	1.118	0.239	0.172	0.101	937.254	0.027
	NA		Motorcycles Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control o	1.374	0.003	30.207	5.329	0.019	0.009	210.013	0.053
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.137	0.003	1.376	0.139	0.047	0.020	330.703	0.024
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.351	0.005	2.718	0.406	0.048	0.021	446.876	0.025
Siekiyon	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.896	0.007	4.973 0.437	0.818	0.058	0.025	669.344 305.329	0.045
Siskiyou	Diesel Diesel		Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.199	0.003	0.437	0.031	0.057	0.029	305.329	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	4.835	0.004	0.432	0.054	0.069	0.041	1439.533	0.008
	NA		Motorcycles	1.393	0.003	31.134	5.247	0.019	0.009	202.608	0.027
	Gasoline	1	Light-Duty Vehicles (Passenger Cars)	0.085	0.003	0.919	0.110	0.017	0.000	309.414	0.024
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.150	0.003	1.344	0.204	0.047	0.020	407.842	0.025
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.407	0.006	2.449	0.360	0.056	0.023	623.281	0.045
Solano	Diesel		Light-Duty Vehicles (Passenger Cars)	0.105	0.003	0.232	0.016	0.053	0.025	285.094	0.008
	Diesel	1	Light-Duty Trucks (0-8,500 lbs)	0.132	0.003	0.204	0.022	0.055	0.027	363.842	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	4.645	0.013	0.889	0.188	0.160	0.085	1387.693	0.027
	NA		Motorcycles	1.289	0.002	26.894	3.974	0.018	0.008	188.124	0.053

Table 5-51 EMFAC County-Specific On-Road Vehicle EFs – 2019 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone F	recursors		
				NOx	SO <sub>x</sub>	CO	ROG	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.100	0.003	1.100	0.119	0.047	0.020	307.888	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.197	0.004	1.746	0.258	0.047	0.020	404.213	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.548	0.006	3.163	0.484	0.056	0.024	625.399	0.045
Sonoma	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.217	0.003	0.335	0.026	0.058	0.031	294.931	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.099	0.003	0.215	0.027	0.057	0.029	358.903	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.719	0.011	0.889	0.207	0.181	0.105	1205.532	0.027
	NA	MC LDGV	Motorcycles	1.297	0.002	26.741	4.495 0.115	0.018	0.009	187.073	0.053
	Gasoline Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.089	0.003	1.038	0.115	0.047	0.020	312.655 414.852	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.183	0.004	2.966	0.236	0.047	0.020	627.277	0.023
Stanislaus	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.116	0.003	0.286	0.020	0.053	0.025	276.075	0.008
Stanislaus	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.112	0.003	0.233	0.027	0.055	0.028	357.609	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.698	0.014	0.787	0.185	0.153	0.083	1423.664	0.027
	NA	MC	Motorcycles	1.285	0.002	26.734	4.698	0.018	0.008	185.415	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.092	0.003	0.993	0.107	0.047	0.019	281.437	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.229	0.004	1.831	0.282	0.047	0.020	373.331	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.522	0.006	3.066	0.456	0.053	0.022	578.478	0.045
Sutter	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.106	0.002	0.195	0.014	0.052	0.024	252.303	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.080	0.003	0.156	0.020	0.054	0.027	313.767	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.564	0.014	0.749	0.179	0.147	0.079	1430.274	0.027
	NA	MC	Motorcycles	1.299	0.002	24.999	4.966	0.018	0.008	174.298	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.105	0.003	1.081	0.115	0.047	0.020	305.352	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.273	0.004	2.108	0.315	0.047	0.020	408.435	0.025
Tehama	Gasoline	HDGV LDDV	Heavy-Duty Vehicles (8,501 + lbs)	0.577 0.154	0.006	3.345 0.301	0.506	0.055	0.023	620.415 278.236	0.045
1 enama	Diesel Diesel	LDDV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.154	0.003	0.301	0.021	0.054	0.027	354.837	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.913	0.003	0.338	0.181	0.141	0.039	1426.781	0.008
	NA	MC	Motorcycles	1.333	0.002	27.847	4.766	0.018	0.009	185.979	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.158	0.004	1.607	0.160	0.048	0.021	365.460	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.560	0.005	4.161	0.568	0.050	0.022	503.030	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.110	0.007	6.009	0.997	0.058	0.026	731.311	0.045
Trinity	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.302	0.003	0.619	0.051	0.067	0.039	330.110	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.336	0.004	0.814	0.126	0.113	0.083	415.825	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.293	0.013	0.886	0.202	0.147	0.081	1373.339	0.027
	NA	MC	Motorcycles	1.382	0.003	33.393	6.127	0.019	0.009	219.037	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.081	0.003	0.928	0.106	0.047	0.019	291.639	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.190	0.004	1.711	0.276	0.047	0.020	386.175	0.025
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.442	0.006	2.870	0.402	0.053	0.022	591.683	0.045
Tulare	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.079	0.002	0.174	0.012	0.051	0.023	255.206	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.178	0.003	0.248	0.030	0.061	0.033	328.844	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.720	0.014	0.809	0.184	0.155	0.083	1427.175	0.027
	NA	MC	Motorcycles	1.271	0.002	24.919	4.318	0.018	0.008	173.760	0.053
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.156	0.003	1.568	0.164	0.047	0.020	311.412	0.024
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.444	0.004	3.421	0.505	0.048	0.021	424.065	0.025
T1	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.966	0.006	5.227	0.862	0.056	0.024	641.741	0.045
Tuolumne	Diesel Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.204	0.003	0.367 0.406	0.026	0.056	0.029	283.696 356.541	0.008
	Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	5.608	0.003	1.050	0.052	0.071	0.043	967.423	0.008
	NA	MC	Motorcycles	1.352	0.009	29.869	5.371	0.188	0.009	187.153	0.027
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.082	0.002	0.964	0.109	0.019	0.009	296.919	0.033
	Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.082	0.003	1.407	0.201	0.047	0.020	389.491	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.395	0.004	2.492	0.350	0.055	0.023	587.077	0.025
Ventura	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.101	0.003	0.262	0.019	0.053	0.026	272.889	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.113	0.003	0.206	0.024	0.055	0.027	350.404	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.012	0.010	0.793	0.136	0.167	0.093	1132.780	0.027
	NA	MC	Motorcycles	1.281	0.002	24.732	4.898	0.019	0.009	189.994	0.053
		•									

Table 5-51 EMFAC County-Specific On-Road Vehicle EFs – 2019 (cont.)

				Emission Factors (g/mi)								
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone F	recursors			
				NO <sub>x</sub>	$SO_x$	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.996	0.117	0.047	0.020	301.213	0.024	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.143	0.004	1.325	0.199	0.047	0.020	388.923	0.025	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.402	0.006	2.451	0.355	0.055	0.023	598.680	0.045	
Yolo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.172	0.003	0.253	0.019	0.055	0.028	276.748	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.141	0.003	0.191	0.021	0.055	0.027	347.354	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	3.888	0.012	0.782	0.169	0.170	0.092	1302.487	0.027	
	NA	MC	Motorcycles	1.281	0.002	25.979	4.201	0.018	0.008	178.320	0.053	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.095	0.003	1.019	0.104	0.047	0.020	288.570	0.024	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.287	0.004	2.227	0.326	0.047	0.020	389.810	0.025	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.614	0.006	3.571	0.524	0.055	0.023	592.505	0.045	
Yuba	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.115	0.003	0.220	0.016	0.052	0.025	262.471	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.113	0.003	0.168	0.020	0.054	0.026	323.354	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.449	0.010	1.032	0.230	0.193	0.112	1078.755	0.027	
	NA	MC	Motorcycles	1.287	0.002	25.549	4.400	0.018	0.008	173.381	0.053	

 $Table \ 5\text{-}52 \ EMFAC \ County\text{-}Specific \ On\text{-}Road \ Vehicle \ EFs-2020$ 

				Emission Factors (g/mi)								
County	Fuel Type		Vehicle Type				Pollutants a					
•			<b></b>	NOx	SO <sub>x</sub>	со	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.083	0.003	0.956	0.110	0.047	0.020	294.659	0.023	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.128	0.004	1.223	0.172	0.047	0.020	382.963	0.024	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.366	0.006	2.258	0.313	0.055	0.023	584.806	0.045	
Alameda	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.120	0.003	0.257	0.018	0.053	0.026	274.263	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.080	0.003	0.171	0.019	0.052	0.025	346.202	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.329	0.013	0.798	0.168	0.166	0.087	1415.383	0.027	
	NA	MC	Motorcycles	1.253	0.002	23.655	3.832	0.018	0.008	184.236	0.054	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.111	0.003	1.164	0.113	0.047	0.020	272.102	0.023	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.243	0.004	2.003	0.281	0.047	0.020	362.755	0.024	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.719	0.006	3.864	0.616	0.056	0.024	576.802	0.045	
Alpine	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.119	0.002	0.263	0.018	0.052	0.025	252.914	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.098	0.003	0.194	0.023	0.053	0.026	322.319	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.176	0.013	0.726	0.153	0.138	0.068	1409.351	0.027	
	NA	MC	Motorcycles	1.376	0.002	27.444	4.326	0.018	0.008	175.595	0.054	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.120	0.003	1.214	0.137	0.047	0.019	262.760	0.023	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.316	0.004	2.490	0.434	0.047	0.020	356.250	0.024	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.828	0.006	4.464	0.834	0.057	0.024	575.081	0.045	
Amador	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.180	0.002	0.213	0.016	0.054	0.026	241.811	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.111	0.003	0.196	0.025	0.059	0.031	298.471	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.053	0.010	0.891	0.201	0.169	0.097	1029.710	0.027	
	NA	MC	Motorcycles	1.298	0.002	25.263	4.342	0.018	0.008	161.086	0.054	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.102	0.003	1.103	0.118	0.047	0.020	296.088	0.023	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.287	0.004	2.269	0.332	0.047	0.020	400.369	0.024	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.569	0.006	3.307	0.507	0.056	0.024	606.791	0.045	
Butte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.150	0.003	0.269	0.020	0.054	0.027	273.039	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.200	0.003	0.262	0.031	0.060	0.032	345.404	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.564	0.013	0.811	0.171	0.146	0.076	1360.948	0.027	
	NA	MC	Motorcycles	1.280	0.002	25.827	4.811	0.018	0.009	179.743	0.054	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.121	0.003	1.283	0.133	0.047	0.020	290.167	0.023	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.333	0.004	2.755	0.465	0.048	0.020	394.144	0.024	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.904	0.006	4.996	0.920	0.057	0.025	617.906	0.045	
Calaveras	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.194	0.003	0.340	0.025	0.056	0.028	267.111	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.134	0.003	0.321	0.044	0.066	0.038	336.809	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.075	0.010	0.882	0.196	0.162	0.091	1099.464	0.027	
	NA	MC	Motorcycles	1.309	0.002	26.779	5.202	0.019	0.009	181.237	0.054	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.086	0.003	0.909	0.104	0.047	0.020	286.839	0.023	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.179	0.004	1.471	0.223	0.047	0.020	378.712	0.024	
G-1	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.441	0.006	2.554	0.385	0.054	0.023	588.312	0.045	
Colusa	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.110	0.002	0.234	0.017	0.053	0.025	260.872	0.008	
	Diesel Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.120 4.294	0.003	0.223	0.027	0.057	0.030	333.664 1367.158	0.008	
	NA	MC	Heavy-Duty Vehicles (8,501 + lbs) Motorcycles	1.265	0.013	23.847	4.081	0.138	0.008	179.059	0.027	
		LDGV		0.078	0.002	0.900	0.103	0.018	0.008	290.209	0.054	
	Gasoline Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.078	0.003	1.201	0.103	0.047	0.020	381.269	0.023	
		HDGV			0.004	2.200	0.170	0.047	0.020	579.702	0.024	
Contra Costa	Gasoline Diesel	LDDV	Heavy-Duty Vehicles (8,501 + lbs) Light-Duty Vehicles (Passenger Cars)	0.345	0.006	0.222	0.308	0.054	0.023	268.762	0.045	
Comia Costa	Diesel	LDDV	Light-Duty Trucks (0-8,500 lbs)	0.091	0.003	0.222	0.018	0.053	0.025	344.415	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.281	0.003	0.155	0.018	0.052	0.025	1294.104	0.008	
	NA	MC	Motorcycles	1.255	0.012	23.876	3.910	0.183	0.094	183.147	0.027	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.133	0.002	1.282	0.141	0.018	0.008	307.097	0.034	
	Gasoline	LDGV	Light-Duty Venicies (Passenger Cars)  Light-Duty Trucks (0-8.500 lbs)	0.133	0.003	3.150	0.141	0.047	0.020	423.151	0.023	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.456	0.004	4.429	0.494	0.048	0.021	638.862	0.024	
Del Norte	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.842	0.003	0.369	0.762	0.056	0.024	293.656	0.043	
Dei Mone	Diesel	LDDV	Light-Duty Trucks (0-8,500 lbs)	0.173	0.003	0.369	0.026	0.036	0.028	367.536	0.008	
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	5.311	0.004	1.062	0.107	0.108	0.100	884.606	0.008	
	NA	MC	Motorcycles	1.363	0.008	29.109	5.106	0.172	0.100	193.049	0.027	
	INA	IVIC	iviolote yeles	1.303	0.003	47.107	5.100	0.019	0.009	173.047	0.054	

