

# **Staff Report**

## 70 ppb Ozone SIP Submittal

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In addition, written copies may be obtained from the Public Information Office, California Air Resources Board, 1001 I Street, 1<sup>st</sup> Floor, Visitors and Environmental Services Center, Sacramento, California 95814, (916) 322-2990.

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## I. Background

The federal Clean Air Act (Act) establishes planning requirements for those areas that exceed the health-based National Ambient Air Quality Standards (standards). Areas are designated as nonattainment based on monitored exceedances of these standards. In 2015, the United States Environmental Protection Agency (U.S. EPA) strengthened the standard for 8-hour ozone from 75 to 70 parts per billion (ppb)<sup>1</sup>. Effective August 3, 2018, U.S. EPA completed area designations for the 2015 8-hour ozone standard with 19 areas in California classified as Marginal, Serious, Severe, or Extreme nonattainment<sup>2</sup>. Within two years of designations, the Act requires states and local governments to prepare baseline emission inventories for all areas exceeding the ozone standards<sup>3</sup>.

The nonattainment areas must develop an emission inventory as the basis of a State Implementation Plan (SIP) that demonstrates how they will attain the standards by specified dates. The California Air Resources Board (CARB) staff has developed this emission inventory SIP submittal that reflects the most up-to-date emission inventory for all areas. Since the Statewide attainment challenges for the national 8-hour standard occur in the summer months, this document includes the 2017 baseline summer season (May- October) emission inventories (tons/day) for all nonattainment areas (NAAs), except San Diego County (see Attachment A). The San Diego County baseline inventory will be a part of a separate SIP submittal.

The Act also states that the emissions inventory contain emissions data for the two precursors to ozone formation: oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOC)<sup>3</sup>. The inventory included in this plan substitutes VOC with reactive organic gases (ROG), which, in general, represent a slightly broader group of compounds than those in U.S. EPA's list of VOCs.

Emission inventory development is an ongoing process as new information becomes available and methodologies and models are improved. Inventories are frequently updated for SIPs to improve accuracy and ensure they reflect the best available data. Further improvements are currently under way and will be incorporated into additional SIP revisions. Ultimately, the inventories are evaluated and approved by U.S. EPA.

The Act also requires states to submit enforceable transportation control strategies and transportation control measures to offset any growth in emissions from growth in Vehicle Miles Traveled (VMT) or numbers of vehicle trips within two years of

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<sup>1</sup> <https://www.epa.gov/ground-level-ozone-pollution/2015-revision-2008-ozone-national-ambient-air-quality-standards-naaqs>

<sup>2</sup> <https://www.epa.gov/green-book/green-book-8-hour-ozone-2015-area-information>

<sup>3</sup> Section 182(a)(1) of the Act. <https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapl-partD-subpart2-sec7511a.htm>

designation for areas designated as severe or extreme<sup>4</sup>. The CARB staff prepared VMT emissions-offset demonstrations for three of the four nonattainment areas for the 70 ppb 8-hour ozone standard as required by the Act. CARB prepared this demonstration for the South Coast Air Basin, San Joaquin Valley, and Coachella Valley. CARB staff is still working with the metropolitan planning organization (MPO) on the Western Mojave Desert analysis.

The following areas in California have been designated as nonattainment:

1. Amador County, CA
2. Butte County, CA
3. Calaveras County, CA
4. Imperial County, CA
5. Kern County (Eastern Kern), CA
6. Los Angeles-San Bernardino Counties (West Mojave Desert), CA
7. Los Angeles-South Coast Air Basin, CA
8. Mariposa County, CA
9. Nevada County (Western part), CA
10. Riverside County (Coachella Valley), CA
11. Sacramento Metro, CA
12. San Diego County, CA
13. San Francisco Bay Area, CA
14. San Joaquin Valley, CA
15. San Luis Obispo (Eastern part), CA
16. Sutter Buttes, CA \*
17. Tuolumne County, CA
18. Tuscan Buttes, CA \*
19. Ventura County, CA

\* The Sutter Buttes and Tuscan Buttes nonattainment areas contain no anthropogenic sources and, therefore, no emissions.

See Figure 1 for a map of U.S. EPA's 8-hour ozone designations for California.

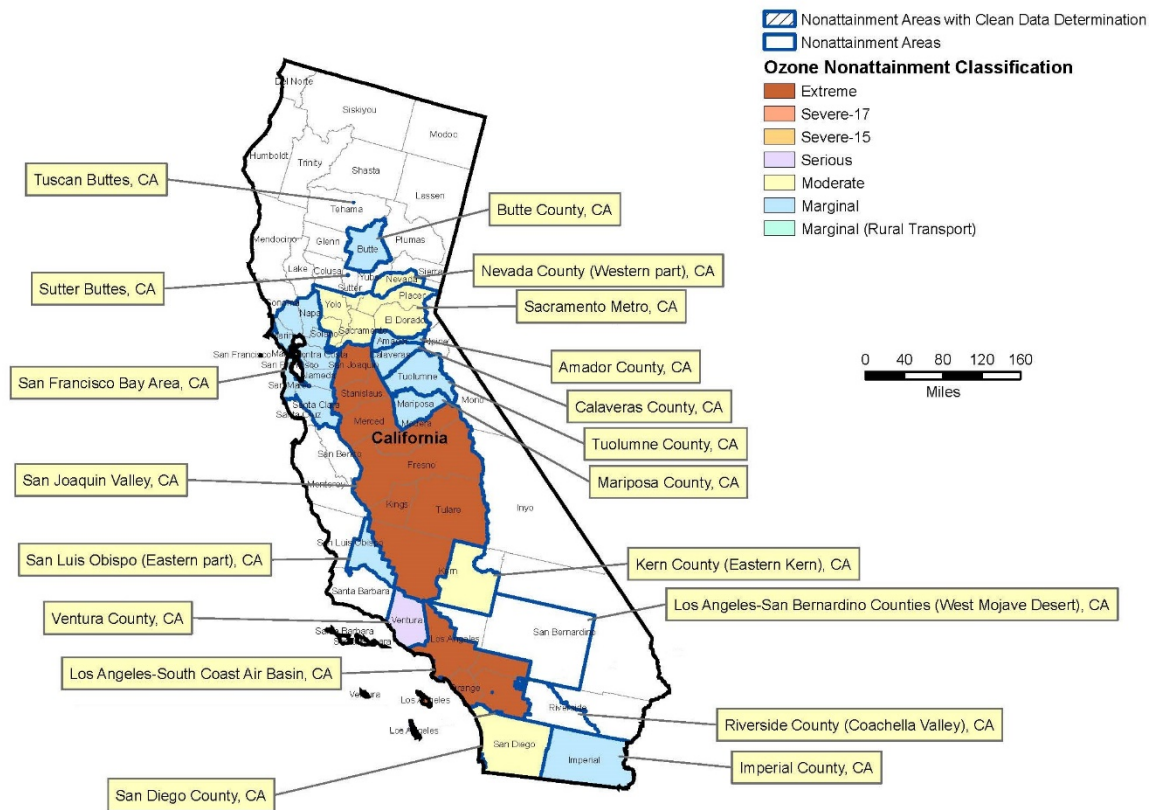
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<sup>4</sup> Section 182(d)(1)(a) of the Act. <https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapl-partD-subpart2-sec7511a.htm>

**Figure 1. Map of EPA's Ozone 8-Hour designations for California<sup>5</sup>.**

California 8-hour Ozone Nonattainment Areas (2015 Standard)

04/30/2020



<sup>5</sup> A downloadable version of the map can be found here: <https://www.epa.gov/green-book/green-book-map-download>

## **II. Baseline Emission Inventory**

### **Baseline Emission Inventory Background**

An emission inventory is a systematic listing of air pollutant sources, along with an accounting of the amount of pollutants emitted by each source or category over a given period.

The emission inventory is a foundational tool designed to support the evaluation, control, and mitigation of air pollutants. Inventory data is also used as primary input for air quality modeling, for developing control strategies, and to provide a means to track progress in meeting emissions reduction commitments. More specifically, the inventories assist in demonstrating attainment of the standards.

California's emission inventory represents emission estimates from many sources and are broadly categorized by stationary, mobile, area, and natural. Stationary sources include industrial point sources, such as power plants and oil refineries. Area-wide sources include categories where emissions take place over a wide geographic area, such as consumer products, cooking, and agricultural burning. On-road mobile sources include passenger vehicles and heavy-duty trucks, while off-road mobile sources include aircraft, trains, ships, and farm equipment. Natural (non-anthropogenic) sources include vegetation (biogenic), petroleum seeps, and wildfires. Note that the emission inventories represented in this document include only anthropogenic sources.

The development and maintenance of California's emission inventory is a multi-agency effort involving CARB, 35 local air pollution control and air quality management districts (Air District or District), metropolitan planning organizations, councils of governments, and the California Department of Transportation among others. For example, air districts work with facility operators to provide stationary point source emission estimates. CARB also develops and maintains mobile source emission models such as EMFAC. Metropolitan planning organizations provide population and transportation activity forecasts. CARB maintains a comprehensive database to store this information.

For purposes of the SIP, a baseline inventory contains the latest available data for a given calendar year and is used as a starting point for understanding current emission levels. Future-year inventories are developed by applying category-specific growth and control factors to the baseline inventory to estimate projected emissions in future years. Growth and control factors represent the anticipated changes from the baseline to the future years based on trends in economic and other human related activity as well as the effects of adopted emission control measures. Progress from emission reduction strategies can be measure by comparing base and future year inventories. This submittal represents a baseline inventory for 2017, chosen because it is the most representative year for which comprehensive emissions estimates are available. The following sections describe a review of the baseline inventory year selection, a review of the split regions in the inventory, and a review of the quality assurance and control

efforts employed by CARB.

#### A. Baseline Inventory Year Selection

Based on the final implementation rule, U.S. EPA requires that the base year shall be selected consistent with the baseline year for the reasonable further progress (RFP) plan. It states that at the time of designation as nonattainment for an ozone standard, the baseline emissions inventory shall be the emissions inventory for the most recent calendar year for which a complete triennial inventory is required to be submitted to the U.S. EPA. Alternatively, states may also use a baseline emissions inventory provided that the year selected corresponds with the year of the effective date of designation as nonattainment for that standard<sup>6</sup>. CARB selected 2017, which is the most recent triennial National Emissions Inventory (NEI) year required to be submitted to U.S. EPA, as the baseline inventory year.

Planning inventories typically include annual as well as seasonal (summer and winter) emission estimates. Annual emission inventories represent the total emissions over an entire year (tons per year), or the daily emissions produced on an average day (tons per day). Seasonal inventories account for temporal activity variations throughout the year, as determined by category-specific temporal profiles. Since ozone concentrations tend to be highest during the summer months, the emission inventory used in the SIP is based on the summer season (May through October).

#### B. Split Regions

Of the nineteen ozone nonattainment areas, five were split into a region not defined by county, air basin, or district boundaries: Kern County (Eastern Kern), Sutter Buttes, Los Angeles-San Bernardino Counties (West Mojave Desert), Nevada County (Western part), and San Luis Obispo (Eastern part). For these areas, the portion of emissions in the nonattainment area was estimated using category-specific factors based on the spatial distribution of population, employment, vehicle miles traveled, and other activity parameters within the nonattainment region. These fractions were developed by CARB and the local air districts.

#### C. Quality Assurance and Quality Control

CARB has established a quality assurance and quality control (QA/QC) process to ensure the integrity and accuracy of the emission inventories used in the development of air quality plans. QA/QC occurs at the various stages of SIP emission inventory development. Baseline emissions are assembled and maintained in the California Emission Inventory Development and Reporting System (CEIDARS). CARB inventory staff works with air districts, which are

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<sup>6</sup> Title 40, Code of Federal Regulations (CFR), Part 51, Subpart CC. <https://www.ecfr.gov/cgi-bin/text-idx?SID=97b82e1fdd43119eed7c7405c00783e&mc=true&node=pt40.2.51&rgn=div5#sp40.2.51.cc>

responsible for developing and reporting point source emission estimates, to verify these data are accurate. The locations of point sources, including stacks, are checked to ensure they are valid. Area-wide source emission estimates are developed by CARB staff as well as some air districts. The methodologies are reviewed by CARB and air district staff before their inclusion in the emission inventory. Mobile categories are verified with CARB mobile source staff for consistency with the on-road and off-road emission models. Additionally, CEIDARS is designed with automatic system checks to prevent errors, such as double counting of emission sources. The system also makes various reports available to assist staff in their efforts to identify and reconcile anomalous emissions.

### Emission Inventory Components

A summary of the components that make up the SIP baseline emission inventory is presented in the following sections. These include mobile (on- and off-road) sources, stationary point sources, and areawide sources. Natural sources are not included in a SIP emission inventory.

#### A. Mobile Source Emissions

CARB develops the emission inventory for the mobile sources using various modeling methods. These models account for the effects of various adopted regulations, technology types, fleet turnover, and seasonal conditions on emissions. Mobile sources in the emission inventory are composed of both on-road and off-road sources, described in the sections below.

##### 1. On-Road Mobile Source Emissions

Emissions from on-road mobile sources, which include passenger vehicles, buses, and trucks, were estimated using outputs from CARB's EMFAC2017 model. The on-road emissions were calculated by applying EMFAC2017 emission factors to the transportation activity data provided by the local MPO.

EMFAC2017 includes data on California's car and truck fleets and travel activity. Light-duty motor vehicle fleet age, vehicle type, and vehicle population were updated based on 2016 DMV data. The model also reflects the emissions benefits of CARB's recent rulemakings such as the Pavley Standards and Advanced Clean Cars Program, and includes the emissions benefits of CARB's Truck and Bus Rule and previously adopted rules for other on-road diesel fleets.

EMFAC2017 utilizes a socio-econometric regression modeling approach to forecast new vehicle sales and to estimate future fleet mix. Light-duty passenger vehicle population includes 2016 DMV registration data along with updates to mileage accrual using Smog Check data. Updates to heavy-duty trucks include model year specific emission factors based on new test data, and population estimates using DMV data for in-state trucks and International

Registration Plan (IRP) data for out-of-state trucks.

Additional information and documentation on the EMFAC2017 model is available at:

<https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-road-documentation>

## *2. Off-Road Mobile Source Emissions*

Emissions from off-road sources are estimated using a suite of category-specific models or, where a new model was not available, the OFFROAD2007 model.

Many of the newer models are developed to support recent regulations, including in-use off-road equipment, ocean-going vessels, and others. The sections below summarize the updates made to specific off-road categories.

### *a) Ocean Going Vessels*

CARB staff updated the ocean-going vessel (OGV) activity growth rates and NO<sub>x</sub> emission calculations in December 2016. These were based on 2014 data on vessel visits, 2014 data from the Ports of Los Angeles/Long Beach on vessel power, and U.S. EPA sources for emission rates. Growth factors are based on the Freight Analysis Framework.

Additional information on CARB's general OGV methodology is available online for the 2019 update here -

<https://www.arb.ca.gov/msei/ordiesel/draft2019ogvinv.pdf> or the 2014 update here –

<https://ww3.arb.ca.gov/msei/2014-updates-to-the-carb-ogv-model.docx>

### *b) Commercial Harbor Craft*

Commercial Harbor Craft (CHC) are grouped into nine vessel types, including ferry and excursion vessels, tow boats, tug boats, pilot vessels, work boats, crew and supply vessels, commercial fishing vessels, charter fishing vessels, and other.

Vessel and engine data were reported to CARB by vessel operators in compliance with CARB's 2007 Commercial Harbor Craft Regulation. Staff updated the crew and supply vessel emissions inventory using 2009 reporting data and developed barge and dredge vessel emissions inventory using information from a 2009 CARB survey.

Vessel population data were collected from various sources, including the U.S. Coast Guard, the California Department of Fish and Wildlife registration data, the CARB Harbor Craft Survey, and information from recent emission inventory estimates generated for Los Angeles. Vessel and engine profiles, including vessel and engine type, age, size, annual hours of operation, and annual fuel use were developed based on the CARB survey.

Additional information on this methodology is available at:

<https://www.arb.ca.gov/regact/2010/chc10/appc.pdf>

#### c) Pleasure Crafts and Recreational Vehicles

Pleasure crafts, or recreational watercrafts (RW), is a broad category of marine vessels that includes gasolinepowered spark-ignition marine watercraft (SIMW) and diesel-powered marine watercraft.

Off-highway recreational vehicles (OHRVs) include off-highway motorcycles (OHMC), allterrain vehicles (ATV), off-road sport vehicles, off-road utility vehicles, sand cars, and golf Carts.

A new model was developed in 2014 to estimate emissions from pleasure craft and another new model was developed in 2018 to estimate emissions from recreational vehicles. In both cases, population, activity, and emission factors were re-assessed using new surveys, DMV registration information, and emissions testing.

Additional information is available at:

<https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-offroad>

#### d) Locomotives

The locomotive model is based primarily on population and activity data reported to CARB by the major rail lines for calendar year 2011. To estimate emissions, CARB used duty cycle, fuel consumption, and activity data from the two main rail companies. Activity is forecasted for individual train types and is consistent with CARB's ocean-going vessel and truck growth rates. Fuel efficiency improvements are projected to follow Federal Railroad Association projections and turnover assumptions are consistent with U.S. EPA projections. The model was updated in 2016 with revised growth rates, and revised turnover assumptions.

Additional information is available at:

<https://ww3.arb.ca.gov/msei/ordiesel/locolinehaul2017ei.docx>

The additional locomotive categories (Switchers, Short Haul (Class III), Passenger) are all documented individually at

<https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-offroad-0>

#### e) Fuel Storage and Handling

Emissions for fuel storage and handling were estimated using the OFFROAD2007 model.

Additional information is available at:

<https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-offroad>

#### f) Diesel Agricultural Equipment

The inventory for agricultural diesel equipment (such as tractors, harvesters, combines, sprayers, and others) was revised based on a voluntary survey of farmers, custom operators, and first processors conducted in 2009. The survey data, along with information from the 2007 USDA Farm Census, was used to revise almost every aspect of the agricultural inventory, including population, activity, age distribution, fuel use, and allocation. This updated inventory replaces general information on farm equipment in the United States with one specific to California farms and practices. The updated inventory was compared against other available data sources such as Board of Equalization fuel reports, USDA tractor populations and age, and Eastern Research Group tractor ages and activity, to ensure the results were reasonable and compared well against outside data sources. Agricultural growth rates through 2050 were developed through a contract with URS Corp.

Additional information is available at:

<https://ww3.arb.ca.gov/msei/ordiesel/ag2011invreport.pdf>

#### g) In-Use Off-Road Equipment

This category covers construction, industrial, mining, oil drilling, and ground support equipment. CARB developed this model in 2010 to support the analysis for amendments to the In-Use Off-Road Diesel Fueled Fleets Regulation. Population is based on reporting data, while activity, load, and fuel use are based on survey data and statewide fuel estimates.

Additional information is available at:

<https://ww3.arb.ca.gov/regact/2010/offroadlsi10/offroadappd.pdf>

#### h) Cargo Handling Equipment

The emissions inventory for the Cargo Handling Equipment category was updated to reflect new information on equipment population, activity, recessionary impacts on growth, and engine load in 2011. The information includes regulatory reporting data which provide an accounting of all the cargo handling equipment in the State including their model year, horsepower, and activity.

Background and supporting documents for the Cargo Handling Equipment

Regulation are available here:

<https://www.carb.ca.gov/ports/cargo/cheamd2011.htm>

i) *Transportation Refrigeration Units (TRU)*

This model reflects updates to activity, population, growth and turn-over data, and emission factors developed to support the 2011 amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units.

Additional information is available at:

<https://www3.arb.ca.gov/regact/2011/tru2011/truisor.pdf>

B. *Stationary Point Sources*

The stationary source inventory is composed of point sources and area-wide sources. The data elements in the 2017 baseline inventory are consistent with the data elements required by the Air Emissions Reporting Requirements (AERR). The inventory reflects actual emissions from industrial point sources reported to the District by the facility operators through calendar year 2017.

Stationary point sources also include smaller point sources, such as gasoline dispensing facilities and laundering, that are not inventoried individually, but are estimated as a group and reported as a single source category. Emissions from these sources are estimated using various models and methodologies. Estimation methods include source testing, direct measurement by continuous emissions monitoring systems, or engineering calculations. Emissions for these categories are estimated by both CARB and the local districts.

Estimates for the categories below were developed by CARB and has been reviewed by CARB staff to reflect the most up-to-date information:

NOTE: The estimates for some categories were developed several years prior to the current baseline. In those cases, CARB staff grew the original estimates according to growth and control factors. The growth factors CARB relied upon are described below, with the exception of the Bay Area Air Quality Management District (AQMD), and Southern California Association of Governments districts (Antelope Valley AQMD, Mojave Desert AQMD, Ventura County Air Pollution Control District (APCD), Imperial County APCD, and South Coast AQMD), whose growth factors were provided by the districts.

a) *Stationary Nonagricultural Diesel Engines*

This category includes emissions from backup and prime generators and pumps, air compressors, and other miscellaneous stationary diesel engines that are widely used throughout the industrial, service, institutional, and commercial sectors. The emission estimates, including emission forecasts, are based on a 2003 CARB methodology derived from the OFFROAD2007 model.

Additional information on this methodology is available at:  
<https://ww3.arb.ca.gov/ei/areasrc/arbfuelcombothr.htm>

*b) Agricultural Diesel Irrigation Pumps*

This category includes emissions from the operation of diesel-fueled stationary and mobile agricultural irrigation pumps. The emission estimates are based on a 2003 CARB methodology using statewide population and include replacements due to the Carl Moyer Program. Emissions are grown based on projected acreage for irrigated farmland from the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP), 2008.

Additional information on this category is available at:  
<https://ww3.arb.ca.gov/ei/areasrc/fullpdf/full1-1.pdf>

*c) Wine Fermentation and Aging*

This category includes emissions from the fermentation and aging of wine. Wine fermentation volumes in California are reported by the U.S. Alcohol and Tobacco Tax and Trade Bureau. CARB staff derived the emission factors from a computer model developed by Williams and Boulton. Emissions were initially estimated for 2002 and grown to later years using beverage manufacturing (Alcoholic & Non-Alcoholic) economic output.

An emission factor for brandy was derived by Hugh Cook of the Wine Institute. Emissions were initially estimated for 1992 then grown to 2012 using economic output for food manufacturing. Emissions were grown from 2012 to 2017 using beverage manufacturing economic output per Regional Economic Models, Inc. (REMI). Growth for future years is based on REMI forecast version 2.2.2.