Table 5-52 EMFAC County-Specific On-Road Vehicle EFs – 2020 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NOx	SO <sub>x</sub>	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.074	0.003	0.897	0.093	0.047	0.020	288.656	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.173	0.004	1.686	0.264	0.047	0.020	393.706	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.462	0.006	2.999	0.492	0.054	0.023	593.399	0.045
El Dorado	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.114	0.003	0.245	0.017	0.052	0.025	266.277	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.127	0.003	0.204	0.023	0.055	0.027	346.575	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.471	0.009	0.866	0.188	0.165	0.093	989.193	0.027
	NA	MC	Motorcycles	1.349	0.002	27.915	5.391	0.019	0.009	187.843	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.07	0.00	0.83	0.10	0.05	0.02	286.26	0.023
	Gasoline Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.15	0.00	1.37 2.43	0.23	0.05	0.02	382.01 587.87	0.024
Fresno	Diesel	LDDV	Light-Duty Vehicles (8,301 + 108)	0.38	0.00	0.16	0.37	0.05	0.02	253.51	0.043
PIESHO	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.00	0.00	0.16	0.01	0.05	0.02	334.75	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	4.30	0.00	0.70	0.02	0.03	0.03	1509.70	0.003
	NA	MC	Motorcycles	1.26	0.00	24.99	4.04	0.02	0.01	175.20	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.090	0.003	0.980	0.107	0.047	0.020	297.681	0.023
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.209	0.004	1.742	0.272	0.047	0.020	395,173	0.024
	Gasoline	HDGV		0.492	0.006	2.935	0.457	0.055	0.023	611.498	0.045
Glenn	Diesel		Light-Duty Vehicles (Passenger Cars)	0.101	0.003	0.278	0.019	0.052	0.025	270.788	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.137	0.003	0.287	0.037	0.062	0.034	340.860	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.477	0.013	0.775	0.169	0.140	0.073	1343.454	0.027
	NA	MC	Motorcycles	1.270	0.002	24.891	4.555	0.018	0.008	184.900	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.139	0.003	1.326	0.144	0.047	0.020	289.196	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.399	0.004	2.864	0.443	0.048	0.020	394.948	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.844	0.006	4.358	0.762	0.055	0.024	596.624	0.045
Humboldt	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.363	0.003	0.404	0.032	0.062	0.034	281.406	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.153	0.003	0.322	0.041	0.066	0.039	345.741	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.332	0.012	0.903	0.201	0.159	0.088	1207.293	0.027
	NA	MC	Motorcycles	1.369	0.002	28.565	4.836	0.018	0.009	180.500	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.296	0.003	2.700	0.219	0.047	0.019	282.137	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.209	0.004	1.787	0.359	0.047	0.020	375.866	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.549	0.006	3.185	0.539	0.054	0.023	573.683	0.045
Imperial	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.068	0.002	0.154	0.011	0.050	0.023	241.040	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.115	0.003	0.146	0.016	0.052	0.025	317.712	0.008
	Diesel	HDDV		3.315	0.013	0.388	0.077	0.129	0.061	1382.307	0.027
	NA Gasoline	MC LDGV	Motorcycles Light-Duty Vehicles (Passenger Cars)	1.180 0.103	0.002	21.419 1.068	3.831 0.129	0.018	0.008	168.606 301.028	0.054
	Gasoline	LDGV	Light-Duty Venicies (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.103	0.003	1.068	0.129	0.047	0.020	403.218	0.023
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.704	0.004	3.784	0.344	0.047	0.020	628.901	0.024
Inyo	Diesel	LDDV		0.704	0.003	0.279	0.019	0.057	0.024	269.918	0.008
myo	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.112	0.003	0.224	0.026	0.055	0.028	345.541	0.008
	Diesel	HDDV		4.350	0.003	0.802	0.166	0.154	0.028	1311.989	0.003
	NA	MC	Motorcycles	1.307	0.002	26.281	4.715	0.018	0.009	187.811	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.071	0.003	0.802	0.097	0.047	0.020	307.322	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.142	0.004	1.291	0.213	0.047	0.020	409.215	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.379	0.006	2.367	0.369	0.055	0.023	633.675	0.045
Kem	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.068	0.003	0.212	0.014	0.050	0.023	277.023	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.076	0.003	0.172	0.019	0.052	0.025	364.264	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.221	0.014	0.695	0.149	0.135	0.066	1511.847	0.027
	NA	MC	Motorcycles	1.272	0.002	25.875	4.065	0.018	0.008	188.393	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.078	0.003	0.851	0.096	0.047	0.020	282.170	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.189	0.004	1.594	0.248	0.047	0.020	377.550	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.421	0.006	2.530	0.385	0.054	0.023	587.715	0.045
Kings	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.064	0.002	0.209	0.014	0.050	0.023	248.485	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.120	0.003	0.215	0.026	0.056	0.029	323.949	0.008
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	4.420	0.015	0.705	0.153	0.130	0.063	1544.751	0.027
	NA	MC	Motorcycles	1.245	0.002	23.326	3.896	0.018	0.008	173.166	0.054

Table 5-52 EMFAC County-Specific On-Road Vehicle EFs – 2020 (cont.)

					Emission Factors (g/mi)							
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a		Precursors	1		
				NO <sub>x</sub>	SO <sub>x</sub>	CO	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.145	0.003	1.456	0.172	0.047	0.020	299.127	0.023	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.333	0.004	2.595	0.450	0.048	0.020	398.394	0.024	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.966	0.006	5.216	0.989	0.057	0.025	624.893	0.045	
Lake	Diesel		Light-Duty Vehicles (Passenger Cars)	0.205	0.003	0.330	0.025	0.056	0.029	272.712	0.008	
	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.242	0.003	0.305	0.035	0.061	0.034	338.522	0.008	
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	5.240	0.011	0.952	0.219	0.174	0.102	1104.221	0.027	
	NA	MC	Motorcycles	1.339	0.002	28.709	5.445	0.019	0.009	182.821	0.054	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.122	0.003	1.254	0.131	0.047	0.020	311.625	0.023	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.304	0.004	2.452	0.399	0.048	0.020	425.412	0.024	
Y	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.922	0.007	4.989	0.922	0.057	0.025	655.263	0.045	
Lassen	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.145	0.003	0.360	0.024	0.054	0.026	282.323 366.903	0.008	
	Diesel Diesel	HDDV	Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	5.152	0.004	1.073	0.037	0.059	0.031	905.804	0.008	
	NA	MC		1.376	0.009	29.676	5.184	0.176	0.101	196.410	0.027	
		LDGV	Motorcycles	0.079	0.003	1.006	0.112	0.019	0.009		0.034	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.079	0.003	1.434		0.047	0.020	316.614 413.369	0.023	
	Gasoline Gasoline		Light-Duty Trucks (0-8,500 lbs) Heavy-Duty Vehicles (8,501 + lbs)	0.140	0.004	2.275	0.183	0.048	0.020	609,698	0.024	
Los Angeles	Diesel		Light-Duty Vehicles (8,501 + 10s)  Light-Duty Vehicles (Passenger Cars)	0.080	0.006	0.309	0.291	0.053	0.023	276.777	0.045	
LOS Aligeles	Diesel		Light-Duty Trucks (0-8,500 lbs)	0.080	0.003	0.309	0.022	0.053	0.026	365.188	0.008	
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	3.486	0.003	0.230	0.027	0.160	0.020	1267.968	0.008	
	NA	MC	Motorcycles	1.220	0.002	22.104	4.251	0.100	0.009	200.285	0.027	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.075	0.002	0.936	0.097	0.019	0.009	307.339	0.034	
	Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.073	0.003	1.664	0.097	0.047	0.020	411.184	0.023	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.108	0.004	2.828	0.412	0.055	0.020	632.245	0.024	
Madera	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.094	0.003	0.308	0.021	0.052	0.025	271.245	0.008	
Madera	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.124	0.003	0.249	0.030	0.052	0.023	349.370	0.008	
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	4.423	0.003	0.763	0.162	0.139	0.028	1466,453	0.003	
	NA	MC	Motorcycles	1.240	0.002	24.405	4.070	0.018	0.009	184.790	0.054	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.079	0.002	0.885	0.112	0.013	0.020	293.886	0.023	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.124	0.003	1.163	0.112	0.047	0.020	385.997	0.024	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.338	0.006	2.074	0.319	0.055	0.023	582.923	0.045	
Marin	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.131	0.003	0.265	0.019	0.054	0.027	285.043	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.078	0.004	0.176	0.019	0.052	0.025	368.245	0.008	
	Diesel		Heavy-Duty Vehicles (8,501 + lbs)	4.594	0.011	1.102	0.208	0.229	0.126	1208.235	0.027	
	NA	MC	Motorcycles	1.283	0.002	24.834	4.015	0.018	0.009	187.333	0.054	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.121	0.003	1.270	0.137	0.047	0.020	300.882	0.023	
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.428	0.004	3.327	0.535	0.048	0.021	416.668	0.024	
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.910	0.006	5.012	0.920	0.057	0.025	637.057	0.045	
Mariposa	Diesel		Light-Duty Vehicles (Passenger Cars)	0.233	0.003	0.402	0.030	0.058	0.030	281.381	0.008	
F	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.246	0.003	0.520	0.077	0.087	0.058	345.720	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.452	0.008	1.030	0.227	0.175	0.100	875.717	0.027	
	NA	MC	Motorcycles	1.346	0.002	28.997	5.365	0.019	0.009	188.796	0.054	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.121	0.003	1.202	0.129	0.047	0.020	284.570	0.023	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.385	0.004	2.848	0.442	0.048	0.020	392.979	0.024	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.862	0.006	4.505	0.777	0.056	0.024	603.616	0.045	
Mendocino	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.396	0.003	0.406	0.032	0.062	0.034	279.011	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.228	0.003	0.318	0.039	0.065	0.037	334.661	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.969	0.013	0.828	0.188	0.149	0.081	1310.321	0.027	
	NA	MC	Motorcycles	1.343	0.002	27.746	4.802	0.018	0.008	179.176	0.054	
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.079	0.003	0.929	0.100	0.047	0.020	299.520	0.023	
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.170	0.004	1.576	0.237	0.047	0.020	397.025	0.024	
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.431	0.006	2.823	0.389	0.056	0.024	619.289	0.045	
Merced	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.106	0.003	0.262	0.018	0.052	0.025	266.435	0.008	
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.129	0.003	0.242	0.028	0.057	0.029	348.381	0.008	
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.488	0.015	0.725	0.157	0.136	0.067	1540.579	0.027	
	NA	MC	Motorcycles	1.238	0.002	24.211	3.703	0.018	0.008	178.679	0.054	

Table 5-52 EMFAC County-Specific On-Road Vehicle EFs – 2020 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NOx	SO <sub>x</sub>	co	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.135	0.003	1.397	0.138	0.048	0.021	346.489	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.333	0.005	2.686	0.397	0.048	0.021	468.817	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.032	0.007	5.742	1.029	0.057	0.025	708.585	0.045
Modoc	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.150	0.003	0.517	0.035	0.056	0.028	314.550	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.269	0.004	0.448	0.047	0.060	0.033	429.697	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.145	0.009	1.009	0.216	0.168	0.095	970.765	0.027
	NA	MC	Motorcycles	1.395	0.003	30.540	5.370	0.019	0.009	218.520	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.109	0.003	1.091	0.109	0.047	0.020	289.834	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.265	0.004	2.077	0.313	0.047	0.020	393.212	0.024
	Gasoline		Heavy-Duty Vehicles (8,501 + lbs)	0.769	0.006	4.154	0.692	0.057	0.024	612.436	0.045
Mono	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.144	0.003	0.312	0.022	0.054	0.027	273.820	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.293	0.003	0.326	0.034	0.060	0.032	356.044	0.008
	Diesel	HDDV		4.310	0.013	0.756	0.162	0.139	0.071	1350.309	0.027
	NA	MC	Motorcycles	1.436	0.003	31.566	4.837	0.019	0.009	188.909	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.108	0.003	1.136	0.122	0.047	0.020	312.790	0.023
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.258	0.004	1.979	0.271	0.048	0.020	421.950	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.553	0.006	3.130	0.427	0.056	0.024	643.514	0.045
Monterey	Diesel		Light-Duty Vehicles (Passenger Cars)	0.133	0.003	0.380	0.027	0.055	0.028	286.783	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.121	0.004	0.300	0.035	0.058	0.030	373.095	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.385	0.012	0.871	0.170	0.172	0.091	1290.141	0.027
	NA C. J.	MC	Motorcycles	1.257	0.002	24.048	3.815	0.018	0.008	190.945	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.078	0.003	0.906	0.097	0.047	0.020	282.206	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.148	0.004	1.406	0.204	0.047	0.020	374.302	0.024
NT	Gasoline	HDGV LDDV	Heavy-Duty Vehicles (8,501 + lbs)	0.442	0.006	2.714 0.232	0.396	0.056	0.024	591.494	0.045
Napa	Diesel Diesel	LDDT	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.106	0.003	0.232	0.017	0.053	0.026	265.187 342.592	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.581	0.003	0.132	0.017	0.031	0.024	1316.515	0.008
	NA	MC	Motorcycles	1.259	0.012	23.832	3.826	0.138	0.084	176.971	0.027
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.102	0.002	1.057	0.114	0.018	0.008	279.282	0.034
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.102	0.003	2.147	0.321	0.047	0.020	390.505	0.023
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.637	0.004	3.527	0.546	0.054	0.023	589.454	0.024
Nevada	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.195	0.003	0.298	0.023	0.056	0.029	268.000	0.008
riciada	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.318	0.003	0.314	0.023	0.061	0.034	345.911	0.008
	Diesel	HDDV		4.611	0.003	0.788	0.171	0.139	0.073	1320.698	0.027
	NA	MC	Motorcycles	1.381	0.002	29.356	5.175	0.019	0.009	177.865	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.067	0.003	0.857	0.099	0.047	0.020	295,161	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.107	0.004	1.152	0.158	0.047	0.020	387.485	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.319	0.006	2.131	0.291	0.055	0.023	586.061	0.045
Orange	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.062	0.003	0.245	0.017	0.051	0.024	263.193	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.061	0.003	0.172	0.020	0.051	0.024	346.091	0.008
	Diesel	HDDV		3.069	0.010	0.761	0.110	0.166	0.087	1161.335	0.027
	NA	MC	Motorcycles	1.210	0.002	21.639	4.152	0.019	0.009	190.272	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.074	0.003	0.887	0.097	0.047	0.020	281.973	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.129	0.004	1.279	0.180	0.047	0.020	375.253	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.361	0.006	2.347	0.340	0.054	0.023	575.134	0.045
Placer	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.108	0.002	0.224	0.016	0.053	0.025	257.631	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.099	0.003	0.169	0.019	0.053	0.025	331.849	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	3.795	0.012	0.690	0.149	0.148	0.076	1298.365	0.027
	NA	MC	Motorcycles	1.305	0.002	25.690	4.428	0.018	0.008	178.664	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.126	0.003	1.359	0.141	0.048	0.020	320.995	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.380	0.005	3.070	0.449	0.048	0.021	451.900	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.077	0.007	5.973	1.007	0.057	0.025	673.924	0.045
Plumas	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.185	0.003	0.473	0.033	0.057	0.029	299.226	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.156	0.004	0.384	0.043	0.059	0.032	402.374	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.229	0.010	0.950	0.203	0.160	0.092	1092.762	0.027
	NA	MC	Motorcycles	1.379	0.003	30.645	5.654	0.019	0.009	205.028	0.054