Additional information on this methodology is available at:  
<http://www.arb.ca.gov/ei/areasrc/arbndprofandag.htm>

*d) Laundering*

This category includes emissions from perchloroethylene (perc) dry cleaning establishments. The emission estimates are based on a 2002 CARB methodology that used nationwide perc consumption rates allocated to the county level based on population and an emission factor of 10.125 pounds per gallon used. Emissions were grown based on the California Department of Finance (DOF) population forecasts, 2020.

Additional information on this methodology is available at:  
<https://ww3.arb.ca.gov/ei/areasrc/arbcleanlaund.htm>

*e) Degreasing*

This category includes emissions from solvents in degreasing operations in the

manufacturing and maintenance industries. The emissions estimates are based on a 2000 CARB methodology using survey and industry data, activity factors, emission factors and a user's fraction. Emissions were grown based on CARB/REMI industry-specific economic output, version 2.2.2.

Additional information on this methodology is available at:  
<https://ww3.arb.ca.gov/ei/areasrc/arbcleandegreas.htm>

*f) Coatings and Thinners*

This category includes emissions from coatings and related process solvents. Auto refinishing emissions estimates are based on a CARB methodology using production data and a composite emission factor derived from a 2002 survey. These estimates were grown based on CARB's on-road mobile sources model (EMFAC2017). Estimates for industrial coatings emissions are based on a 1990 CARB methodology using production and survey data, and emission factors derived from surveys. Estimates for thinning and cleaning solvents are based on a 1991 CARB methodology, census data and a default emission factor developed by CARB. These estimates were grown based on REMI county economic forecasts, version 2.2.2.

Additional information on these methodologies is available at:  
<https://ww3.arb.ca.gov/ei/areasrc/arbcleancoatproc.htm>

*g) Adhesives and Sealants*

This category includes emissions from solvent-based and water-based solvents contained in adhesives and sealants. Emissions are estimated based on a 1990 CARB methodology using production data and default emission factors. Estimates were grown based on REMI county economic forecasts, version 2.2.2.

Additional information on this methodology is available at:  
<https://www.carb.ca.gov/ei/areasrc/arbcleanadhseal.htm>

*h) Gasoline Dispensing Facilities*

This category uses a 2015 CARB methodology to estimate emissions from fuel transfer and storage operations at gasoline dispensing facilities (GDFs). The methodology addresses emissions from underground storage tanks, vapor displacement during vehicle refueling, customer spillage, and hose permeation. The updated methodology uses emission factors developed by CARB staff that reflect more current in-use test data and also accounts for the emission reduction benefits of onboard refueling vapor recovery (ORVR) systems. The emission estimates are based on 2012 statewide gasoline sales data from the California Board of Equalization that were apportioned to the county level using fuel consumption estimates from EMFAC 2014. Emissions were grown based on EMFAC2017.

Additional information on this category is available at:  
<https://ww2.arb.ca.gov/arb-petroleum-production-and-marketing-methodologies-petroleum-marketing>

*i) Gasoline Cargo Tank*

This category uses a 2002 CARB methodology to estimate emissions from gasoline cargo tanks. These emissions do not include the emissions from loading and unloading of gasoline cargo tank product; they are included in the gasoline terminal inventory and gasoline service station inventory. Pressure-related fugitive emissions are volatile organic vapors leaking from three points: fittings, valves, and other connecting points in the vapor collection system on a cargo tank. 1997 total gasoline sales were obtained from the California Department of Transportation. The emission factors are derived from the data in the report, "Emissions from Gasoline Cargo Tanks, First Edition," published by the Air and Waste Management Association in 2002.

The initial emission estimates for 1997 were grown to 2012 using a growth parameter developed by Pechan based on gasoline and oil expenditures data. Emissions were grown according to fuel consumption from ARB's EMFAC 2017 mobile sources emission factors model.

Additional information on this methodology is available at:  
<https://ww2.arb.ca.gov/arb-petroleum-production-and-marketing-methodologies-petroleum-marketing>

*j) Marine Petroleum Loading*

These categories are used to inventory 1987 hydrocarbon emissions associated with loading crude oil, residual oil, gasoline, and jet fuel into marine tankers and gasoline into barges. Emissions result from the displacement of vapors existing in the tank before loading and those generated as new product is loaded.

The amounts of crude oil, gasoline, jet fuel, and residual oil shipped off from California ports were obtained from a United States Army Corps of Engineers report "Waterborne Commerce of the United States, Calendar Year 1986" Part 4.

The emission factor for crude oil loading into tankers was obtained from the report "Hydrocarbon Emissions During Marine Loading of Crude Oils" from Western Oil and Gas Association (1977). The gasoline emission factors for loading into tankers and barges and jet fuel into tankers were obtained from CARB's "Report to the Legislature on Air Pollutant Emissions from Marine Vessels" (1984). The emission factor for residual oil loading into tankers was obtained from the "Inventory of Emissions from Marine Operations within California Coastal Waters, Preliminary Draft" report by Scott Environmental Technology, Inc. (1980). No growth was assumed for these emissions.

Additional information on this methodology is available at:  
<https://ww2.arb.ca.gov/arb-petroleum-production-and-marketing-methodologies-petroleum-marketing>

#### *k) Marine Petroleum Unloading*

These categories are used to estimate hydrocarbon emissions associated with lightering crude oil and ballasting marine vessels after unloading crude oil or gasoline.

The amounts of crude oil and gasoline unloaded at California ports were obtained from the United States Army Corps of Engineers report "Waterborne Commerce of the United States, Calendar Year 1986" Part 4.

Crude oil lightering data was obtained from the Bay Area AQMD for 1987. Crude oil and gasoline ballasting data for San Luis Obispo for 1987 was obtained from the Army Corps of Engineers. The volume of water used for ballasting following a cargo discharge was obtained from CARB's "Report to the Legislature on Air Pollutant Emissions from Marine Vessels" (1984).

The crude oil lightering emission factor was obtained from "Hydrocarbon Emissions During Marine Loading of Crude Oils," Western Oil and Gas Association (1977).

Ballasting crude oil and gasoline vessels emission factors were obtained from "Inventory of Emissions from Marine Operations within the California Coastal waters," by Scott Environmental Technology, Inc. (1981). No growth is assumed for this category.

Additional information on this methodology is available at:  
<https://ww2.arb.ca.gov/arb-petroleum-production-and-marketing-methodologies-petroleum-marketing>

#### *l) Oil and Gas Production*

The oil and natural gas production inventory is estimated by a 2015 CARB methodology. This category is related to fugitive emissions from production-related fuel consumption, fugitive losses (sumps, pits, pumps, compressors, well heads, separators, valves and fittings), vapor recovery and flares, tank and truck working and breathing losses, wastewater treatment, tertiary production, and wet and dry gas stripping. Emissions were calculated using U.S. EPA's Oil and Natural Gas Tool v1.4 with default emissions factors from ENVIRON Int'l Corp's 2012 report, "2011 Oil and Gas Emission Inventory Enhancement Project for CenSARA States," and activity data taken from California's Division of Oil, Gas, and Geothermal Resources (DOGGR). CARB also incorporated data from the 2007 Oil and Gas Industry Survey (e.g., typical component counts) and

feedback from individual air districts (e.g., minimum controls required to operate in a certain district, with associated control factors) to improve these parameters and further adjust the tool's output. Emissions were grown to 2017 based on DOGGR historical statewide production. Growth in future years is assumed 2.9% annual decline, which reflects the statewide DOGGR trend from 2000 through 2016.

Additional information on this methodology is available at:  
<https://ww2.arb.ca.gov/resources/documents/oil-and-gas-industry-survey>  
<https://ww3.arb.ca.gov/ei/areasrc/oilandgaseifinalreport.pdf>

### C. Area-Wide Sources

Area-wide sources include categories where emissions take place over a wide geographic area, such as consumer products. Emissions from these sources are estimated using various models and methodologies. Estimation methods include source testing, direct measurement by continuous emissions monitoring systems, or engineering calculations. Emissions for these categories are estimated by both CARB and the local districts.

Estimates for the categories below were developed by CARB and have been reviewed by CARB staff to reflect the most up-to-date information:

NOTE: The estimates for some categories were developed several years prior to the current baseline. In those cases, CARB staff grew the original estimates according to growth and control factors. The growth factors CARB relied upon are described below, with the exception of the Bay Area Air Quality Management District (AQMD), and Southern California Association of Governments districts (Antelope Valley AQMD, Mojave Desert AQMD, Ventura County Air Pollution Control District (APCD), Imperial County APCD, and South Coast AQMD), whose growth factors were provided by the districts.

#### a) *Consumer Products and Aerosol Coatings*

The Consumer Product emission estimates utilized sales and formulation data from the CARB's mandatory survey of all consumer products sold in California for calendar years 2013 through 2015. The aerosol coatings estimates utilized sales and formulation data from a survey conducted by CARB in 2010. Based on the survey data, CARB staff determined the total product sales and total VOC emissions for the various product categories. Growth for personal care products are based on real disposable personal income projections per REMI version 2.3. No growth is assumed for aerosol coatings. Growth for all other personal care products are based on DOF population projections, 2020.

Additional information on CARB's consumer products surveys is available at:  
<https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-commercial-product-surveys>

*b) Architectural Coatings*

The architectural coatings category reflects emission estimates based on a comprehensive CARB survey for the 2004 calendar year. The emission estimates include benefits of the 2007 CARB Suggested Control Measures. These emissions are grown based on DOF population forecasts, 2020.

Additional information about CARB's architectural coatings program is available at:

<https://ww2.arb.ca.gov/solvent-evaporation-methodologies>

*c) Pesticides*

The California Department of Pesticide Regulation (DPR) develops month-specific emission estimates for agricultural and structural pesticides. Each calendar year, DPR updates the inventory based on the Pesticides Use Report, which provides updated information from 1990 through the 2017 calendar year.

Additional information about CARB's pesticides program is available at:

<https://ww2.arb.ca.gov/solvent-evaporation-methodologies>

*d) Residential Wood Combustion*

Residential Wood Combustion estimates are based off a 2011 CARB methodology. It reflects recent survey data on types of wood burning devices and wood consumption rates, updates to the 2002 U.S. EPA National Emission Inventory (NEI) emission factors, and improved calculation approaches. The update reflects wood combustion surveys conducted by several districts including Bay Area AQMD in 2007, South Coast AQMD in 2003 and 2006, Placer County APCD in 2007, San Joaquin Valley APCD in 2014, and Sacramento Metropolitan AQMD in 2007.

CARB assumes no growth for this category based on the relatively stagnant residential wood fuel use over the past decade (according to the American Community Survey and US Energy Information Administration).

Additional information on this methodology is available at:

<https://ww2.arb.ca.gov/miscellaneous-process-methodologies>

*e) Residential Natural Gas Combustion*

CARB staff updated the methodology to reflect 2017 fuel use from the California Energy Consumption Database. The emissions estimates reflect the most recent emissions factors from U.S. EPA's AP-42 for residential natural gas combustion. Growth is based on California Energy Commission (CEC)

projections (California Energy Consumption Database) for natural gas consumption, 2014.

Additional information on this methodology is available at:  
<https://ww2.arb.ca.gov/miscellaneous-process-methodologies>

*f) Residential Distillate Oil and Liquefied Petroleum Gas*

The residential distillate oil/liquefied petroleum gas (LPG) category includes emissions occurring in the residential sector. Distillate oil for heating is generally used in older homes and remote areas where natural gas lines are not available.