Table 5-52 EMFAC County-Specific On-Road Vehicle EFs – 2020 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NOx	SO <sub>x</sub>	СО	ROG	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.069	0.003	0.845	0.100	0.047	0.020	284.754	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.124	0.004	1.246	0.187	0.047	0.020	373.018	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.351	0.006	2.270	0.332	0.054	0.023	562.838	0.045
Riverside	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.071	0.002	0.182	0.012	0.051	0.023	251.882	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.064	0.003	0.139	0.016	0.052	0.024	325.582	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	3.312	0.012	0.527	0.085	0.137	0.067	1311.404	0.027
	NA	MC	Motorcycles	1.215	0.002	22.571	4.117	0.018	0.008	177.990	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.079	0.003	0.980	0.110	0.047	0.020	291.971	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.143	0.004	1.439	0.206	0.047	0.020	385.459	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.402	0.006	2.597	0.371	0.055	0.023	598.824	0.045
Sacramento	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.093	0.002	0.236	0.017	0.053	0.025	258.883	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.291	0.003	0.332	0.039	0.066	0.038	344.383	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.277	0.012	0.997	0.170	0.166	0.088	1283.354	0.027
	NA	MC	Motorcycles	1.250	0.002	23.842	4.339	0.018	0.008	180.093	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.912	0.092	0.047	0.020	275.090	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.181	0.004	1.469	0.224	0.047	0.020	365.897	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.490	0.006	2.789	0.424	0.054	0.023	577.358	0.045
San Benito	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.158	0.002	0.266	0.019	0.053	0.026	261.293	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.035	0.003	0.143	0.016	0.050	0.022	337.488	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.384	0.014	0.703	0.153	0.128	0.063	1519.556	0.027
	NA	MC	Motorcycles	1.287	0.002	24.857	3.905	0.018	0.008	173.056	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.077	0.003	0.889	0.099	0.047	0.020	289.760	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.153	0.004	1.412	0.205	0.047	0.020	380.980	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.388	0.006	2.404	0.341	0.054	0.023	574.997	0.045
San Bernardino	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.067	0.002	0.195	0.013	0.051	0.023	255.808	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.084	0.003	0.165	0.019	0.053	0.025	334.197	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	3.359	0.012	0.598	0.094	0.140	0.068	1316.053	0.027
	NA	MC	Motorcycles	1.240	0.002	23.644	3.721	0.018	0.008	176.529	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.095	0.003	0.993	0.108	0.047	0.020	300.145	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.129	0.004	1.246	0.192	0.047	0.020	399.853	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.321	0.006	2.028	0.294	0.055	0.023	602.620	0.045
San Diego	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.077	0.003	0.236	0.016	0.052	0.024	280.917	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.105	0.003	0.211	0.024	0.055	0.028	365.775	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	3.886	0.012	1.000	0.164	0.164	0.085	1290.521	0.027
	NA	MC	Motorcycles	1.246	0.002	23.832	3.992	0.018	0.008	192.558	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.076	0.003	0.931	0.111	0.047	0.020	316.371	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.108	0.004	1.140	0.159	0.047	0.020	411.342	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.345	0.006	2.119	0.304	0.059	0.025	630.734	0.045
San Francisco	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.088	0.003	0.361	0.023	0.052	0.025	296.815	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.100	0.004	0.264	0.029	0.053	0.026	383.744	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.507	0.012	1.173	0.206	0.243	0.134	1326.246	0.027
	NA	MC	Motorcycles	1.285	0.003	24.978	4.691	0.019	0.009	204.718	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.08	0.00	0.87	0.10	0.05	0.02	292.81	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.15	0.00	1.35	0.21	0.05	0.02	387.69	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.39	0.01	2.45	0.36	0.05	0.02	591.63	0.045
San Joaquin	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.09	0.00	0.18	0.01	0.05	0.02	264.21	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.11	0.00	0.17	0.02	0.05	0.03	341.05	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.24	0.01	0.78	0.16	0.15	0.08	1403.32	0.027
	NA	MC	Motorcycles	1.28	0.00	25.55	4.08	0.02	0.01	181.03	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.087	0.003	0.906	0.102	0.047	0.020	276.654	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.226	0.004	1.727	0.257	0.047	0.020	378.879	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.508	0.006	2.818	0.433	0.055	0.023	580.833	0.045
San Luis Obispo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.124	0.003	0.242	0.017	0.053	0.026	267.229	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.130	0.003	0.237	0.028	0.059	0.031	341.937	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.709	0.011	0.905	0.187	0.164	0.091	1148.546	0.027
	NA	MC	Motorcycles	1.322	0.002	25.892	4.661	0.019	0.009	178.636	0.054

Table 5-52 EMFAC County-Specific On-Road Vehicle EFs – 2020 (cont.)

				Emission Factors (g/mi)							
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone I	Precursors		
				NOx	SO <sub>x</sub>	СО	ROG	$PM_{10}$	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.074	0.003	0.882	0.115	0.047	0.020	280.254	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.094	0.004	0.951	0.133	0.047	0.020	361.471	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.268	0.006	1.739	0.249	0.055	0.023	551.805	0.045
San Mateo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.080	0.002	0.199	0.014	0.051	0.024	257.815	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.047	0.003	0.121	0.014	0.050	0.022	333.831	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	3.216	0.011	0.833	0.155	0.200	0.107	1142.791	0.027
	NA	MC	Motorcycles	1.225	0.002	21.414	3.350	0.018	0.008	181.542	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.095	0.003	0.970	0.114	0.047	0.020	269.645	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.235	0.004	1.748	0.271	0.047	0.020	366.707	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.512	0.006	2.829	0.426	0.061	0.026	574.232	0.045
Santa Barbara	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.114	0.002	0.211	0.015	0.052	0.025		0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.097	0.003	0.171	0.020	0.054	0.027		0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.412	0.012	0.945	0.168	0.190	0.102		0.027
	NA	MC	Motorcycles	1.278	0.002	23.396	3.689	0.018	0.008		0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.074	0.003	0.886	0.103	0.047	0.020		0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.130	0.004	1.264	0.182	0.047	0.020		0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.351	0.006	2.253	0.321	0.055	0.023		0.045
Santa Clara	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.076	0.002	0.203	0.014	0.051	0.024		0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.063	0.003	0.149	0.017	0.052	0.024		0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.031	0.012	0.792	0.164	0.167	0.088		0.027
	NA	MC	Motorcycles	1.240	0.002	22.412	3.833	0.018	0.008		0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.115	0.003	1.216	0.127	0.047	0.020		0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.286	0.004	2.215	0.319	0.048	0.020		0.024
		HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.574	0.006	3.238	0.455	0.057	0.024		0.045
Santa Cruz	Gasoline	LDDV	Light-Duty Vehicles (Passenger Cars)	0.244	0.003	0.419	0.033	0.061	0.033		0.008
		LDDT	Light-Duty Trucks (0-8,500 lbs)	0.127	0.003	0.254	0.030	0.056	0.029		0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.018	0.011	1.022	0.204	0.211	0.121	.s CO <sub>2</sub> 0 280.254 0 361.471 3 551.805 4 257.815 2 333.831 7 1142.791 8 181.542 0 269.645 0 366.707 6 574.232 5 5259.229 7 327.934 2 1263.469 8 170.082 0 283.922 0 376.620 3 376.620 3 369.84 1 300.617 8 180.423 0 407.324 4 615.944 4 619.249 6 19.249 6 19.249 6 19.249 6 269.711 6 345.302 8 1300.645 9 188.426 0 299.884 0 400.045 4 619.249 6 269.711 1 345.302 3 1380.934 1 450.762 5 676.185 5 79.88 1 450.762 5 676.185 5 299.271 9 384.746 2 994.683 9 211.088 9 211.088 9 31.455 1 450.762 5 676.185 5 299.271 9 384.746 2 994.683 9 211.088 8 296.636 8 379.655 8 1437.979 9 203.649 0 396.387 3 610.622 4 276.988 8 379.655 8 1437.979 9 9 030.3442 0 396.387 3 610.622 4 276.988 7 1380.312	0.027
	NA	MC	Motorcycles	1.312	0.002	26.090	4.778	0.019	0.009		0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.094	0.003	1.024	0.113	0.047	0.020		0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.216	0.004	1.780	0.279	0.047	0.020		0.024
GI .	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.549	0.006	3.219	0.529	0.056	0.024		0.045
Shasta	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.128	0.003	0.292	0.020	0.053	0.026		0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.149	0.003	0.264	0.032	0.059	0.031		0.008
	Diesel	MC	Heavy-Duty Vehicles (8,501 + lbs)	4.657	0.013	0.765	0.169	0.141	0.073		0.027
	NA C:	LDGV	Motorcycles	1.321	0.002	27.536	5.202				
	Gasoline		Light-Duty Vehicles (Passenger Cars)	0.121		1.282	0.129	0.048	0.020		0.023
	Gasoline	LDGT HDGV	Light-Duty Trucks (0-8,500 lbs)	0.309	0.005	2.493 4.809	0.354	0.048	0.021		0.024
C:	Gasoline Diesel	LDDV	Heavy-Duty Vehicles (8,501 + lbs)	0.867	0.007	0.450	0.786	0.057	0.025		0.045
Sierra	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.089	0.003	0.430	0.029	0.053	0.025		0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.886	0.004	1.049	0.056	0.067	0.039		0.008
	NA	MC	Motorcycles  Motorcycles	1.375	0.009	29.662	5.321	0.162	0.092		0.027
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.122	0.003	1.249	0.127	0.019	0.009		0.034
	Gasoline	LDGV	Light-Duty Venicies (Passenger Cars) Light-Duty Trucks (0-8,500 lbs)	0.122	0.003	2.468	0.127	0.047	0.020		0.023
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.313	0.004	4.718	0.381	0.048	0.021		0.024
Siskiyou	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.844	0.007	0.425	0.029	0.057	0.025		0.045
Siskiyou	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.100	0.003	0.423	0.029	0.055	0.028		0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.471	0.004	0.401	0.049	0.066	0.038		0.008
	NA	MC	Motorcycles	1.392	0.014	30.573	5.249	0.133	0.008		0.027
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.076	0.003	0.846	0.101	0.019	0.009		0.034
	Gasoline	LDGV	Light-Duty Trucks (0-8,500 lbs)	0.076	0.003	1.218	0.101	0.047	0.020		0.023
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.133	0.004	2.287	0.166	0.056	0.020		0.024
Solano	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.087	0.003	0.221	0.015	0.050	0.023		0.043
Solatio	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.087	0.003	0.221	0.013	0.052	0.024		0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.237	0.003	0.188	0.020	0.053	0.020		0.008
	NA	MC	Motorcycles	1.284	0.013	26.266	3.960	0.130	0.008		0.027
	INA	IVIC	Motorcycles	1.204	0.002	20.200	3.700	0.016	0.006	100.738	0.034

Table 5-52 EMFAC County-Specific On-Road Vehicle EFs – 2020 (cont.)