Activity is based on the number of housing units, population, and LPG and distillate oil capacities. The 1991 Fuels Report Working Paper published by the CEC was used to determine energy demand by fuel type in terms of the number of houses heated by a specific fuel in a particular area. Heating degree days (HDD) are used to estimate how many heating days are likely to occur in a particular area.

This category uses emission factors from U.S. EPA's AP-42. The emissions were initially calculated in 1993 then grown to 2012 using housing unit data from the DOF, 2013. Emissions were grown from 2012 to 2017 using a 'no growth' profile developed by Pechan (2012).

Additional information on this methodology is available at:  
<https://ww2.arb.ca.gov/miscellaneous-process-methodologies>

*g) Farming Operations*

CARB staff updated the non-cattle Livestock Husbandry methodology to reflect livestock population data based on the USDA's 2017 Census of Agriculture. Cattle emissions are primarily based on the 2012 Census of Agriculture. A seasonal adjustment was added to account for the suppression of dust emissions in months in which rainfall occurs. Growth profiles are based on CARB's projections of Census of Agriculture's historical livestock population trends, 2012. No growth is assumed for dairy and feedlots.

Additional information on CARB's methodology is available at:  
<https://ww2.arb.ca.gov/miscellaneous-process-methodologies>

*h) Fires*

Emissions from structural and automobile fires were estimated based on a 1999 CARB methodology using the number of fires and the associated emission factors. Estimates for structural fires are calculated using the amount of the structure that is burned, the amount and content of the material burned, and emission factors derived from test data. Estimates for automobile fires are calculated using the weight of the car and components and composite emission

factors derived from AP-42 emission factors. Growth is based on DOF population forecasts, 2020.

Additional information on this methodology is available at:  
<https://ww2.arb.ca.gov/miscellaneous-process-methodologies>

*i) Managed Burning & Disposal*

CARB updated the emissions inventory to reflect burn data reported by air district staff for 2017. Emissions are calculated using crop specific emission factors and fuel loadings. Temporal profiles reflect monthly burn activity. Growth for agricultural burning is based on CARB projections of FMMP farmland acres, 2016. No growth is assumed for burning associated with weed abatement.

Additional information on managed burning is available at:  
<https://ww2.arb.ca.gov/miscellaneous-process-methodologies>

*j) Commercial Cooking*

Commercial Cooking emission estimates are based on methodologies developed by the local air districts. The 2017 baseline inventory includes an update for the San Joaquin Valley based on 2008 activity data that includes the number of restaurants, the number and type of cooking equipment, the food type, and emission factors from US EPA's 2002 NEI. Emissions for this category were grown based on population projections provided by the DOF, 2020.

Additional information on this survey is available at:  
<https://ww2.arb.ca.gov/miscellaneous-process-methodologies>

### III. VMT Offset Demonstration

#### Introduction

Within two years of nonattainment designations for an ozone standard, the Act requires states to submit enforceable transportation control strategies (TCSs) and transportation control measures (TCMs) to offset any growth in emissions from growth in VMT or numbers of vehicle trips for areas designated as Severe or Extreme. CARB prepared vehicle-miles traveled (VMT) emissions-offset demonstrations for three of the four nonattainment areas for the 70 ppb 8-hour ozone standard as required by Section 182(d)(1)(A) of the Act. CARB prepared this demonstration for the South Coast Air Basin, San Joaquin Valley, and Coachella Valley. CARB staff is still conducting the analysis for the Western Mojave Desert. The following demonstration was developed in accordance with the U.S. Environmental Protection Agency's (U.S. EPA) August 2012 guidance entitled *Implementing Clean Air Act Section 182(d)(1)(A):*

*Transportation Control Measures and Transportation Control Strategies to Offset Growth in Emissions Due to Growth in Vehicle Miles Traveled.*<sup>7</sup>

#### U.S. EPA Guidance on VMT Offset Requirement

In their 2012 guidance, U.S. EPA indicated that technology improvements such as vehicle technology improvements, motor vehicle fuels, and other control strategies that are transportation related could be used to offset emissions increases from VMT. The guidance also set forth a methodology for demonstrating achievement of the VMT offset requirement. The projected attainment year emissions, assuming no new control measures and no VMT growth, are to be compared with projected actual attainment year emissions that include new control measures and VMT growth. If the latter number is smaller than the former, then no additional TCMs or TCSs are required. The guidance recommends that the base year used in the VMT offset demonstration be the base year used in the attainment demonstration for the standard.

#### Transportation Control Strategies and Transportation Control Measures

By listing them separately, Act §182(d)(1)(A) differentiates between TCSs and TCMs, both of which can be used as options to offset increased emissions from growth in VMT per the provisions of Act §182(d)(1)(A) and U.S. EPA's 2012 guidance. Since 1990, when this requirement was established, California has adopted a substantial number of enforceable TCSs—more than enough to meet the requirement to offset increased emissions from VMT growth. Attachment B-1 provides a list of the State's mobile source TCSs CARB has adopted since 1990.

Under federal law, the Southern California Association of Governments (SCAG) is

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<sup>7</sup> U.S. Environmental Protection Agency [EPA]: Office of Transportation and Air Quality. (2012, August). *Implementing Clean Air Act Section 182(d)(1)(A): Transportation Control Measures and Transportation Control Strategies to Offset Growth in Emissions Due to Growth in Vehicle Miles Traveled* (EPA-420-B-12-053). Retrieved from <http://www.epa.gov/otaq/stateresources/policy/general/420b12053.pdf>

designated as a MPO, and under State law as a Regional Transportation Planning Agency and a Council of Governments. The SCAG region encompasses several ozone nonattainment areas including, the South Coast Air Basin, the Coachella Valley and the Western Mojave Desert. In 2018, SCAG adopted their 2019 Federal Transportation Improvement Program (FTIP), which included documentation to implement TCMs that provide emissions reductions in the South Coast Air Basin. However, the FTIP does not include specific TCMs for the Coachella Valley and Western Mojave Desert because upwind emissions from the South Coast Air Basin (SCAB) and Ventura County largely influence air quality in both the Coachella Valley and Western Mojave Desert. TCMs have been implemented by the SCAG in those upwind areas. The list of SCAG TCMs is provided in Attachment B-2.

The San Joaquin Valley Air Basin consists of eight MPOs which are responsible for the development of the FTIP in the San Joaquin Valley region. The list of TCMs from MPOs in the Valley is provided in Attachment B-2.

## Methodology

The following calculations are based on U.S. EPA's 2012 guidance. For the 70-ppb 8-hour ozone standard, 2017 is the base year and the attainment year for severe and extreme areas are 2032 and 2037, respectively. This analysis uses California's motor vehicle emissions model, Emission FACtor (EMFAC)<sup>8</sup>. On August 15, 2019, U.S. EPA approved EMFAC2017 for use in SIPs and to demonstrate transportation conformity<sup>9</sup>. The EMFAC model estimates the emissions from two combustion processes: running exhaust and start exhaust, and four evaporative processes: hot soak, running losses, diurnal, and resting losses. Emissions from running exhaust, start exhaust, hot soak, and running losses are a function of how much a vehicle is driven. Emissions from these processes are directly related to VMT, trips, and starts. These processes are included in the calculation of the emissions levels used in the VMT offset demonstration. Emissions from resting loss and diurnal loss processes are not related to VMT, trips or vehicle starts and are not included in the analysis because these emissions occur whether or not the vehicle makes a trip (i.e., a start). In addition, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program impacts some of the underlying assumptions in the EMFAC2017 model. Hence, the emissions output from the EMFAC2017 model were adjusted to account for the impacts of this rule<sup>10</sup>.

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<sup>8</sup> More information on data sources can be found in the EMFAC technical support documentation at: <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-road-documentation>

<sup>9</sup> 84 FR 41717 <https://www.federalregister.gov/d/2019-17476>

<sup>10</sup> EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One, [https://ww3.arb.ca.gov/msei/emfac\\_off\\_model\\_adjustment\\_factors\\_final\\_draft.pdf](https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf)

To calculate on-road emission inventories in the South Coast Air Basin and the Coachella Valley ozone nonattainment areas, EMFAC combines VMT and speed distributions from SCAG's 2019 FTIP. For the Valley, the VMT and speed distributions are from the 2019 FTIPs adopted by the eight valley MPOs. The number of starts per day are based on household travel surveys, and vehicle population data from the California Department of Motor Vehicles with corresponding emission rates to calculate emissions.

#### A. Analysis for the South Coast Air Basin

##### **Step 1. Provide the emissions levels for the 2017 base year.**

Table 1 shows the South Coast VOC emissions for calendar year 2017 from the EMFAC2017 model.

**Table 1: South Coast Air Basin Base Year (2017) VMT and Emissions**

Description	VMT (miles/day)	VOC (tons/day)
2017 Vehicle-Miles Traveled and On-Road Emissions	395,571,262	75

##### **Step 2. Calculate three emissions levels in the 2037 attainment year.**

- (1) Calculate emissions levels with the motor vehicle control program frozen at 2017 levels and with projected VMT in the attainment year. This represents what the emissions in the attainment year would have been if TCSs and TCMs had not been implemented after 2017.
- (2) Calculate emissions levels with the motor vehicle control program frozen at 2017 levels and assuming VMT do not increase from 2017 levels.
- (3) Calculate an emissions level that represents emissions with full implementation of all TCSs and TCMs since 2017.

##### **Calculation 1. Calculate the emissions in the attainment year assuming no new measures since the base year with growth in VMT.**

To perform this calculation, CARB staff identified the on-road motor vehicle control programs adopted since 2017 and adjusted the EMFAC2017 output to reflect the VOC emissions levels in 2037 without the benefits of the post-2017 control programs. The projected VOC emissions are 40 tons per day.

##### **Calculation 2. Calculate the emissions with no growth in VMT.**

EMFAC2017 allows the user to input different VMT values. CARB ran EMFAC2017 for calendar year 2037 with the 2017 VMT level of 395,571,262 miles per day. The VOC emissions associated with the 2017 VMT level are 36 tons per day.

##### **Calculation 3. Calculate emissions reductions with full implementation of TCSs and TCMs.**

CARB calculated the VOC emission levels for 2037 assuming the benefits of the post-2017 motor vehicle control program and the projected VMT levels in 2037 are calculated using EMFAC2017. The projected VOC emissions levels are 29 tons per day.

VOC emissions for the three sets of calculations described above are provided in

Table 2.

**Table 2: South Coast Air Basin VOC Emissions Calculations for Attainment Year (2037)**

Calculation Number	Description	VMT (miles/day)	VOC (tons/day)
1	Emissions with motor vehicle control program frozen at 2017 levels (VMT at 2037 projected levels)	407,368,164	40
2	Emissions with motor vehicle control program frozen at 2017 levels (VMT at 2017 levels)	395,571,262	36
3	Emissions with full motor vehicle control program in place (VMT at 2037 projected levels)	407,368,164	29

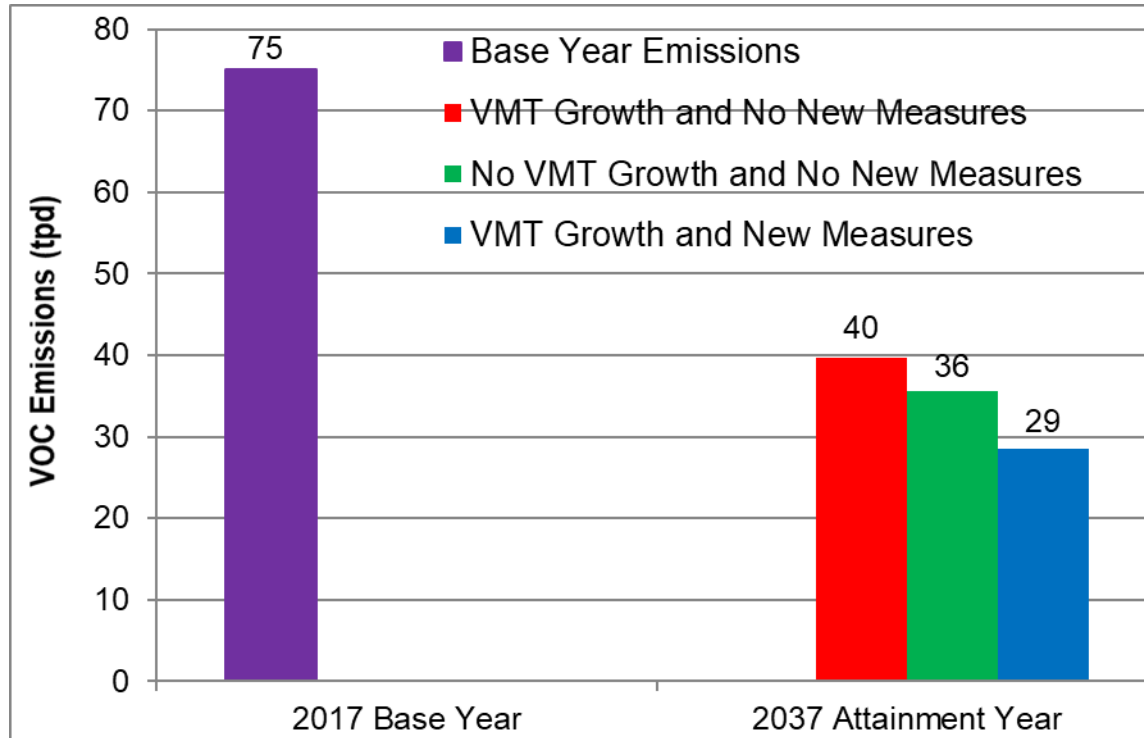
As provided in the 2012 U.S. EPA guidance, to determine compliance with Act section 182(d)(1)(A), Calculation 3 emissions levels should be less than the Calculation 2 emissions levels:

VOC:  $29 < 36$  tons per day

### Summary

The previous sections provide an analysis to demonstrate compliance with Act section 182(d)(1)(A). To further illustrate the demonstration, Figure 2 graphically displays the emissions benefits of the motor vehicle control programs in offsetting VOC emissions resulting from VMT increases in the South Coast for the 2015 70 ppb 8-hour ozone standard. The left-most bar (in purple) shows the emissions in the base year, 2017 for the 70 ppb 8-hour ozone standard. The set of three bars on the right show the emission levels in the attainment year, 2037. The bars on the right represent the emissions if no further motor vehicle controls after the base year and with projected VMT increases (red bar), the emissions if VMT does not increase from base-year levels and there are no TCSs or TCMs after the base year (green bar), and the emission levels with all the existing motor vehicle control programs in place with projected VMT increases (blue bar). Based on the 2012 U.S. EPA guidance, if the blue bar is lower than the green bar, then the identified TCSs and TCMs are sufficient to offset the growth in emissions. Figure 2 shows that the South Coast meets the VMT offset requirements.

Figure 2: South Coast Air Basin VMT Offset Demonstration\*



\* Does not include resting or diurnal loss emissions

## B. Analysis for the Coachella Valley

### **Step 1. Provide the emissions levels for the 2017 base year.**

Table 3 shows the Coachella Valley VOC emissions for calendar year 2017 from the EMFAC2017 model.

**Table 3: Coachella Valley Base Year (2017) VMT and Emissions**

Description	VMT (miles/day)	VOC (tons/day)
2017 Vehicle-Miles Traveled and On-Road Emissions	13,478,778	3.1

### **Step 2. Calculate three emissions levels in the 2037 attainment year.**

- (1) Calculate emissions levels with the motor vehicle control program frozen at 2017 levels and with projected VMT in the attainment year. This represents what the emissions in the attainment year would have been if TCSs and TCMs had not been implemented after 2017.
- (2) Calculate emissions levels with the motor vehicle control program frozen at 2017 levels and assuming VMT do not increase from 2017 levels.
- (3) Calculate an emissions level that represents emissions with full implementation of all TCSs and TCMs since 2017.

#### **Calculation 1. Calculate the emissions in the attainment year assuming no new measures since the base year with growth in VMT.**

To perform this calculation, CARB staff identified the on-road motor vehicle control programs adopted since 2017 and adjusted the EMFAC2017 output to reflect the VOC emissions levels in 2032 without the benefits of the post-2017 control programs. The projected VOC emissions are 2.0 tons per day.

#### **Calculation 2. Calculate the emissions with no growth in VMT.**

EMFAC2017 allows the user to input different VMT values. CARB ran EMFAC2017 for calendar year 2032 with the 2017 VMT level of 13,478,778 miles per day. The VOC emissions associated with the 2017 VMT level are 1.6 tons per day.

#### **Calculation 3. Calculate emissions reductions with full implementation of TCSs and TCMs.**

CARB calculated the VOC emission levels for 2032 assuming the benefits of the post-2017 motor vehicle control program and the projected VMT levels in 2032 are calculated using EMFAC2017. The projected VOC emissions levels are 1.6 tons per day.

VOC emissions for the three sets of calculations described above are provided in Table 4.

**Table 4: Coachella Valley VOC Emissions Calculations for Attainment Year (2032)**

Calculation Number	Description	VMT (miles/day)	VOC (tons/day)
1	Emissions with motor vehicle control program frozen at 2017 levels (VMT at 2032 projected levels)	16,283,811	2.0
2	Emissions with motor vehicle control program frozen at 2017 levels (VMT at 2017 levels)	13,478,778	1.6
3	Emissions with full motor vehicle control program in place (VMT at 2032 projected levels)	16,283,811	1.6

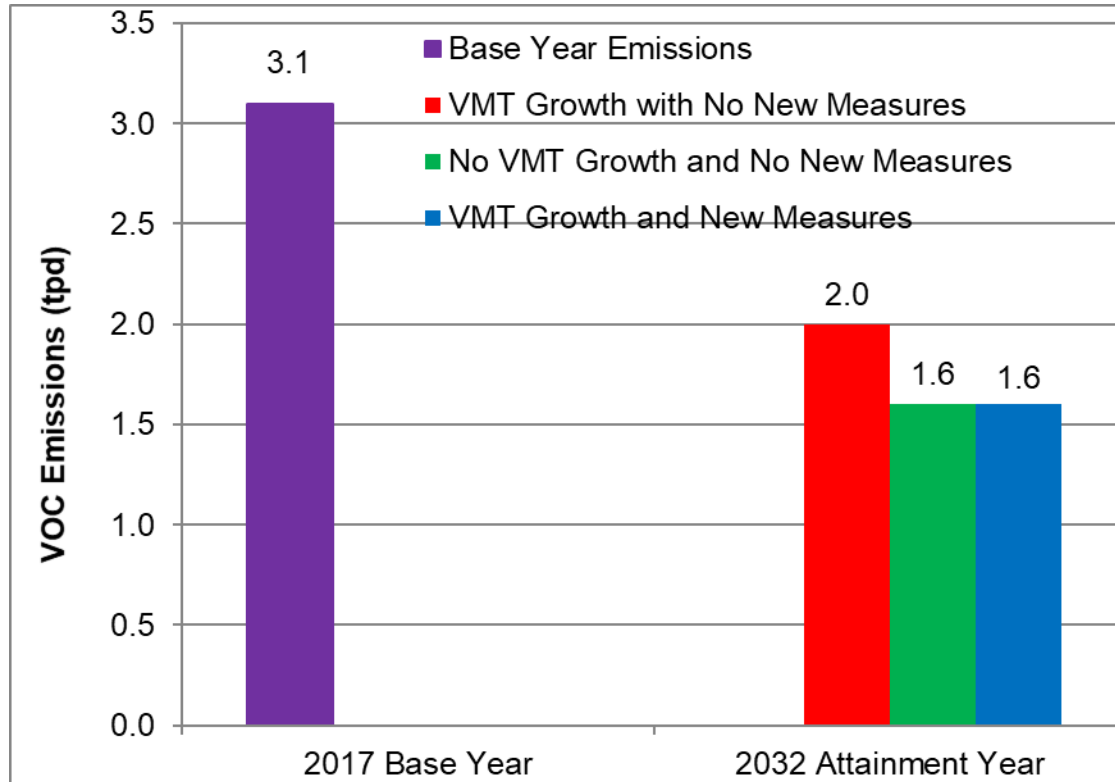
As provided in the 2012 U.S. EPA guidance, to determine compliance with Act section 182(d)(1)(A), Calculation 3 emissions levels should be less than or equal to the Calculation 2 emissions levels:

VOC:  $1.6 \leq 1.6$  tons per day

### **Summary**

The previous sections provide an analysis to demonstrate compliance with Act section 182(d)(1)(A). To further illustrate the demonstration, Figure 3 graphically displays the emissions benefits of the motor vehicle control programs in offsetting VOC emissions resulting from VMT increases in the Coachella Valley for the 2015 70 ppb 8-hour ozone standard. The left-most bar (in purple) shows the emissions in the base year, 2017 for the 70 ppb 8-hour ozone standard. The set of three bars on the right show the emission levels in the attainment year, 2032. The bars on the right represent the emissions if no further motor vehicle controls after the base year and with projected VMT increases (red bar), the emissions if VMT does not increase from base-year levels and there are no TCSs or TCMs after the base year (green bar), and the emission levels with all the existing motor vehicle control programs in place with projected VMT increases (blue bar). Based on the 2012 U.S. EPA guidance, if the blue bar is lower than the green bar, then the identified TCSs and TCMs are sufficient to offset the growth in emissions. Figure 3 shows that Coachella Valley meets the VMT offset requirements.

Figure 3: Coachella Valley VMT Offset Demonstration\*



\* Does not include resting or diurnal loss emissions

### C. Analysis for the San Joaquin Valley

#### **Step 1. Provide the emissions levels for the 2017 base year.**

Table 7 shows VOC emissions in the Valley for calendar year 2017 from the EMFAC2017 model.

**Table 7: San Joaquin Valley Base Year (2017) VMT and Emissions**

Description	VMT (miles/day)	VOC (tons/day)
2017 Vehicle-Miles Traveled and On-Road Emissions	18,398,826	4.6

#### **Step 2. Calculate three emissions levels in the 2037 attainment year.**

- (1) Calculate emissions levels with the motor vehicle control program frozen at 2017 levels and with projected VMT in the attainment year. This represents what the emissions in the attainment year would have been if TCSs and TCMs had not been implemented after 2017.
- (2) Calculate emissions levels with the motor vehicle control program frozen at 2017 levels and assuming VMT do not increase from 2017 levels.
- (3) Calculate an emissions level that represents emissions with full implementation of all TCSs and TCMs since 2017.

#### **Calculation 1. Calculate the emissions in the attainment year assuming no new measures since the base year with growth in VMT.**

To perform this calculation, CARB staff identified the on-road motor vehicle control programs adopted since 2017 and adjusted the EMFAC2017 output to reflect the VOC emissions levels in 2037 without the benefits of the post-2017 control programs. The projected VOC emissions are 2.4 tons per day.