							Emission F	actors (g/m	i)		
County	Fuel Type		Vehicle Type			Criteria l	Pollutants a	nd Ozone F	recursors		
				NOx	SO <sub>x</sub>	co	ROG	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.089	0.003	1.002	0.108	0.047	0.020	299.350	0.023
	Gasoline		Light-Duty Trucks (0-8,500 lbs)	0.173	0.004	1.572	0.237	0.047	0.020	392.692	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.511	0.006	2.970	0.473	0.056	0.024	613.372	0.045
Sonoma	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.180	0.003	0.315	0.024	0.057	0.029	286.826	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.087	0.003	0.202	0.025	0.056	0.028	351.144	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.192	0.011	0.797	0.170	0.165	0.090	1211.430	0.027
	NA	MC	Motorcycles	1.294	0.002	26.176	4.481	0.018	0.009	187.949	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.079	0.003	0.943	0.104	0.047	0.020	303.543	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.161	0.004	1.549	0.234	0.047	0.020	403.651	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.425	0.006	2.784	0.409	0.054	0.023	616.943	0.045
Stanislaus	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.095	0.003	0.277	0.018	0.052	0.025	268.526	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.097	0.003	0.223	0.025	0.054	0.027	350.746	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.264	0.013	0.722	0.159	0.142	0.073	1420.426	0.027
	NA	MC	Motorcycles	1.281	0.002	26.195	4.700	0.018	0.008	186.301	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.082	0.003	0.904	0.097	0.047	0.019	273.206	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.199	0.004	1.637	0.257	0.047	0.020	362.456	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.489	0.006	2.890	0.448	0.053	0.022	568.216	0.045
Sutter	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.086	0.002	0.186	0.013	0.051	0.024	245.326	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.068	0.003	0.145	0.018	0.053	0.026	307.725	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.164	0.014	0.693	0.157	0.138	0.071	1428.807	0.027
	NA	MC	Motorcycles	1.295	0.002	24.570	4.982	0.018	0.009	175.182	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.094	0.003	0.982	0.104	0.047	0.020	296.585	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.239	0.004	1.895	0.289	0.047	0.020	397.068	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.535	0.006	3.130	0.493	0.055	0.023	608.874	0.045
Tehama	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.125	0.003	0.288	0.020	0.053	0.026	270.360	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.193	0.003	0.325	0.040	0.064	0.036	347.525	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.540	0.014	0.748	0.164	0.134	0.068	1427.745	0.027
	NA	MC	Motorcycles	1.330	0.002	27.327	4.779	0.019	0.009	186.964	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.140	0.004	1.454	0.145	0.048	0.021	355.534	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.507	0.005	3.805	0.533	0.049	0.022	492.326	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	1.055	0.007	5.735	0.989	0.058	0.026	720.643	0.045
Trinity	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.257	0.003	0.601	0.047	0.064	0.036	321.128	0.008
Ť	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.289	0.004	0.737	0.111	0.103	0.073	407.819	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.926	0.013	0.832	0.184	0.139	0.074	1379.749	0.027
	NA	MC	Motorcycles	1.384	0.003	32.902	6.161	0.019	0.009	220.220	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.072	0.003	0.847	0.096	0.047	0.019	283.355	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.166	0.004	1.532	0.251	0.047	0.020	375.688	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.411	0.006	2.701	0.393	0.053	0.022	582.439	0.045
Tulare	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.065	0.002	0.168	0.011	0.050	0.023	248.565	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.148	0.003	0.219	0.026	0.058	0.031	322.402	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.302	0.013	0.744	0.160	0.144	0.073	1423.140	0.027
	NA	MC	Motorcycles	1.266	0.002	24.385	4.315	0.018	0.008	174.565	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.138	0.003	1.410	0.148	0.047	0.020	302.549	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.403	0.004	3.137	0.477	0.048	0.021	414.440	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.920	0.006	4.995	0.860	0.056	0.024	632.258	0.045
Tuolumne	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.169	0.003	0.354	0.025	0.055	0.027	275.901	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.244	0.003	0.365	0.046	0.067	0.039	348.800	0.008
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	5.204	0.009	0.965	0.211	0.177	0.101	983.766	0.027
	NA	MC	Motorcycles	1.352	0.002	29.464	5.398	0.019	0.009	188.144	0.054
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.074	0.003	0.893	0.101	0.047	0.020	288.427	0.023
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.127	0.004	1.281	0.187	0.047	0.020	378.358	0.024
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.365	0.006	2.324	0.339	0.055	0.023	575.032	0.045
Ventura	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.087	0.003	0.255	0.018	0.053	0.025	265.203	0.008
		****		0.099	0.003	0.198	0.023	0.054	0.026	343.237	0.008
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.099	0.003	0.176	0.023	0.054	0.020	343.237	
	Diesel Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	3.491	0.003	0.719	0.023	0.054	0.020	1129.283	0.027

Table 5-52 EMFAC County-Specific On-Road Vehicle EFs – 2020 (cont.)

							Emission F	actors (g/m	i)				
County	Fuel Type		Vehicle Type	Criteria Pollutants and Ozone Precursors									
				NO <sub>x</sub>	$SO_x$	co	ROG	$PM_{10}$	$PM_{2.5}$	CO <sub>2</sub>	NH <sub>3</sub> <sup>1</sup>		
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.079	0.003	0.913	0.108	0.047	0.020	292.723	0.023		
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.127	0.004	1.208	0.185	0.047	0.020	378.350	0.024		
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.372	0.006	2.292	0.345	0.055	0.023	586.673	0.045		
Yolo	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.140	0.003	0.235	0.017	0.054	0.027	268.925	0.008		
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.118	0.003	0.175	0.019	0.054	0.026	340.101	0.008		
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	3.467	0.012	0.698	0.142	0.158	0.082	1299.532	0.027		
	NA	MC	Motorcycles	1.277	0.002	25.429	4.199	0.018	0.008	179.195	0.054		
	Gasoline	LDGV	Light-Duty Vehicles (Passenger Cars)	0.084	0.003	0.924	0.095	0.047	0.020	280.244	0.023		
	Gasoline	LDGT	Light-Duty Trucks (0-8,500 lbs)	0.251	0.004	1.998	0.299	0.047	0.020	378.834	0.024		
	Gasoline	HDGV	Heavy-Duty Vehicles (8,501 + lbs)	0.572	0.006	3.351	0.512	0.055	0.023	582.176	0.045		
Yuba	Diesel	LDDV	Light-Duty Vehicles (Passenger Cars)	0.093	0.002	0.210	0.014	0.052	0.024	255.171	0.008		
	Diesel	LDDT	Light-Duty Trucks (0-8,500 lbs)	0.093	0.003	0.156	0.019	0.053	0.025	317.308	0.008		
	Diesel	HDDV	Heavy-Duty Vehicles (8,501 + lbs)	4.999	0.010	0.940	0.198	0.179	0.098	1091.997	0.027		
	NA	MC	Motorcycles	1.285	0.002	25.124	4.430	0.018	0.008	174.400	0.054		

<sup>1.</sup> The values for NH3 for EMFAC Tables 5-32 through 5-52 reflect statewide values as calculated by MOVES2014 for the state of California.

Table 5-53. OCONUS On-Road Composite Vehicle Emission Factors - POV

		Emission Factors (g/mi)											
Year	Vehicle Type	Criteria Pollutants and Ozone Precursors											
		$NO_X$	$SO_X$	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	NH <sub>3</sub>				
2014	All Vehicles	0.814	0.008	6.705	0.734	0.017	0.015	419.533	0.034				
2015	All Vehicles	0.709	0.012	6.139	0.666	0.015	0.013	412.003	0.031				
2016	All Vehicles	0.627	0.008	5.663	0.603	0.014	0.012	402.873	0.030				
2017	All Vehicles	0.472	0.003	5.174	0.535	0.013	0.011	393.283	0.028				
2018	All Vehicles	0.410	0.003	4.845	0.489	0.012	0.010	383.424	0.026				
2019	All Vehicles	0.359	0.003	4.550	0.450	0.011	0.010	373.517	0.025				
2020	All Vehicles	0.317	0.002	4.302	0.417	0.010	0.009	363.535	0.024				

Table 5-54. OCONUS On-Road Composite Vehicle Emission Factors - GOV

		Emission Factors (g/mi)											
Year	Vehicle Type	Criteria Pollutants and Ozone Precursors											
		$NO_X$	SO <sub>X</sub>	CO	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>	$NH_3$				
2014	All Vehicles	3.531	0.011	7.269	0.776	0.128	0.118	860.938	0.029				
2015	All Vehicles	3.201	0.016	6.581	0.698	0.115	0.105	850.597	0.027				
2016	All Vehicles	2.882	0.010	5.985	0.623	0.101	0.093	834.326	0.026				
2017	All Vehicles	2.509	0.007	5.389	0.546	0.089	0.082	819.466	0.026				
2018	All Vehicles	2.254	0.007	4.969	0.490	0.078	0.071	804.793	0.025				
2019	All Vehicles	2.031	0.006	4.596	0.442	0.068	0.063	791.100	0.024				
2020	All Vehicles	1.835	0.006	4.282	0.401	0.060	0.055	778.218	0.024				

**Table 5-55. On Road Vehicle Speciated VOC Weight Fractions** 

voc	НА Р	JJE	N' IND	1DG	i, 1995	I' HIG	M' IDT	M. Mc	,/	voc	на Р	170°C	TIN	1716	1, 1992	i' Mini	M, Mill	
Acetylene		4.05%	8.02%	3.61%	8.52%	2.90%				3,5-Dimethylheptane							2.18%	
Acetaldehyde	X	0.29%		1.64%						4,4-Dimethylheptane			0.08%					-
Acrolein	X	0.24%		0.40%						2,3-Dimethylhexane		0.29%		0.36%			0.38%	-
Alpha-pinene		0.06%		0.08%						2,4-Dimethylhexane		0.58%	0.46%	0.68%	0.23%	0.46%	0.25%	
Benzaldehyde		0.29%		1.19%						2,5-Dimethylhexane		0.39%		0.45%			0.21%	
Benzene	X	5.89%	2.23%	5.61%	2.91%	1.9 1%		3.99%		3,3-Dimethylhexane							0.11%	
Beta-pinene		0.03%		0.02%						Dimethyloctane		0.08%	0.31%	0.05%	0.39%	0.08%		
1,3-But ad iene	X	0.57%	1.08%	0.62%	1.44%					2,2-Dimethyloctane							0.43%	
Butane		0.37%	0.46%	0.41%	0.32%	24.42%		0.65%		2,3-Dimethyloctane						0.57%		
1-Butene		2.22%	1.68%	2.47%	2.01%	1.2 1%		2.32%		2,4-Dimethyloctane			0.15%		0.19%		2.56%	
eis-2-Butene		0.14%	0.61%	0.14%	0.77%	0.73%		0.48%		2,4-Dimethylpentane		0.85%	0.08%	0.90%		0.70%	0.22%	2.2
rans-2-Butene		0.35%	2.25%	0.30%	0.24%	0.97%		0.29%		2,2-Dimethylpentane			0.08%					
Butylbenzene						0.23%				2,3-Dimethylpentane		1.25%	0.15%	1.32%	0.44%		1.36%	0.9
o-tert-Butyltoluene					0.19%		1.09%			3,3-Dimethylpentane							0.59%	
ert-Butyl-m-Xylene							0.74%			2,2-Dimethylpropane			0.33%		0.68%			
But yrald ehyd e		0.04%		0.42%						Dipente		0.42%		0.33%				
C6 olefin			2.80%		2.23%					Dodecane		0.48%	0.50%	0.22%	0.61%		3.01%	
Crotonaldehyde		0.02%		0.06%						Ethene			28.13%		30.07%			
Cyclohexane		0.50%		0.32%			1.72 %	0.19%		Ethyl tert-butyl ether					0.39%		2.98%	
Cyclohexene		0.07%		0.04%		1.72 %	0.32%			Ethylbenzene	Х	2.56%	0.38%	2.28%	0.48%	0.73%	1.29%	1.9
Cyclopentadiene			0.53%		0.24%					Ethylcyclo hexane							7.69%	
Cyclopentane		0.22%	0.57%	0.20%	0.44%	0.52%	1.09%	1.09%		Ethylene		7.39%		6.59%		4.74%		
Cyclopentene		0.12%	0.53%	0.12%	0.39%	0.32%	0.51%	0.31%		3-Ethylhexane			0.15%		0.29%		0.70%	
Cyclopentylcyclopentane						0.50%				cis-1-Ethyl-2-Methylcyclopentane			0.15%					
Decane		0.25%	1.30%	0.17%	1.65%	0.12%	1.39%			3-Ethylpentane		0.31%		0.27%				-
Diethylbenzene			0.31%		0.39%		1.46%			3-Ethyltoluene		2.02%		1.71%		0.17%		
l,2-Diethylbenzene		0.09%	0.15%	0.05%		0.33%				Formaldehyde	Х	1.06%		3.37%				
l,3-Diethylbenzene		0.29%		0.30%		0.25%				Glyoxal		0.03%		0.01%				
,4-Diethylbenzene		0.12%		0.07%						Heptane		1.11%	0.08%	1.06%	0.19%	0.79%	0.77%	2.1
Dimethyl Ethylbenzene			0.23%		0.29%		2.30%			1-Heptene		0.16%		0.08%				
2,2-Dimethylbutane		0.55%		0.49%		0.24%	1.13 %	1.70%		cis-2-Heptene			0.15%					
2,3-Dimethylbutane		0.88%	0.69%	0.87%	0.53%	1.07%	0.61%	1.78 %		trans-2-Heptene			0.15%					
3,3-Dimethyl-1-butene			0.53%							Trans-3-Heptene		0.03%		0.04%				
l, l-Dimethylcyclohexane		0.06%		0.06%						Hexaldehyde		0.09%		0.11%				
cis-1,2-Dimethylcyclohexane							0.32%			Hexane	Х	1.51%		1.83%	0.19%	1.67%	2.40%	1.42
rans-1,2-Dimethylcyclohexane			0.15%		0.39%		1.50%			I-Hexene	1	0.16%	0.94%	0.16%	0.83%	0.30%	1.77%	
cis-1,3-Dimethylcyclohexane							2.07%			cis-2-Hexene		0.08%	0.23%	0.08%		0.12%		0.0
Cis-1,4-Dimethylcyclohexane						0.09%	0.23%			trans-2-Hexene		0.14%	0.46%	0.14%		0.12 /0		0.0
is-1,3-Dimethylcyclopentane					0.68%		0.72%			cis-3-Hexene		0.02%		0.02%				
Dimethylheptane		0.08%	0.88%	0.08%	1.11%	0.09%	0.72 /0			Hexyne		0.02 /0		0.0270		0.02%		
.,5-Dimethylheptane		0.0870	0.15%		0.19%	0.0970				Indan		0.24%		0.17%		0.02%		-
2,6-Dimethylheptane			0.23%		0.58%					Isohexane		0.2470		2.66%		3.06%		-
2,3-Dimethylheptane			0.2370		0.5670		0.65%			Is opropylcyclohexane		0.04%		0.02%		3.00%		-
2,5-Dimethylheptane		0.19%		0.18%		0.14%	0.03%			Methylbenzaldehyde		0.04%		0.02%				
2,6-Dimethylheptane		0.1970		0.18 70		0.14 70				2-Methyl-1,3-Butadiene		0.0276	0.54%	0.17%	0.58%	0.11%		-
											-					12.02%		
3,3-Dimethylheptane		0.05%		0.04%						2-Methylbutane		0.27%	0.31%	0.24%	0.39%	12.02%		14 .5