#### **Calculation 2. Calculate the emissions with no growth in VMT.**

EMFAC2017 allows the user to input different VMT values. CARB ran EMFAC2017 for calendar year 2037 with the 2017 VMT level of 18,398,826 miles per day. The VOC emissions associated with the 2017 VMT level are 1.8 tpd.

#### **Calculation 3. Calculate emissions reductions with full implementation of TCSs and TCMs.**

CARB calculated the VOC emission levels for 2037 assuming the benefits of the post-2017 motor vehicle control program and the projected VMT levels in 2037 are calculated using EMFAC2017. The projected VOC emissions levels are 1.7 tpd. VOC emissions for the three sets of calculations described above are provided in Table 8.

**Table 8: San Joaquin Valley VOC Emissions Calculations for Attainment Year (2032)**

Calculation Number	Description	VMT (miles/day)	VOC (tons/day)
1	Emissions with motor vehicle control program frozen at 2017 levels (VMT at 2037 projected levels)	22,191,495	2.4
2	Emissions with motor vehicle control program frozen at 2017 levels (VMT at 2017 levels)	18,398,826	1.8
3	Emissions with full motor vehicle control program in place (VMT at 2037 projected levels)	22,191,495	1.7

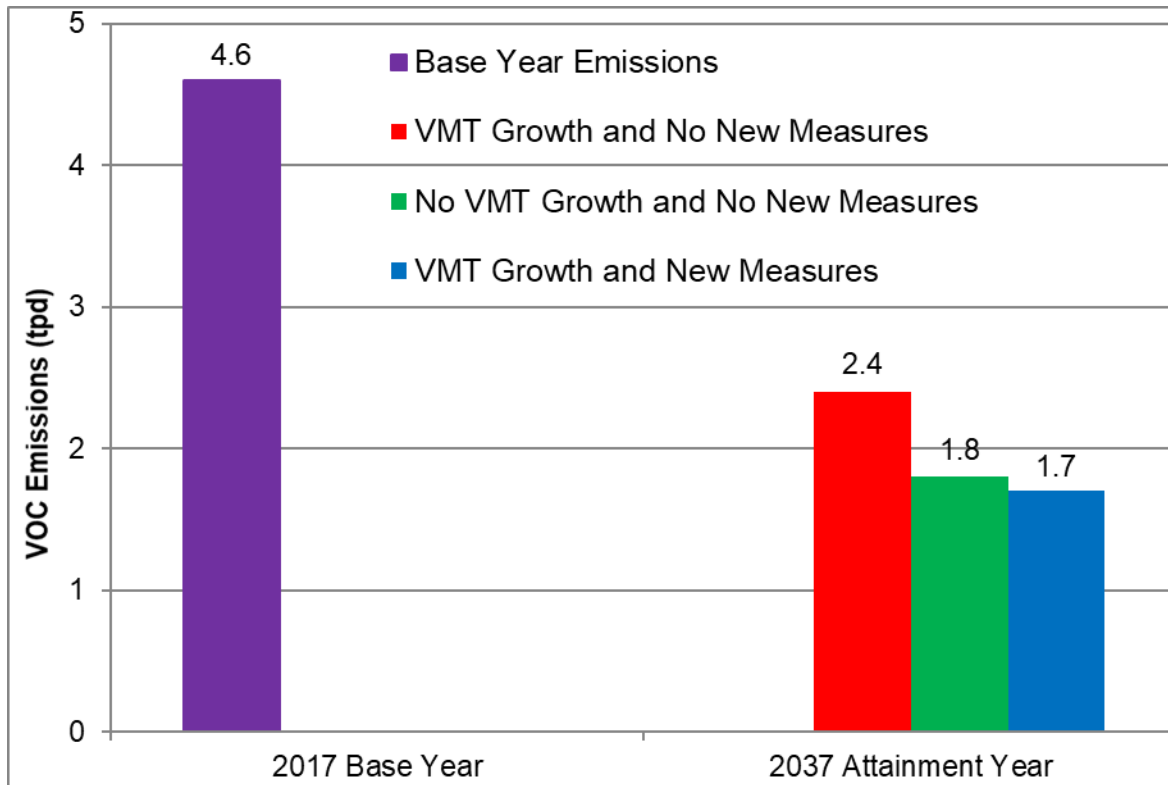
As provided in the 2012 U.S. EPA guidance, to determine compliance with CAA §182(d)(1)(A), Calculation 3 emissions levels should be less than the Calculation 2 emissions levels:

VOC:  $1.7 < 1.8$  tons per day

### Summary

The previous sections provide an analysis to demonstrate compliance with Act §182(d)(1)(A). To further illustrate the demonstration, Figure 5 graphically displays the emissions benefits of the motor vehicle control programs in offsetting VOC emissions resulting from VMT increases in the Valley for the 2015 70 ppb 8-hour ozone standard. The left-most bar (in purple) shows the emissions in the base year, 2017 for the 70 ppb 8-hour ozone standard. The set of three bars on the right show the emission levels in the attainment year, 2037. The bars on the right represent the emissions if no further motor vehicle controls after the base year and with projected VMT increases (red bar), the emissions if VMT does not increase from base-year levels and there are no TCSs or TCMs after the base year (green bar), and the emission levels with all the existing motor vehicle control programs in place with projected VMT increases (blue bar). Based on the 2012 U.S. EPA guidance, if the blue bar is lower than the green bar, then the identified TCSs and TCMs are sufficient to offset the growth in emissions. Figure 5 shows that the Valley meets the VMT offset requirements.

Figure 5 San Joaquin Valley VMT Offset Demonstration\*



\* Does not include resting or diurnal loss emissions

#### **IV. Staff Recommendations**

CARB staff recommends that the Board:

1. Approves the 70 ppb Ozone SIP Submittal, which details the baseline inventory as well as the VMT offset demonstration; and
2. Directs the Executive Officer to submit the 70 ppb Ozone SIP Submittal to U.S. EPA for inclusion in the California SIP, to be effective, for purposes of federal law, upon approval by U.S. EPA.

## **Attachments**

A. 2017 Baseline Inventory Tables

B. State of California  
Motor Vehicle Control Program  
(1990-Present)

## Attachment A: 2017 Baseline Inventory Tables

The following tables summarize the 2017 baseline inventory (ROG and NOx) for each nonattainment area. The Sutter Buttes and Tuscan Buttes non-attainment areas contain no anthropogenic sources and, therefore, no emissions. The emissions are based on California Emissions Projection Analysis Model (CEPAM) 2019 version 1.01. Emissions beyond three nautical miles are not included.

TABLE A-1: Amador County, CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.00	0.00
COGENERATION	0.00	0.02
MANUFACTURING AND INDUSTRIAL	0.02	1.72
FOOD AND AGRICULTURAL PROCESSING	0.00	0.01
SERVICE AND COMMERCIAL	0.00	0.10
OTHER (FUEL COMBUSTION)	0.00	0.00
<b>TOTAL FUEL COMBUSTION</b>	0.02	1.86
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.00	0.00
LANDFILLS	0.00	0.00
INCINERATORS	0.00	0.00
OTHER (WASTE DISPOSAL)	0.01	0.00
<b>TOTAL WASTE DISPOSAL</b>	0.01	0.00
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.00	0.00
DEGREASING	0.12	0.00
COATINGS AND RELATED PROCESS SOLVENTS	0.04	0.00
PRINTING	0.00	0.00
ADHESIVES AND SEALANTS	0.03	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	0.19	0.00
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
PETROLEUM MARKETING	0.06	0.00
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.00	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	0.06	0.00
<b><u>INDUSTRIAL PROCESSES</u></b>		
CHEMICAL	0.00	0.00
FOOD AND AGRICULTURE	0.03	0.00
MINERAL PROCESSES	0.02	0.23
WOOD AND PAPER	0.55	0.13
OTHER (INDUSTRIAL PROCESSES)	0.00	0.00
<b>TOTAL INDUSTRIAL PROCESSES</b>	0.61	0.35
<b>TOTAL STATIONARY</b>	0.88	2.21
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	0.24	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.15	0.00
PESTICIDES/FERTILIZERS	0.01	0.00
ASPHALT PAVING / ROOFING	0.51	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	0.90	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	0.08	0.03
FARMING OPERATIONS	0.25	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.00	0.00
MANAGED BURNING AND DISPOSAL	0.32	0.02
COOKING	0.00	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	0.65	0.05
<b>TOTAL AREAWIDE</b>	1.55	0.05
<b><u>ON-ROAD MOTOR VEHICLES</u></b>		
LIGHT DUTY PASSENGER (LDA)	0.13	0.08
LIGHT DUTY TRUCKS - 1 (LDT1)	0.09	0.05
LIGHT DUTY TRUCKS - 2 (LDT2)	0.11	0.09
MEDIUM DUTY TRUCKS (MDV)	0.12	0.08
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.07	0.03
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.00	0.00
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.00	0.00
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.00	0.00
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.02	0.31
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.00	0.05
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.01	0.16
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.01	0.15
MOTORCYCLES (MCY)	0.06	0.01
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.00	0.00
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.00	0.00
SCHOOL BUSES - DIESEL (SBD)	0.00	0.01
OTHER BUSES - GAS (OBG)	0.00	0.00
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.00
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.01
MOTOR HOMES (MH)	0.00	0.01
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	0.64	1.05
<b><u>OTHER MOBILE SOURCES</u></b>		
AIRCRAFT	0.00	0.00
RECREATIONAL BOATS	0.44	0.10
OFF-ROAD RECREATIONAL VEHICLES	0.12	0.00
OFF-ROAD EQUIPMENT	0.10	0.17
FARM EQUIPMENT	0.04	0.18
FUEL STORAGE AND HANDLING	0.02	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	0.72	0.44
<b>TOTAL MOBILE SOURCES</b>	1.36	1.50
<b>GRAND TOTAL</b>	3.79	3.76