Table 5-55. On Road Vehicle Speciated VOC Weight Fractions (cont.)

voc	на Р	176	A' JAN	N' ING	i, 1992	i' Mic	M' MIN	, ,,,,,
-Methyl-1-Butene		1.71%	4.20%	1.53%	2.27%	/ ·v	/ W	<del>/</del>
ethyl-2-Butene		0.32%	0.23%	0.39%	2.2770	0.12%		1.08%
Methyl-1-Butene		6.54%		5.86%		0.15%		0.14%
thyl-tert-Butyl Ether	Х	0.02%		0.05%				
fet hylc yc lohe xane		0.44%	0.28%	0.40%	0.43%	0.28%	1.62%	0.43%
lethylcyclooctane						0.36%		
ethylcyclopentane		1.10%	0.08%	1.04%	0.10%	1.21%	0.44%	1.83%
-Methylcyclopentene			0.23%			0.03%		
-Methyldecane						0.69%		
lethylethylbenzene	Х	0.19%	0.53%	0.15%	0.68%	0.0770	2.39%	0.40%
Methyl-2-Ethylbenzene	Α	0.75%	0.5570	0.62%	0.0070		2.3770	0.40%
l-Methyl-3-Ethylcyclopentane		0.7570	1.22%	0.02 /0	0.74%			
Methyl-4-Ethylbenzene		0.92%	1.2276	0.78%	0.7470			
· · · · · · · · · · · · · · · · · · ·		0.92%		0.78%				
ethylethylketone Markellander		0.67%	0.15%	0.53%		0.28%	0.44%	1.61%
Methylheptane								
Methylheptane		0.75%	0.000/	0.69%		0.38%	0.44%	1.67%
-Methylheptane		0.28%	0.08%	0.28%		0.27%		
-Methylhexane		1.39%		1.34%			0.52%	3.18%
-Methylhexane		1.54%	0.61%	1.38%			1.72%	2.57%
-Methyl-1-Hexene					0.58%			
Methyl-1-Hexene		0.03%		0.03%				
Methyl-2-Isopropylbenzene		0.03%		0.02%				
-Methyl-3-isopropylbenzene		0.09%		0.06%				
-Methyl-4-Isopropylbenzene		0.02%		0.02%				
-Methyloctane		0.38%	0.15%	0.23%		0.04%	0.92%	
3-Methyloctane		0.34%	0.08%	0.29%		0.34%	1.81%	
-Methyloctane						0.42%		
Methylpentane		2.68%	0.28%		0.32%		3.80%	5.81%
Methylpentane		1.85%	0.53%	1.80%	1.21%	1.68%	1.20%	3.48%
Methyl-cis-2-Pentene		0.09%		0.09%				
Methyl-1-Pentene		0.11%	1.30%	0.11%	0.74%			0.22%
Methyl-2-Pentene		0.10%	0.08%	0.08%		0.37%		
Methyl-trans-2-Pentene		0.10%		0.08%			0.23%	
-Methyl-1-Pentene			0.79%		0.90%			
-Methyl-trans-2-Pentene							2.62%	
!-Methylpropane		0.30%	0.15%	0.31%	0.19%	3.74%		0.20%
-Methyl-2-Propenal		0.04%		0.17%				
-Methylpropene			2.29%		2.01%			
l-methylpropyl)benzene		0.06%		0.04%		0.05%		
2-methylpropyl)benzene		0.06%		0.05%				
l-Methyl-3-propylbenzene		0.16%		0.03%		0.17%		
							1.11%	
Methylpyrene								
Methylfluoranthene Methylpyrene								

<sup>1.</sup> SOURCE: Data provided by the EPA's SPECIATE database version 4.4.

<sup>2.</sup> SOURCE: Diesel Unregulated Emissions Characterization. CRC Report No. E-75-2, Coordinating Research Council, Inc., July 2010.

<sup>3.</sup> SOURCE: Air Pollutant Emission Factors from New and In-Use Motorcycles. Atmospheric Environment, April 2000.

<sup>&</sup>quot;X" Indicates compound is a HAP

<sup>&</sup>quot;---" Indicates No data available

Figure 5-2. Data Collection Form for Government Owned Vehicles (GOV's)

Installation Name:			-	Inventory Year:
	ion (Name and Office Sy	mbol):		
POC (Name, Phone #, a	and e-mail):			
Vehicle Category:				
(Select from appropriat	te category listed below th	he table) <sup>1</sup>		
Vehicle Identification Number (VIN) <sup>2</sup>	Vehicle Description <sup>3</sup>	Bldg. Number <sup>4</sup>	Model Year	Miles Driven During Inventory Period (mi/yr) <sup>5</sup>
	·	·		
				+
				+
		·	·	<u> </u>
				_
		<del> </del>		<del>-</del>
				<del> </del>
				+
<u> </u>				<del> </del>
		·		<del> </del>
		•		
<del></del>				
PR	D. T. 11.11.5	Average Model Year		
Total Miles	Driven on Installation D	uring Inventory Period		

- 1. Vehicle Categories are listed in Table 5-9 as the Air Force classification for on-road vehicles.
- 2. If the VIN is unavailable, please provide some other unique identifier for the vehicle.
- 3. Sedan, hatchback, station wagon, etc.
- 4. The primary location the vehicle was assigned to during the inventory period.
- 5. Only include the miles driven on the installation if unknown, provide best estimate to the nearest 100 miles.

Figure 5-3. Example Data Collection Form for Privately Owned Vehicles (POVs)

Installation Name:	nstallation Name: Inventory Year:										
Responsible Organizat	tion (Name and Office Symbol):										
POC (Name, Phone #, a	and e-mail):										
	Question			Response							
• •	ng of all registered vehicles on base? (Y/N)? e all specific information (make/model, year, etc.) about the vel	hicles.									
What is the estimated a inventory period?	verage number of registered POVs at the installation during t	he									
	percentage of <u>registered</u> vehicles which actually travel on the pical weekday (Monday - Friday)										
	percentage of <u>registered</u> vehicles which actually travel on the pical weekend day (Saturday and Sunday)										
What is the estimated d	listance the average POV travels on base during a typical wee	ekday?		mi/day							
What is the estimated distance the average POV travels on base during a typical weekend day?											
What is the estimated number of <u>non-registered</u> POVs which travel on base during a typical weekday?											
What is the estimated number of non-registered POVs which travel on base during a typical weekend day?											
	overage model year of all POVs driven on base during the inventer required if the average model years are listed below for each	•									
	ormation, provide an estimate of the percentage of <u>registered</u> . If possible, please provide the estimated model year for each			each of the 12 vehicle							
Vehicle Category	Category Description	Estimate Registered		Average Model Year							
LDGV	Light-Duty Casoline Vehicles - All gasoline-powered passenger cars										
LDDV	Light-Duty Diesel Vehicles - All diesel powered-passenger cars										
LDGT	Light-Duty Casoline Trucks - All smaller gasoline-powered trucks (0 - 8,500lbs GVWR)										
LDDT	Light-Duty Diesel Trucks - All smaller diesel-powered trucks (0 - 8,500lbs GVWR)										
HDGV	Heavy-Duty Gasoline Vehicles - All larger gasoline- powered vehicles (>8,500lbs)										
HDDV	Heavy-Duty Diesel Vehicles - All larger diesel-powered vehicles (>10,000lbs GVWR)										
MC	Motorcycles - All motorcycles (assumed to be gasoline-powered)										

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# 6 CHAPTER 6 - FUEL TRANSFER (FDSP, FLD) - EXCLUDES ON-ROAD VEHICLE REFUELING CHANGES

6.1 ISSUE: Diagrams needed updates; chapter sections needed reorganization; Table 6-6 and Table 6-7 needed updates

RESOLUTION: Updated diagrams and chapter sections for clarity; Table 6-6 and Table 6-7 updated

CORRECTION: See the following pages below

## 6 FUEL TRANSFER (FDSP, FLD) – EXCLUDES ON-ROAD VEHICLE REFUELING

- ➤ Fugitive Source
- ➤ *Mobile Source* When fuel is dispensed to mobile equipment.
- > Stationary Source Fuel spills and when dispensed to stationary equipment.

\*It is standard Air Force business practice to classify emissions generated during the transfer (dispensing) of fuel into *on-road* vehicles and *non-road* vehicles and equipment as Mobile emissions. However, if the regulator insists this category be included as a stationary source, subtract those emissions from the Mobile AEI and add them to the Stationary AEI to avoid duplicate reporting. This is accomplished by manually calculating emissions generated from on-road vehicle refueling using the procedures given in this section, then subtracting those values from the emissions generated by on-road vehicles covered in the previous section.\*

## 6.1 Introduction

Fuel transfer includes the dispensing of fuel into *non-road* engines and equipment, aircraft, and fuel trucks. Note that the emissions from the refueling of *on-road engines* are not addressed here since those emissions are accounted for in the emission factors generated by the MOVES2014 model. Emissions from fuel dispensing are the result of vapors displaced as fuel is added to the vehicle fuel tank. The amount of vapor released to the atmosphere is a function of the gas and fuel tank temperatures, the vapor pressure of the fuel, the dispensing rate, and the presence of vapor emission control devices. The vapor that is emitted into the atmosphere is composed of both VOCs and HAPs and is considered fugitive in nature.

Minor fuel spills are an inevitable consequence of fuel dispensing. Typically, these spills are individually insignificant though may collectively result in a substantial release of VOC and HAP emissions. Emissions from minor spills are accounted for in the "Fuel Transfer" section of the Stationary Guide as a means to produce a conservative emissions calculation. Emissions from significant spills, which are those spills that are reported to the Environmental or CEV office, are not addressed here, but described in the "Fuel Spills" section of the Transitory Guide. The vapor emissions of concern from fuel dispensing operations are described by the simple control volume given in Figure 6-1.

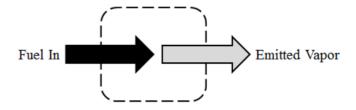


Figure 6-1. Simple Fuel Dispensing Control Volume

The loading method used in the fuel transfer process has a significant effect on the amount of vapor emissions generated during the transfer activity. There are two main fuel loading methods: splash loading and submerged loading. The splash loading method involves the lowering of the fill pipe into the tank <u>above</u> the liquid level. The loading of the fuel using the splash method results in significant turbulence, which increases the amount of vapor released into the atmosphere. The alternative method, submerged loading, may be further subdivided into two techniques: submerged fill pipe method and the bottom loading method. In the submerged fill pipe method, the fill pipe extends almost to the bottom of the storage tank, <u>below</u> the liquid level. In the bottom loading method, a fill pipe is permanently attached to the bottom of the storage tank. In both cases, the fill pipe is below the liquid level so turbulence is minimized and vapor emissions are greatly reduced when compared to the splash loading method. Each method is shown in Figure 6-2.

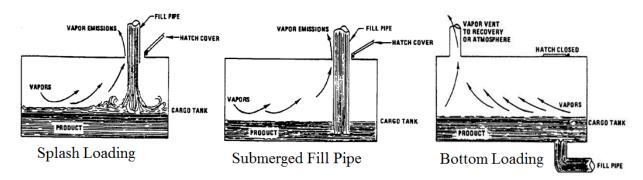


Figure 6-2 Splash Loading, Submerged Fill Pipe, and Bottom Loading Methods

There are several challenges to calculating evaporative emissions from fuel transfer activities. These challenges include the use of several different fuels used on base, such as gasoline, diesel, or JP-8 fuel, each with different vapor pressures. Furthermore, there are multiple destinations for fuels on base that may make it more difficult to gather data or determine what emissions are classified as mobile or stationary. In an effort to simplify how each base should calculate fuel transfer emissions, a diagram of the typical transfer methods and destinations of fuel on base is provided in Figure 6-3.