TABLE A-2: Butte County, CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.00	0.00
COGENERATION	0.00	0.00
OIL AND GAS PRODUCTION (COMBUSTION)	0.00	0.00
MANUFACTURING AND INDUSTRIAL	0.01	0.28
FOOD AND AGRICULTURAL PROCESSING	0.04	0.49
SERVICE AND COMMERCIAL	0.02	0.23
OTHER (FUEL COMBUSTION)	0.00	0.05
<b>TOTAL FUEL COMBUSTION</b>	0.07	1.05
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.01	0.00
LANDFILLS	0.00	0.00
INCINERATORS	0.00	0.00
SOIL REMEDIATION	0.00	0.00
OTHER (WASTE DISPOSAL)	0.42	0.00
<b>TOTAL WASTE DISPOSAL</b>	0.43	0.01
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.01	0.00
DEGREASING	0.49	0.00
COATINGS AND RELATED PROCESS SOLVENTS	0.33	0.00
PRINTING	0.02	0.00
ADHESIVES AND SEALANTS	0.11	0.00
OTHER (CLEANING AND SURFACE COATINGS)	0.00	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	0.96	0.00
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
OIL AND GAS PRODUCTION	0.09	0.01
PETROLEUM MARKETING	0.35	0.00
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.12	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	0.57	0.01
<b><u>INDUSTRIAL PROCESSES</u></b>		
CHEMICAL	0.01	0.00
FOOD AND AGRICULTURE	0.00	0.03
MINERAL PROCESSES	0.02	0.02
METAL PROCESSES	0.00	0.00
WOOD AND PAPER	0.02	0.00
OTHER (INDUSTRIAL PROCESSES)	0.01	0.00
<b>TOTAL INDUSTRIAL PROCESSES</b>	0.05	0.04
<b>TOTAL STATIONARY</b>	2.07	1.11
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	1.45	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.83	0.00
PESTICIDES/FERTILIZERS	1.18	0.00
ASPHALT PAVING / ROOFING	0.29	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	3.74	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	0.40	0.26
FARMING OPERATIONS	0.31	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
FIRES	0.01	0.00
MANAGED BURNING AND DISPOSAL	0.61	0.42
COOKING	0.02	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	1.35	0.68
<b>TOTAL AREAWIDE</b>	5.09	0.68
<b>ON-ROAD MOTOR VEHICLES</b>		
LIGHT DUTY PASSENGER (LDA)	0.63	0.38
LIGHT DUTY TRUCKS - 1 (LDT1)	0.20	0.10
LIGHT DUTY TRUCKS - 2 (LDT2)	0.57	0.45
MEDIUM DUTY TRUCKS (MDV)	0.43	0.33
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.17	0.10
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.01	0.01
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.02	0.02
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.00	0.00
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.05	0.99
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.01	0.15
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.05	0.54
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.09	1.70
MOTORCYCLES (MCY)	0.27	0.05
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.00	0.01
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.00	0.00
SCHOOL BUSES - DIESEL (SBD)	0.00	0.08
OTHER BUSES - GAS (OBG)	0.00	0.01
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.01
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.01
MOTOR HOMES (MH)	0.00	0.03
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	2.52	4.94
<b>OTHER MOBILE SOURCES</b>		
AIRCRAFT	0.18	0.16
TRAINS	0.03	0.84
RECREATIONAL BOATS	0.61	0.13
OFF-ROAD RECREATIONAL VEHICLES	0.15	0.01
OFF-ROAD EQUIPMENT	0.82	1.23
FARM EQUIPMENT	0.60	3.55
FUEL STORAGE AND HANDLING	0.13	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	2.52	5.92
<b>TOTAL MOBILE SOURCES</b>	5.04	10.86
<b>GRAND TOTAL</b>	12.19	12.65

TABLE A-3: Calaveras County, CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
MANUFACTURING AND INDUSTRIAL	0.00	0.03
FOOD AND AGRICULTURAL PROCESSING	0.00	0.00
SERVICE AND COMMERCIAL	0.00	0.00
OTHER (FUEL COMBUSTION)	0.00	0.00
<b>TOTAL FUEL COMBUSTION</b>	0.00	0.04
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.00	0.00
LANDFILLS	0.00	0.00
<b>TOTAL WASTE DISPOSAL</b>	0.00	0.00
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
DEGREASING	0.03	0.00
COATINGS AND RELATED PROCESS SOLVENTS	0.03	0.00
ADHESIVES AND SEALANTS	0.06	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	0.12	0.00
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
PETROLEUM MARKETING	0.07	0.00
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.00	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	0.07	0.00
<b><u>INDUSTRIAL PROCESSES</u></b>		
FOOD AND AGRICULTURE	0.01	0.00
MINERAL PROCESSES	0.00	0.00
OTHER (INDUSTRIAL PROCESSES)	0.00	0.00
<b>TOTAL INDUSTRIAL PROCESSES</b>	0.01	0.00
<b>TOTAL STATIONARY</b>	0.19	0.04
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	0.29	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.18	0.00
PESTICIDES/FERTILIZERS	0.01	0.00
ASPHALT PAVING / ROOFING	0.70	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	1.18	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	0.12	0.02
FARMING OPERATIONS	0.43	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.00	0.00
MANAGED BURNING AND DISPOSAL	0.32	0.07
COOKING	0.00	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	0.87	0.10
<b>TOTAL AREAWIDE</b>	2.05	0.10
<b><u>ON-ROAD MOTOR VEHICLES</u></b>		
LIGHT DUTY PASSENGER (LDA)	0.17	0.10
LIGHT DUTY TRUCKS - 1 (LDT1)	0.12	0.07
LIGHT DUTY TRUCKS - 2 (LDT2)	0.15	0.12
MEDIUM DUTY TRUCKS (MDV)	0.15	0.10
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.10	0.05

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.01	0.00
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.01	0.01
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.00	0.00
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.02	0.44
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.01	0.08
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.01	0.15
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.02	0.23
MOTORCYCLES (MCY)	0.08	0.01
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.00	0.00
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.00	0.00
SCHOOL BUSES - DIESEL (SBD)	0.00	0.03
OTHER BUSES - GAS (OBG)	0.00	0.00
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.00
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.00
MOTOR HOMES (MH)	0.00	0.01
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	0.84	1.40
<b>OTHER MOBILE SOURCES</b>		
AIRCRAFT	0.00	0.00
RECREATIONAL BOATS	1.38	0.31
OFF-ROAD RECREATIONAL VEHICLES	0.03	0.00
OFF-ROAD EQUIPMENT	0.19	0.25
FARM EQUIPMENT	0.03	0.10
FUEL STORAGE AND HANDLING	0.03	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	1.66	0.67
<b>TOTAL MOBILE SOURCES</b>	2.50	2.07
<b>GRAND TOTAL</b>	4.74	2.21

TABLE A-4: Imperial County, CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.02	0.26
COGENERATION	0.00	0.03
MANUFACTURING AND INDUSTRIAL	0.02	0.57
FOOD AND AGRICULTURAL PROCESSING	0.02	0.13
SERVICE AND COMMERCIAL	0.01	0.32
OTHER (FUEL COMBUSTION)	0.01	0.00
<b>TOTAL FUEL COMBUSTION</b>	0.08	1.32
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.00	0.00
LANDFILLS	0.00	0.00
OTHER (WASTE DISPOSAL)	0.00	0.00
<b>TOTAL WASTE DISPOSAL</b>	0.00	0.00
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.01	0.00
DEGREASING	0.31	0.00
COATINGS AND RELATED PROCESS SOLVENTS	0.22	0.00
ADHESIVES AND SEALANTS	0.09	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	0.63	0.00
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
PETROLEUM REFINING	0.00	0.00
PETROLEUM MARKETING	0.61	0.00
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.01	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	0.62	0.00
<b><u>INDUSTRIAL PROCESSES</u></b>		
FOOD AND AGRICULTURE	0.00	0.00
MINERAL PROCESSES	0.00	0.07
METAL PROCESSES	0.00	0.00
ELECTRONICS	0.00	0.00
OTHER (INDUSTRIAL PROCESSES)	0.00	0.00
<b>TOTAL INDUSTRIAL PROCESSES</b>	0.00	0.07
<b>TOTAL STATIONARY</b>	1.33	1.38
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	1.20	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.55	0.00
PESTICIDES/FERTILIZERS	2.21	0.00
ASPHALT PAVING / ROOFING	0.17	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	4.13	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	0.01	0.08
FARMING OPERATIONS	2.43	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.00	0.00
MANAGED BURNING AND DISPOSAL	0.30	0.13
COOKING	0.01	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	2.75	0.21
<b>TOTAL AREAWIDE</b>	6.88	0.21

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b>ON-ROAD MOTOR VEHICLES</b>		
LIGHT DUTY PASSENGER (LDA)	0.78	0.42
LIGHT DUTY TRUCKS - 1 (LDT1)	0.31	0.16
LIGHT DUTY TRUCKS - 2 (LDT2)	0.51	0.36
MEDIUM DUTY TRUCKS (MDV)	0.47	0.34
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.09	0.05
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.01	0.01
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.03	0.03
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.00	0.01
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.01	0.32
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.00	0.07
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.02	0.45
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.15	3.64
MOTORCYCLES (MCY)	0.19	0.04
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.00	0.00
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.00	0.00
SCHOOL BUSES - DIESEL (SBD)	0.00	0.07
OTHER BUSES - GAS (OBG)	0.01	0.01
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.02
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.04
MOTOR HOMES (MH)	0.00	0.02
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	2.60	6.05
<b>OTHER MOBILE SOURCES</b>		
AIRCRAFT	1.25	0.91
TRAINS	0.12	2.93
COMMERCIAL HARBOR CRAFT	0.00	0.01
RECREATIONAL BOATS	0.73	0.16
OFF-ROAD RECREATIONAL VEHICLES	0.16	0.01
OFF-ROAD EQUIPMENT	0.45	1.01
FARM EQUIPMENT	0.36	2.12
FUEL STORAGE AND HANDLING	0.10	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	3.18	7.14
<b>TOTAL MOBILE SOURCES</b>	5.78	13.19
<b>GRAND TOTAL</b>	13.98	14.78

TABLE A-5: Kern County (Eastern Kern), CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.00	0.01
COGENERATION	0.05	0.42
MANUFACTURING AND INDUSTRIAL	0.03	1.46
FOOD AND AGRICULTURAL PROCESSING	0.00	0.01
SERVICE AND COMMERCIAL	0.24	0.41
OTHER (FUEL COMBUSTION)	0.01	0.19
<b>TOTAL FUEL COMBUSTION</b>	0.32	2.50
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.01	0.00
LANDFILLS	0.04	0.00
INCINERATORS	0.00	0.00
SOIL REMEDIATION	0.01	0.00
OTHER (WASTE DISPOSAL)	0.00	0.00
<b>TOTAL WASTE DISPOSAL</b>	0.06	0.00
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.00	0.00
DEGREASING	0.47	0.00
COATINGS AND RELATED PROCESS SOLVENTS	0.16	0.01
PRINTING	0.00	0.00
ADHESIVES AND SEALANTS	0.04	0.00
OTHER (CLEANING AND SURFACE COATINGS)	0.00	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	0.67	0.01
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
OIL AND GAS PRODUCTION	0.00	0.00
PETROLEUM REFINING	0.00	0.00
PETROLEUM MARKETING	0.15	0.00
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.00	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	0.15	0.00
<b><u>INDUSTRIAL PROCESSES</u></b>		
CHEMICAL	0.02	0.00
FOOD AND AGRICULTURE	0.00	0.00
MINERAL PROCESSES	0.16	15.61
METAL PROCESSES	0.00	0.01
WOOD AND PAPER	0.00	0.00
OTHER (INDUSTRIAL PROCESSES)	0.03	0.01
<b>TOTAL INDUSTRIAL PROCESSES</b>	0.21	15.62
<b>TOTAL STATIONARY</b>	1.40	18.13
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	0.66	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.26	0.00
PESTICIDES/FERTILIZERS	0.07	0.00
ASPHALT PAVING / ROOFING	0.06	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	1.05	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	0.02	0.12
FARMING OPERATIONS	0.09	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
FIRES	0.00	0.00
MANAGED BURNING AND DISPOSAL	0.00	0.00
COOKING	0.01	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	0.13	0.12
<b>TOTAL AREAWIDE</b>	1.17	0.12
<b>ON-ROAD MOTOR VEHICLES</b>		
LIGHT DUTY PASSENGER (LDA)	0.30	0.20
LIGHT DUTY TRUCKS - 1 (LDT1)	0.08	0.05
LIGHT DUTY TRUCKS - 2 (LDT2)	0.24	0.20
MEDIUM DUTY TRUCKS (MDV)	0.18	0.15
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.09	0.05
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.01	0.01
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.01	0.01
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.00	0.00
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.02	0.40
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.01	0.10
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.02	0.23
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.12	2.45
MOTORCYCLES (MCY)	0.20	0.05
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.00	0.00
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.00	0.00
SCHOOL BUSES - DIESEL (SBD)	0.00	0.03
OTHER BUSES - GAS (OBG)	0.00	0.00
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.01
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.00
MOTOR HOMES (MH)	0.00	0.02
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	1.27	3.94
<b>OTHER MOBILE SOURCES</b>		
AIRCRAFT	2.53	1.29
TRAINS	0.09	2.03
RECREATIONAL BOATS	0.19	0.04
OFF-ROAD RECREATIONAL VEHICLES	0.04	0.00
OFF-ROAD EQUIPMENT	0.28	0.57
FARM EQUIPMENT	0.15	0.90
FUEL STORAGE AND HANDLING	0.06	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	3.33	4.82
<b>TOTAL MOBILE SOURCES</b>	4.60	8.76
<b>GRAND TOTAL</b>	7.18	27.01