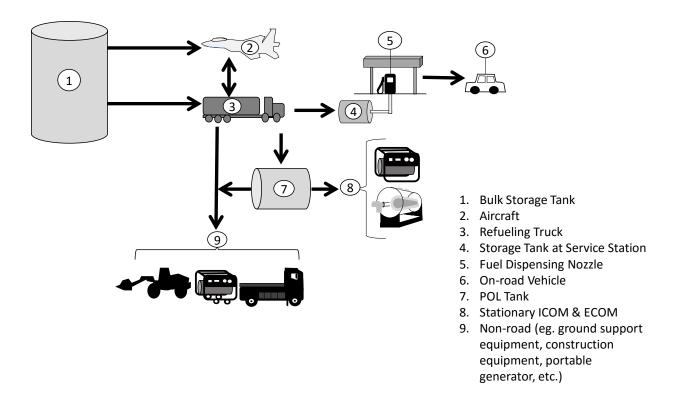


Figure 6-3. Typical On-Base Fuel Transfer Activities and Destinations.

Figure 6-3 shows the typical fuel transfer paths a fuel may go through at an Air Force installation. The transfer of the fuel into different equipment results in the generation and release of pollutant emissions. The classification (mobile vs. stationary) of these pieces of equipment, determines whether or not the emissions generated are regarded as mobile or stationary sources. It is important to note that significant fuel spills may occur at any point in the fuel transfer process, which will contribute to VOC and HAP emissions as the fuel evaporates. However, since these are uncommon occurrences, emissions from fuel spills are addressed in the Air Emissions Guide for Air Force Transitory Sources. The specific pathways illustrated in Figure 6-3 are described below and categorized as either mobile (shaded) or stationary (not shaded) sources of emissions.

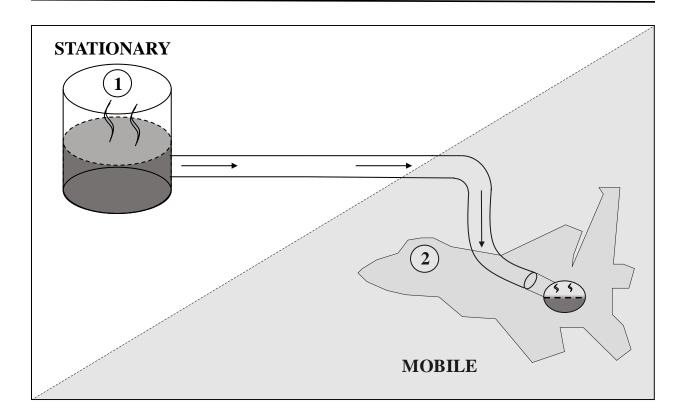


Figure 6-4. Bulk Storage Tank to Aircraft  $(1\rightarrow 2)$ 

This point in the figure describes fuel transferred in order to refuel an aircraft from a bulk storage tank via a hydrant system. The vapors displaced within the storage tank as the liquid level lowers or rises are known as "working losses" and vapors generated in the space above the stored liquid are known as "breathing losses". These emissions result in **stationary** emissions and are calculated using the EPA's TANKS modeling program as described in the "Storage Tanks" section of the Stationary Guide.

**Mobile** emissions are generated from the displaced vapor in the aircraft fuel tank. The mobile emissions should be reported in the mobile AEI and are calculated as described later in this chapter.

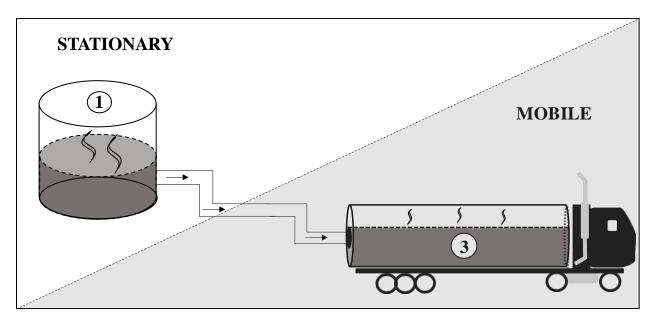


Figure 6-5. Bulk Storage Tank to Refueling Truck (1→3)

At this point, the **stationary** source of emissions is the storage tank producing working losses and breathing losses from the liquid fuel. The methodology for calculating these emissions is provided in the Stationary Guide.

The **mobile** emissions from loading fuel into refueling trucks are generated from the displaced vapor in the fuel truck. The mobile emissions should be reported in the mobile AEI and are calculated as described later in this chapter.

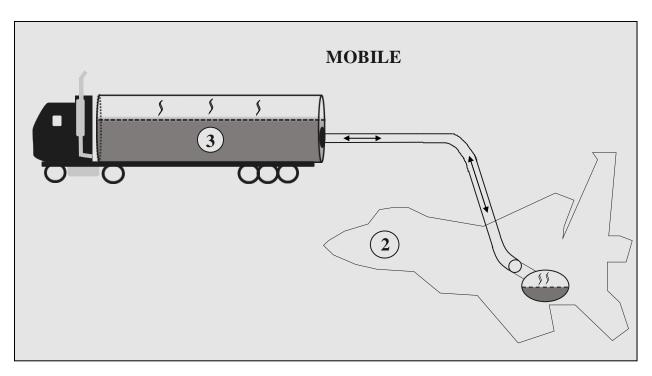


Figure 6-6. Refueling Truck to Aircraft (2↔3)

This point in the figure describes the fueling and defueling of aircraft via a refueling truck. Both pieces of equipment are **mobile**, therefore all emissions generated from these activities (which come from displaced vapors in the refueling truck and aircraft fuel tanks) should be reported in the mobile AEI and calculated as described later in this chapter.

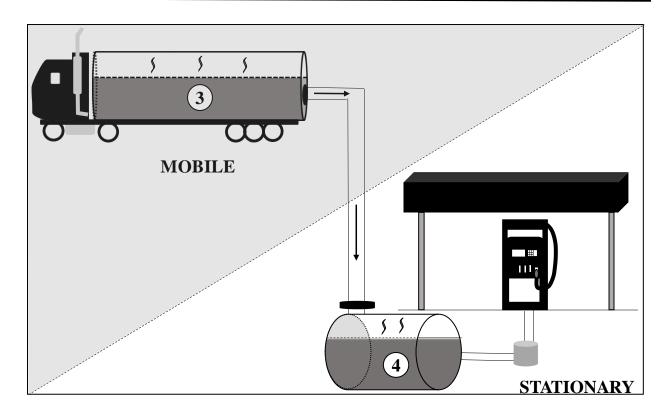


Figure 6-7. Refueling Truck to Storage Tank at Service Station (3→4)

This point in the figure describes the loading of fuel from a refueling truck into a storage tank at a fuel service station. The **stationary** emissions from the refilling of a storage tank at a fuel dispensing location include breathing and working losses from the storage tank. The methodology for calculating these emissions is provided in the Stationary Guide.

Likely, the only substantial **mobile** emissions from the fueling of the tank via the refueling truck are generated from any significant fuel spills which are addressed in the Transitory Guide.

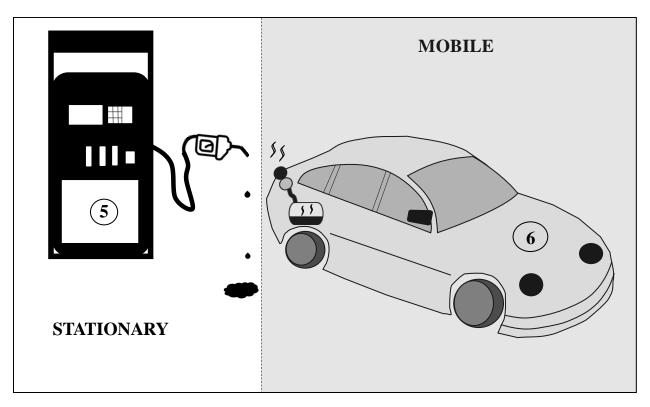


Figure 6-8. Fuel Dispensing Nozzle to On-Road Vehicle (5→6)

This point in the figure describes the refueling of a vehicle at a service station. The **stationary** emissions are the result of the evaporation of spilled fuel from the fuel nozzle whose calculations are described in the Stationary Guide.

The mobile emissions are generated from the displaced vapors in the vehicle fuel tank. The displaced vapor emissions should be included in a Mobile AEI and are already calculated by the MOVES model used to determine on-road vehicle emissions. AP-42 states that the motor vehicle refueling emissions equation is incorporated into the MOBILE model, which has been integrated into the MOVES model. The MOVES model, which is the current model used for estimating emissions for on-road vehicles, allows for disabling of the refueling emissions calculation if these emissions are included in a stationary AEI rather than in a mobile air emissions inventory. This should only be done if the regulator insists this category be included as a stationary source, otherwise these emissions are already accounted for in the emission factors in the "On-Road Vehicles" chapter of this guide.

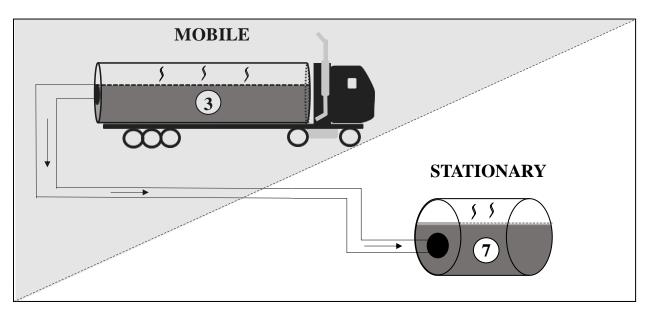


Figure 6-9. Refueling Truck to POL Tank  $(3\rightarrow7)$ 

This point in the fuel transfer pathway describes the loading of fuel from a refueling truck into a storage tank. The **stationary** emissions include the breathing and working losses from smaller storage tanks on base. The methodology for calculating these emissions is provided in the Stationary Guide.

Likely, the only **mobile** emissions from the fueling of the tank via the refueling truck are from any significant fuel spills which are addressed in the Transitory Guide.

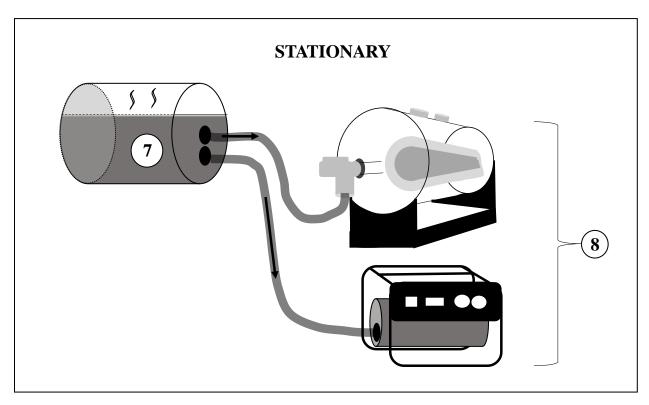


Figure 6-10. POL Tank to Stationary ICOM & ECOM (7→8)

This point in the figure describes the loading of fuel from a storage tank into a stationary Internal Combustion (ICOM) piece of equipment, such as a generator, or External Combustion (ECOM) equipment, such as a boiler or stationary generator. The **stationary** emissions from the fuel outlet (the storage tank) are the result of any significant fuel spills and breathing/working losses generated. The breathing/working losses are calculated using the EPA's TANKS program while emissions from significant fuel spills are described in the Transitory guide. The **stationary** emissions from the fuel loading inlet (the stationary ICOM or ECOM equipment) are generated from the displaced vapor in the fuel tanks. The methodology for calculating these emissions is provided in the Stationary Guide.

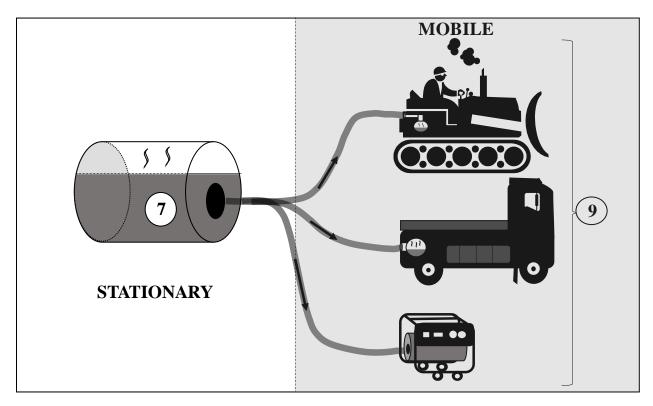


Figure 6-11. POL Tank to Non-Road (7→9)

During this fuel transfer activity, fuel is moved from a storage tank to a mobile piece of equipment, such as non-road equipment, Ground Support Equipment (GSE), or a mobile generator. The **stationary** emissions from the storage tank are the result of any significant fuel spills and breathing/working losses generated. The methodology for calculating the breathing/working losses emissions is provided in the Stationary Guide (TANKS) while fuel spill emissions are addressed in the Transitory Guide.

The **mobile** emissions from the fuel loading inlet (non-road and ground support equipment or mobile generator) are produced by the displaced vapor in the fuel tanks, and should be reported in the mobile AEI. Emissions are calculated as described later in this chapter.

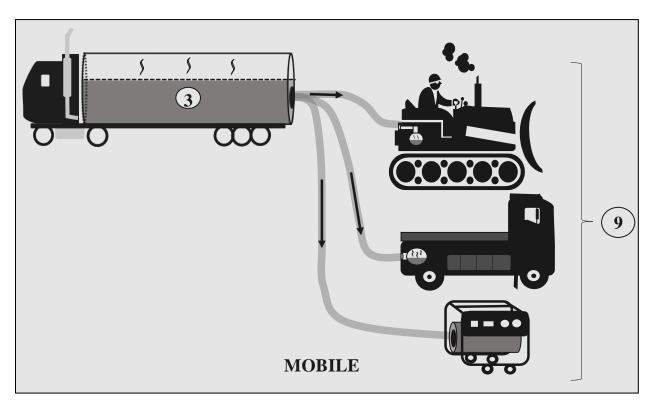


Figure 6-12. Refueling Truck to Non-Road (3→9)

This point in the figure illustrates the transfer of fuel from a **mobile** fuel loading outlet (refueling truck) into either non-road equipment, GSE, or a mobile generator, **all** of which are considered **mobile** sources. Emissions are calculated as described later in this chapter and should be reported in a mobile AEI.

#### **6.2 Emission Factors**

Section 5.2 of AP-42 describes both the emissions from the loading of fuel into fuel trucks and the evaporative emissions from the fueling of a gasoline vehicle. Since fueling gas vehicles is covered under the MOVES2014 model, the emission factors for vehicle refueling are not provided here, but may be found in Table 5.2-7 of AP-42. For non-road engines and fuel trucks, the most appropriate method for calculating emissions from fuel dispensing is to calculate the loading loss. The loading loss is the primary source of evaporative emissions from the loading of fuel. These losses are the result of organic vapors within a fuel tank that are displaced to the atmosphere as the tank is loaded with fuel. To calculate these losses, which is described in the next section, the saturation factor, the vapor pressure of the fuel, the molecular weight of the vapors, and the temperature of the bulk liquid must be known.

The saturation factor refers to the ratio of the saturated value of the expelled vapor to the unsaturated value. These values vary based on the method of fuel loading. A tank that is filled with only one fuel, or fuels with similar characteristics, is said to be practicing "dedicated normal service." When loading vapors are returned back to the loading terminal after the fuel is unloaded to a storage tank, it is known as "dedicated vapor balance." Section 5.2 of AP-42 provides the saturation factors, which are given in Table 6-1.

**Table 6-1. Fuel Loading Saturation Factors** 

<b>Loading Method</b>	Loading Parameters	S Factor
	Clean Tank	0.50
Submerged Loading	Dedicated Normal Service	0.60
	Dedicated Vapor Balance Service	1.00
	Clean Tank	1.45
Splash Loading	Dedicated Normal Service	1.45
	Dedicated Vapor Balance Service	1.00

SOURCE: U.S. EPA. "Transportation and Marketing of Petroleum Liquids." *Compilation of Air Pollutant Emission Factors - Volume I: Stationary Point and Area Sources*. Fifth Edition. 1995. Section 5.2.

The vapor emissions resulting from fuel transfer is a function of the vapor pressure of the fuel. The vapor pressure is indicative of the evaporation rate of a liquid. The vapor pressures for each fuel and their respective vapor molecular weights are provided in Table 6-2.

True Vapor Pressure (psia) Vapor Molecular **Petroleum Liquid** Weight (lb/lb-Mol) 60°F 40°F 50°F 70°F 80°F 90°F 100°F Crude Oil RVP 5<sup>(1)</sup> 1.80 2.80 3.40 4.00 50 2.30 4.80 5.70 Gas RVP 6 69 1.90 2.37 2.93 3.60 4.38 5.29 6.35 Gas RVP 7 68 2.30 2.90 3.50 4.30 5.20 6.20 7.40 Gas RVP 7.8 2.59 3.94 4.79 5.79 6.96 8.30 68 3.21 Gas RVP 8 3.30 4.04 4.92 5.94 68 2.67 7.13 8.50 Gas RVP 8.3 68 2.79 3.44 4.22 5.13 6.19 7.42 8.83 Gas RVP 9 67 3.06 3.77 4.61 5.59 6.74 8.06 9.58 Gas RVP 10 3.40 4.20 5.20 7.40 10.50 66 6.20 8.80 Gas RVP 11 65 3.87 4.75 5.77 6.96 8.34 9.92 11.74 Gas RVP 11.5 65 4.09 5.00 6.07 7.31 8.75 10.41 12.29 Gas RVP 12 64 4.29 5.24 6.36 7.65 9.15 10.86 12.82 Gas RVP 13 62 4.70 5.70 6.90 8.30 9.90 11.70 13.80 Gas RVP 13.5 4.93 10.38 12.29 14.46 62 6.01 7.26 8.71 Gas RVP 15 5.58 6.77 8.16 9.77 11.61 16.09 60 13.71 Diesel 130 3.10E-03 | 4.50E-03 6.50E-03 9.00E-03 1.20E-02 1.60E-02 2.20E-02 JP-8/Jet A<sup>(2)</sup> 1.58E-02 | 2.19E-02 | 3.01E-02 130 4.08E-02 5.48E-02 7.27E-02 9.54E-02

**Table 6-2. Vapor Pressures for Various Fuels** 

SOURCE (unless otherwise stated): Data taken from TANKS version 4.0.9d.

- 1. SOURCE: U.S. EPA. "Organic Liquid Storage Tanks." *Compilation of Air Pollutant Emission Factors Volume I: Stationary Point and Area Sources.* Fifth Edition. 1997. Section 7.1.
- SOURCE: USAF, Environmental Analysis Division. JP-8 Volatility Study, IERA-RS-BR-SR-2001-0002. San Antonio, 2001.
   Vapor pressures calculated using the composite data calculation, an average flash point temperature of 118.238°F, and atmospheric pressure of 760mm Hg. Flash point temperature the average provided by Defense Energy Support Center.
   "Petroleum Quality Information System." Defense Logistics Agency, 1996.

## 6.3 Control and Capture Efficiencies

1. Emissions from fuel dispensing may be controlled using a variety of techniques. Estimating emissions in which a control device is utilized is made more challenging since the capture efficiency must also be taken into account. Additionally, since portions of fuel transfer are regarded as either stationary or mobile sources, using the control and capture efficiencies appropriately may be confusing. For example, in Step 1-2 in Figure 6-3, fuel is loaded from a loading terminal storage tank and into a fuel truck. The displaced vapor may be captured with a blower system and run through a vapor recovery unit before being returned to the storage tank. In this case, the capture efficiency of the truck and the control efficiency of the vapor recovery unit are used to determine the emissions from this process. The control efficiency is taken from the stationary unit although the emissions are classified as mobile since the emissions are the result of displaced vapor in a mobile fuel truck. Typical capture and control efficiencies are found in Table 6-3 and

Table 6-4 respectively.

**Table 6-3. Typical Fuel Truck Capture Efficiencies** 

Fuel Truck Capture System	Capture Efficiency (%)				
Untested	70.0				
EPA standards (NSPS Subpart XX) leak test	98.7				
MACT-level annual leak test	99.2				
Trucks with installed blower system	100.0 <sup>(1)</sup>				

SOURCE (Unless otherwise stated): U.S. EPA. "Transportation and Marketing of Petroleum Liquids." *Compilation of Air Pollutant Emission Factors - Volume I: Stationary Point and Area Sources.* Fifth Edition. 1995. Section 5.2.

2. SOURCE: TCEQ. "Tank Truck Loading of Crude Oil or Condensate." 2013. 14 December 2013. <a href="http://www.tceq.texas.gov/assets/public/permitting/air/NewSourceReview/oilgas/tank-truck-load.pdf">http://www.tceq.texas.gov/assets/public/permitting/air/NewSourceReview/oilgas/tank-truck-load.pdf</a>.

**Table 6-4. Typical Fuel Transfer Control Efficiencies** 

C	ontrol Techniques	Control Efficiency (%)
Flares <sup>1</sup>	Compounds ≤ 3 Carbon atoms	99.0
Traies	Other Organic Compounds	98.0
Thermal Oxidizer	$rs^2$	99.0
Carbon Systems <sup>3</sup>		98.0
Vapor Recovery	Units	100.0

SOURCE: TCEQ. "Tank Truck Loading of Crude Oil or Condensate." 2013. 14 December 2013. <a href="http://www.tceq.texas.gov/assets/public/permitting/air/NewSourceReview/oilgas/tank-truck-load.pdf">http://www.tceq.texas.gov/assets/public/permitting/air/NewSourceReview/oilgas/tank-truck-load.pdf</a>>.

- 1. Flares must meet 40 CFR 60.18 requirements of minimum heating value of waste gas and a maximum flare tip velocity.
- Must be designed for the variability of the waste gas stream and basic monitoring which consists of a temperature monitor that indicates the device is achieving a satisfactory minimum temperature.
  - 3. Must have an alarm system that will prevent break through.

Alternatively, emission factors for the loading of fuel trucks have been developed for several fuels likely to be distributed on base. These emission factors are based on an assumed temperature of 60°F and may be used as an alternative to calculating the loading loss. Table 5.2-5 of AP-42 provides these emission factors, which have been reproduced here in Table 6-5.

Table 6-5. VOC Emission Factors for Fuel Dispensing/Loading

		Emission Factors (lb/10 <sup>3</sup> gal)								
Loading Method	Loading Parameters	Gasoline <sup>1</sup>	Diesel/No. 2 Fuel Oil	JP-8/Jet A						
Submerged Loading	Dedicated Normal Service	5	0.014	0.016						
Submerged Loading	Vapor Balance Service	8								
Spleak Leading	Dedicated Normal Service	12	0.03	0.04						
Splash Loading	Vapor Balance Service	8								

SOURCE: U.S. EPA. "Transportation and Marketing of Petroleum Liquids." *Compilation of Air Pollutant Emission Factors - Volume I: Stationary Point and Area Sources*. Fifth Edition, 1995. Section 5.2.

## 6.4 Emission Calculations

Emissions of concern from fuel dispensing operations are VOCs and HAPs. The volume of VOCs and HAPs emitted are directly related to the amount of VOC and HAP constituents within the fuel. Calculations of emissions of VOCs and HAPs from fuel dispensing are outlined below.

## 6.4.1 VOC Emissions Calculations (Preferred Method)

The preferred method for calculating VOC emissions from the dispensing of fuel is to use the fuel vapor pressure, saturation factor, temperature, and total throughput to estimate the loading loss. VOCs are calculated as follows:

$$E(VOC) = Q \times \frac{1}{1000} \times 12.46 \times \frac{S \times P \times M}{T} \times \left\{ 1 - \left[ \left( \frac{Cap}{100} \right) \times \left( \frac{CE}{100} \right) \right] \right\}$$
Equation 6-1

Where,

E(VOC) = Annual emissions of VOCs (lb/yr)

**Q** = Annual quantity of fuel transferred (gal/yr)

**1000** = Factor converting gallons to  $10^3$  gallons (gal/ $10^3$  gal)

**12.46** = Equation constant (°R lb-mol/psia 10<sup>3</sup> gal)

S = Saturation factor. This is provided in Table 6-1

**P** = True vapor pressure of fuel (psia). This is provided in Table 6-2

M = Vapor molecular weight of the fuel (lb/lb-mol). This is provided in Table 6-2

T = Temperature of bulk liquid loaded (°R)

Cap = Capture efficiency of the loading terminal (%). This is provided in Table 6-3

**CE** = Efficiency of the control device (%). This is provided in

Table 6-4

= Factor for converting a percent to a fraction (%)

<sup>1.</sup> Gasoline has an RVP of 10 psia

<sup>&</sup>quot;---" Indicates No data available

A detailed control volume outlining the emissions from fuel transfer operations is provided in Figure 6-13.

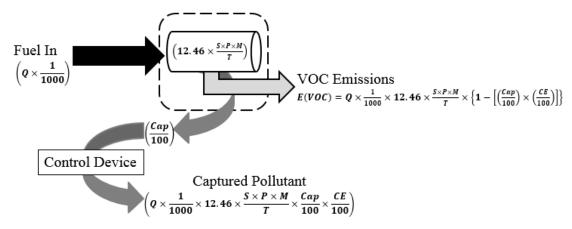


Figure 6-13. Fuel Transfer Control Volume - Preferred Method

## 6.4.2 VOC Emissions Calculations (Emission Factor Method)

Using the emission factor method, the appropriate emission factor selected from Table 6-5, and the total quantity of fuel transferred, the emissions are calculated as follows:

$$E(VOC) = Q \times \frac{1}{1000} \times EF(VOC) \times \left\{ 1 - \left[ \left( \frac{Cap}{100} \right) \times \left( \frac{CE}{100} \right) \right] \right\}$$

**Equation 6-2** 

Where,

 $\mathbf{EF(VOC)} = \mathbf{VOC}$  emission factor as provided in Table 6-5 (lb/10<sup>3</sup> gal)

A detailed control volume is provided in Figure 6-14.

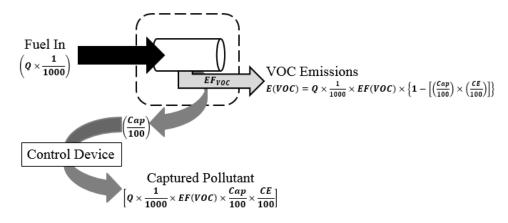


Figure 6-14. Fuel Transfer Control Volume – Emission Factor Method

## 6.4.3 HAP Emissions Calculation

The amount of HAPs released into the environment from fuel transfer operations may be estimated using the total VOCs emitted, as calculated above, and the weight percent of HAPs in the fuel itself (APIMS and ACAM automatically calculate these values). Contact the fuel supplier for specific information regarding the weight percent of HAPs in fuels commonly used at Air Force installations. In the absence of available data, Table 6-6 provides the typical weight percent of individual HAPs found in several fuels used at Air Force installations. Using the total VOCs and weight percent HAP in the fuel, the total HAP emissions from fuel transfer operations is calculated using Equation 6-3.

$$E(HAP) = E(VOC) \times \frac{WP(HAP)}{100}$$

**Equation 6-3** 

Where,

E(HAP) = HAP emissions from fuel dispensing (lb/yr)

**WP(HAP)** = Weight Percent HAP in the fuel (%)

Table 6-6. Weight Percent of HAPs in Fuels Commonly Used at Air Force Installations

			Туріса	al Wt. %		
Compound	In I	Diesel	In Ga	soline	In JP-8	8/Jet A <sup>(1)</sup>
	Liquid-Phase	Vapor-Phase <sup>2</sup>	Liquid-Phase	Vapor-Phase <sup>2</sup>	Liquid-Phase	Vapor-Phase <sup>2</sup>
Anthracene	2.83E-03 <sup>(3)</sup>					
Benzene	8.00E-04	1.96E-01	1.80E+00	6.18E-01	3.38E-02	1.58E+00
1,3-Butadiene			$2.00E-04^{(3)}$	1.62E-03		
Cumene (Isopropyl benzene)			5.00E-01	7.79E-03	1.81E-01	3.83E-01
Dibenzofuran	1.64E-02 <sup>(3)</sup>					
Ethylbenzene	1.30E-02	3.10E-01	1.40E+00	4.67E-02	1.59E-01	7.20E-01
Fluorene	2.94E-02 <sup>(3)</sup>				3.44E-03	
Hexane	1.00E-04	3.98E-02	1.00E+00	5.57E-01		
Isooctane (2,2,4-Trimethyl Pentane)			4.00E+00	7.11E-01	1.23E-03	2.97E-02
Naphthalene	3.39E-01 <sup>(3)</sup>	2.15E-01	1.74E-01 <sup>(3)</sup>	1.54E-04	2.68E-01	3.23E-02
Phenanthrene	3.22E-02 <sup>(3)</sup>					
Phenylbenzene (1,1'-biphenyl)					6.78E-02	
Pyrene	$3.62E-02^{(3)}$				1.00E-05	
Toluene	3.20E-02	2.30E+00	7.00E+00	7.05E-01	2.19E-01	3.00E+00
Xylenes (mixed isomers)	2.90E-01	7.19E+00	7.00E+00	2.43E-01	1.19E+00	5.61E-02

SOURCE (Unless otherwise stated): Data taken from USEPA 2005, TANKS, Version 4.09d, U.S. Environmental Protection Agency, October 2005.

<sup>1.</sup> SOURCE: "JP-8 Composition and Variability," Armstrong Laboratory, Environics Directorate, Environmental Research Division, May 1996. An average density of 6.67lb/gal was used for unit conversion.

<sup>2.</sup> The vapor phase speciation data was estimated using the liquid phase speciation data and equations found in Section 7.1.4 of AP-42, Fifth Edition, Volume I last updated November 2006. Physical properties for fuels used for calculations can be found below, in Table 6-7.

<sup>3.</sup> SOURCE: SPECIATE, Version 4.4, U.S. Environmental Protection Agency, February 2014.

<sup>&</sup>quot;---" Indicates No Data Available

Fuel	Liquid Molecular Weight	Vapor Molecular Weight	Vapor Pressure (psia) <sup>2</sup>
JP-8/Jet A	162	130	$4.08\text{E}-02^{(3)}$
Diesel	188	130	9.00E-03
Gasoline <sup>1</sup>	92	66	6.20E+00

**Table 6-7. Fuel Properties** 

SOURCE (Unless otherwise stated): Data taken from USEPA 2005, TANKS, Version 4.09d, U.S. Environmental Protection Agency, October 2005.

- 1. Based on gasoline with a Reid Vapor Pressure of 10.
- 2. Based on Temperature of 70° F
- 3. SOURCE: "JP-8 Volatility Study," Southwest Research Institute (SWRI), March 2001. Vapor pressures calculated using the composite data calculation, an average flash point temperature of 118.238°F, and atmospheric pressure of 760mmHg. Flash point temperature average provided by "Petroleum Quality Information System Fuels Data (2005)," Defense Logistics Agency (DLA), Defense Energy Support Center, Technology and Standardization Division, 2006.

#### 6.5 Information Resources

Information regarding the annual fuel throughput may be collected from the fuel service station supervisor. The supervisor may also be able to provide specific information regarding the fuel vapor pressure and HAP constituent data. If this information is unavailable, contact the fuel supplier to gather this data for more precise emissions calculations.

## 6.6 Example Problems

#### 6.6.1 Problem 1 - Preferred Method

A total of 150,000 gal of gas and 85,000 gal of diesel were dispensed from a POL tank into non-road equipment during the previous year. Assume the gasoline used had an average RVP of 10 and the average temperature at the installation is 60°F. Calculate the total VOCs and Xylene emissions.

<u>Step 1</u> – Convert the temperature to the correct units. The temperature was given in terms of °F; however, in order to calculate the emission factors needed, the temperature must be converted to the correct units as follows:

$$T(^{\circ}R) = T(^{\circ}F) + 460.67$$

$$T(^{\circ}R) = 60 + 460.67 = 520.67^{\circ}R$$

<u>Step 2</u> – Record the vapor pressures and vapor molecular weights. These values are needed for emission factor calculations and are given in Table 6-2. For RVP 10 gasoline, the molecular weight and vapor pressure at 60°F are given as **66 lb/lb-mol** and **5.20 psia**, respectively. Similarly,

for diesel, the vapor molecular weight and vapor pressure at 60°F are given as **130 lb/lb-mol** and **6.50E-03 psia** respectively.

<u>Step 3</u> – Select and record the saturation factor. The saturation factor is a function of the load method employed. Knowing that this fuel was loaded into non-road equipment from a POL tank, it may be assumed that the fuel was splash loaded without vapor balance. This gives a saturation factor of **1.45**.

<u>Step 4</u> – Calculate emissions. Using the data from the previous steps and Equation 6-1, the total VOCs are calculated as follows:

$$E(VOC) = Q \times \frac{1}{1000} \times 12.46 \times \frac{S \times P \times M}{T} \times \left\{ 1 - \left[ \left( \frac{Cap}{100} \right) \times \left( \frac{CE}{100} \right) \right] \right\}$$

For Gasoline:

$$E(VOC) = 150,000 \frac{gal}{yr} \times \frac{1}{1000} \left( \frac{10^{3} \text{gal}}{gal} \right) \times 12.46 \left( \frac{{}^{\circ}R \ lb - mol}{psia} \frac{10^{3} \ gal}{10^{3} \ gal} \right) \times \frac{1.45 \times 5.20 (psia) \times 66 \left( \frac{lb}{lb - mol} \right)}{520.67 {}^{\circ}R} \left\{ 1 - \left[ \left( \frac{0\%}{100\%} \right) \times \left( \frac{0\%}{100\%} \right) \right] \right\}$$

$$E(VOC) = 150 \left(\frac{10^{3} \text{gal}}{yr}\right) \times 12.46 \left(\frac{{}^{\circ}R \ lb-mol}{psia \ 10^{3} \ gal}\right) \times \frac{1.45 \times 5.20 (psia) \times 66 \left(\frac{lb}{lb-mol}\right)}{520.67 {}^{\circ}R} \{1\}$$

$$\mathbf{E}(VOC) = 1869 \left( \frac{^{\circ}R \ lb-mol}{psia} \right) \times 0.956 \left( \frac{psia \ lb}{^{\circ}R \ lb-mol} \right) = \mathbf{1786.8} \frac{lb}{yr}$$

For Diesel:

$$\begin{split} \mathrm{E}(VOC) &= 85,000 \frac{gal}{yr} \times \frac{1}{1000} \left( \frac{10^3 \mathrm{gal}}{gal} \right) \times 12.46 \left( \frac{{}^{\circ}R \ lb-mol}{psia} \frac{10^3 \mathrm{gal}}{10^3 \mathrm{gal}} \right) \times \frac{1.45 \times 0.0065 (psia) \times 130 \left( \frac{lb}{lb-mol} \right)}{520.67^{\circ}R} \left\{ 1 - \left[ \left( \frac{0\%}{100\%} \right) \times \left( \frac{0\%}{100\%} \right) \right] \right\} \\ &= \mathrm{E}(VOC) = 85 \left( \frac{10^3 \mathrm{gal}}{yr} \right) \times 12.46 \left( \frac{{}^{\circ}R \ lb-mol}{psia} \frac{10^3 \mathrm{gal}}{10^3 \mathrm{gal}} \right) \times \frac{1.45 \times 0.0065 (psia) \times 130 \left( \frac{lb}{lb-mol} \right)}{520.67^{\circ}R} \left\{ 1 \right\} \\ &= \mathrm{E}(VOC) = 1059.1 \left( \frac{{}^{\circ}R \ lb-mol}{psia} \frac{lb}{yr} \right) \times 0.002 \left( \frac{psia}{{}^{\circ}R \ lb-mol} \right) = \mathbf{2.12} \frac{lb}{yr} \end{split}$$

<u>Step 5</u> – **Record Xylene weight percent.** Table 6-6 states that the weight percent xylene in gasoline and diesel fuel is **7% and 0.29%**, respectively.

<u>Step 6</u> – Calculate Xylene emissions. Using the VOC emissions for gasoline and diesel fuel calculated in Step 4 and the weight percent xylene in each fuel as recorded in Step 5, the total xylene emissions are calculated using Equation 6-3 as shown:

$$E(HAP) = E(VOC) \times \frac{WP(HAP)}{100}$$

For Gasoline:

$$E(Xylene) = 1786.8 \frac{lb}{yr} \times \frac{7\%}{100\%}$$

$$\mathbf{E}(Xylene) = 1786.8 \frac{lb}{yr} \times 0.07 = 125.076 \frac{lb}{yr}$$

For Diesel:

$$E(Xylene) = 2.12 \frac{lb}{yr} \times \frac{0.29\%}{100\%}$$

$$E(Xylene) = 2.12 \frac{lb}{yr} \times 0.0029 = 0.006 \frac{lb}{yr}$$

<u>Step 7</u> – Calculate total VOC emissions. The total VOC emissions from fuel dispensing are the sum of evaporative emissions from each fuel calculated in Step 4:

$$E(VOC) = \sum_{i=1}^{n} [E(VOC_i) + \dots + E(VOC_n)]$$

$$E(VOC) = \left(1786.8 \frac{lb}{yr} + 2.12 \frac{lb}{yr}\right)$$

$$E(VOC) = 1788.9 \frac{lb}{yr}$$

<u>Step 8</u> – Calculate total Xylene emissions. The total xylene emissions from fuel dispensing are the sum of evaporative emissions from each fuel calculated in Step 6:

$$E(HAP) = \sum_{i=1}^{n} [E(HAP_i) + \dots + E(HAP_n)]$$

$$E(Xylene) = \left(125.076 \frac{lb}{yr} + 0.006 \frac{lb}{yr}\right)$$

$$E(Xylene) = 125.1 \frac{lb}{yr}$$

#### 6.6.2 Problem 2 - Emission Factor Method

Using the same throughput for gasoline and diesel as given in Problem 1, recalculate the VOC emissions using the emission factor method.

<u>Step 1</u> – Select and record appropriate emission factors. Again, since the fuel was loaded into non-road equipment, the loading method is assumed to be splash loading without vapor balance. The emission factors for gasoline and diesel are 12 and 0.03 lb/10<sup>3</sup> gal, respectively.

<u>Step 2</u> – Calculate VOC emissions. Using Equation 6-2 and the emission factors as recorded in Step 1, the total VOCs emitted are calculated as follows:

$$E(VOC) = Q \times \frac{1}{1000} \times EF(VOC) \times \left\{ 1 - \left[ \left( \frac{Cap}{100} \right) \times \left( \frac{CE}{100} \right) \right] \right\}$$

For Gasoline:

$$E(VOC) = 150,000 \frac{gal}{yr} \times \frac{1}{1000} \left( \frac{10^3 gal}{gal} \right) \times 12 \frac{lb}{10^3 gal} \times \left\{ 1 - \left[ \left( \frac{0\%}{100\%} \right) \times \left( \frac{0\%}{100\%} \right) \right] \right\}$$

$$\mathbf{E}(VOC) = 150 \frac{10^3 gal}{yr} \times 12 \frac{lb}{10^3 gal} \times \{1\} = 1800 \frac{gal}{yr}$$

For Diesel:

$$E(VOC) = 85,000 \frac{gal}{yr} \times \frac{1}{1000} \left( \frac{10^3 gal}{gal} \right) \times 0.03 \frac{lb}{10^3 gal} \times \left\{ 1 - \left[ \left( \frac{0\%}{100\%} \right) \times \left( \frac{0\%}{100\%} \right) \right] \right\}$$

$$\mathbf{E}(VOC) = 85 \frac{10^3 gal}{yr} \times 0.03 \frac{lb}{10^3 gal} \times \{1\} = 2.55 \frac{gal}{yr}$$

<u>Step 3</u> – Sum the VOC emissions. Adding the calculated emissions from Step 2, the total VOCs, as determined by the emission factor method is calculated as follows:

$$E(VOC) = \sum_{i=1}^{n} [E(VOC_i) + \dots + E(VOC_n)]$$

$$E(VOC) = \left(1800 \frac{lb}{yr} + 2.55 \frac{lb}{yr}\right)$$

$$E(VOC) = 1802.55 \frac{lb}{yr}$$

## 6.7 References

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