TABLE A-6: Los Angeles-San Bernardino Counties (West Mojave Desert), CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.04	0.38
COGENERATION	0.00	0.01
OIL AND GAS PRODUCTION (COMBUSTION)	0.00	0.00
MANUFACTURING AND INDUSTRIAL	0.14	2.13
FOOD AND AGRICULTURAL PROCESSING	0.00	0.03
SERVICE AND COMMERCIAL	0.11	1.01
OTHER (FUEL COMBUSTION)	0.01	0.03
<b>TOTAL FUEL COMBUSTION</b>	0.30	3.59
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.02	0.00
LANDFILLS	0.20	0.03
INCINERATORS	0.00	0.02
SOIL REMEDIATION	0.00	0.00
OTHER (WASTE DISPOSAL)	0.05	0.00
<b>TOTAL WASTE DISPOSAL</b>	0.28	0.05
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.00	0.00
DEGREASING	4.50	0.00
COATINGS AND RELATED PROCESS SOLVENTS	1.45	0.00
PRINTING	0.01	0.00
ADHESIVES AND SEALANTS	0.07	0.00
OTHER (CLEANING AND SURFACE COATINGS)	0.02	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	6.05	0.00
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
OIL AND GAS PRODUCTION	0.00	0.00
PETROLEUM REFINING	0.00	0.00
PETROLEUM MARKETING	5.53	0.00
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.00	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	5.53	0.00
<b><u>INDUSTRIAL PROCESSES</u></b>		
CHEMICAL	0.21	0.01
FOOD AND AGRICULTURE	0.02	0.00
MINERAL PROCESSES	1.22	20.26
METAL PROCESSES	0.00	0.00
WOOD AND PAPER	0.04	0.00
GLASS AND RELATED PRODUCTS	0.00	0.00
ELECTRONICS	0.00	0.00
OTHER (INDUSTRIAL PROCESSES)	0.25	0.03
<b>TOTAL INDUSTRIAL PROCESSES</b>	1.74	20.30
<b>TOTAL STATIONARY</b>	13.88	23.95
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	5.74	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	2.31	0.00
PESTICIDES/FERTILIZERS	0.10	0.00
ASPHALT PAVING / ROOFING	0.43	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	8.58	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	0.14	0.88

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
FARMING OPERATIONS	1.52	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.02	0.01
MANAGED BURNING AND DISPOSAL	0.08	0.05
COOKING	0.51	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	2.27	0.93
<b>TOTAL AREAWIDE</b>	10.85	0.93
<b><u>ON-ROAD MOTOR VEHICLES</u></b>		
LIGHT DUTY PASSENGER (LDA)	2.81	1.97
LIGHT DUTY TRUCKS - 1 (LDT1)	0.86	0.51
LIGHT DUTY TRUCKS - 2 (LDT2)	1.43	1.29
MEDIUM DUTY TRUCKS (MDV)	1.42	1.38
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.48	0.33
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.04	0.04
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.05	0.09
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.00	0.00
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.07	2.36
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.02	0.67
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.08	1.49
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.49	11.97
MOTORCYCLES (MCY)	1.26	0.34
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.00	0.09
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.00	0.00
SCHOOL BUSES - DIESEL (SBD)	0.01	0.34
OTHER BUSES - GAS (OBG)	0.01	0.03
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.03
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.04
MOTOR HOMES (MH)	0.02	0.13
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	9.03	23.06
<b><u>OTHER MOBILE SOURCES</u></b>		
AIRCRAFT	1.14	0.89
TRAINS	0.97	23.47
RECREATIONAL BOATS	0.29	0.06
OFF-ROAD RECREATIONAL VEHICLES	0.34	0.02
OFF-ROAD EQUIPMENT	1.71	2.46
FARM EQUIPMENT	0.03	0.12
FUEL STORAGE AND HANDLING	0.41	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	4.89	27.02
<b>TOTAL MOBILE SOURCES</b>	13.91	50.08
<b>GRAND TOTAL</b>	38.64	74.95

TABLE A-7: Los Angeles-South Coast Air Basin, CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.38	2.24
COGENERATION	0.02	0.09
OIL AND GAS PRODUCTION (COMBUSTION)	0.09	1.17
PETROLEUM REFINING (COMBUSTION)	1.20	9.90
MANUFACTURING AND INDUSTRIAL	3.93	12.57
FOOD AND AGRICULTURAL PROCESSING	0.04	0.39
SERVICE AND COMMERCIAL	4.25	9.99
OTHER (FUEL COMBUSTION)	0.21	3.07
<b>TOTAL FUEL COMBUSTION</b>	10.13	39.42
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.36	0.00
LANDFILLS	8.58	0.44
INCINERATORS	0.06	1.36
SOIL REMEDIATION	0.00	0.00
OTHER (WASTE DISPOSAL)	6.10	0.02
<b>TOTAL WASTE DISPOSAL</b>	15.09	1.82
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.17	0.00
DEGREASING	12.89	0.00
COATINGS AND RELATED PROCESS SOLVENTS	18.16	0.01
PRINTING	0.90	0.00
ADHESIVES AND SEALANTS	4.00	0.00
OTHER (CLEANING AND SURFACE COATINGS)	0.64	0.06
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	36.76	0.07
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
OIL AND GAS PRODUCTION	2.26	0.01
PETROLEUM REFINING	4.41	1.01
PETROLEUM MARKETING	13.83	0.05
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.05	0.02
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	20.55	1.09
<b><u>INDUSTRIAL PROCESSES</u></b>		
CHEMICAL	4.52	0.11
FOOD AND AGRICULTURE	0.55	0.01
MINERAL PROCESSES	0.44	0.42
METAL PROCESSES	0.10	0.24
WOOD AND PAPER	0.23	0.00
GLASS AND RELATED PRODUCTS	0.01	0.00
ELECTRONICS	0.03	0.00
OTHER (INDUSTRIAL PROCESSES)	5.86	0.11
<b>TOTAL INDUSTRIAL PROCESSES</b>	11.73	0.89
<b>TOTAL STATIONARY</b>	94.27	43.28
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	105.00	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	11.43	0.00
PESTICIDES/FERTILIZERS	1.13	0.00
ASPHALT PAVING / ROOFING	1.15	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	118.71	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	2.37	10.17
FARMING OPERATIONS	2.50	0.00

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.29	0.08
MANAGED BURNING AND DISPOSAL	0.35	0.10
COOKING	1.07	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	6.58	10.35
<b>TOTAL AREAWIDE</b>	125.28	10.35
<b>ON-ROAD MOTOR VEHICLES</b>		
LIGHT DUTY PASSENGER (LDA)	34.35	24.79
LIGHT DUTY TRUCKS - 1 (LDT1)	8.90	6.10
LIGHT DUTY TRUCKS - 2 (LDT2)	16.37	16.09
MEDIUM DUTY TRUCKS (MDV)	14.32	14.30
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	2.90	2.46
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.41	0.38
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.60	1.09
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.02	0.06
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.29	8.79
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.10	2.89
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	1.53	26.90
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	3.11	67.27
MOTORCYCLES (MCY)	8.41	1.88
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.26	2.11
HEAVY DUTY GAS URBAN BUSES (UBG)	0.01	0.03
SCHOOL BUSES - GAS (SBG)	0.04	0.06
SCHOOL BUSES - DIESEL (SBD)	0.03	2.18
OTHER BUSES - GAS (OBG)	0.11	0.25
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.05	0.91
ALL OTHER BUSES - DIESEL (OBD)	0.07	0.99
MOTOR HOMES (MH)	0.09	0.76
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	91.96	180.29
<b>OTHER MOBILE SOURCES</b>		
AIRCRAFT	3.47	14.99
TRAINS	0.49	16.13
OCEAN GOING VESSELS	0.77	13.02
COMMERCIAL HARBOR CRAFT	0.40	3.87
RECREATIONAL BOATS	33.06	6.98
OFF-ROAD RECREATIONAL VEHICLES	1.64	0.03
OFF-ROAD EQUIPMENT	49.98	60.79
FARM EQUIPMENT	0.65	2.61
FUEL STORAGE AND HANDLING	8.79	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	99.25	118.41
<b>TOTAL MOBILE SOURCES</b>	191.21	298.70
<b>GRAND TOTAL</b>	410.75	352.32

TABLE A-8: Mariposa County, CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
FOOD AND AGRICULTURAL PROCESSING	0.00	0.00
OTHER (FUEL COMBUSTION)	0.00	0.01
<b>TOTAL FUEL COMBUSTION</b>	0.00	0.01
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.00	0.00
LANDFILLS	0.00	0.00
OTHER (WASTE DISPOSAL)	0.00	0.00
<b>TOTAL WASTE DISPOSAL</b>	0.00	0.00
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.00	0.00
DEGREASING	0.02	0.00
COATINGS AND RELATED PROCESS SOLVENTS	0.01	0.00
ADHESIVES AND SEALANTS	0.02	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	0.04	0.00
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
PETROLEUM MARKETING	0.03	0.00
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.00	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	0.03	0.00
<b><u>INDUSTRIAL PROCESSES</u></b>		
FOOD AND AGRICULTURE	0.00	0.00
MINERAL PROCESSES	0.00	0.01
<b>TOTAL INDUSTRIAL PROCESSES</b>	0.00	0.01
<b>TOTAL STATIONARY</b>	0.07	0.02
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	0.12	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.07	0.00
PESTICIDES/FERTILIZERS	0.00	0.00
ASPHALT PAVING / ROOFING	0.73	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	0.92	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	0.03	0.01
FARMING OPERATIONS	0.35	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.00	0.00
MANAGED BURNING AND DISPOSAL	0.03	0.00
COOKING	0.00	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	0.41	0.01
<b>TOTAL AREAWIDE</b>	1.33	0.01
<b><u>ON-ROAD MOTOR VEHICLES</u></b>		
LIGHT DUTY PASSENGER (LDA)	0.06	0.04
LIGHT DUTY TRUCKS - 1 (LDT1)	0.05	0.03
LIGHT DUTY TRUCKS - 2 (LDT2)	0.07	0.05
MEDIUM DUTY TRUCKS (MDV)	0.07	0.05
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.04	0.02

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.00	0.00
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.00	0.00
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.00	0.00
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.01	0.15
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.00	0.03
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.00	0.05
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.00	0.04
MOTORCYCLES (MCY)	0.03	0.01
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.00	0.00
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.00	0.00
SCHOOL BUSES - DIESEL (SBD)	0.00	0.01
OTHER BUSES - GAS (OBG)	0.00	0.00
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.00
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.00
MOTOR HOMES (MH)	0.00	0.00
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	0.34	0.48
<b>OTHER MOBILE SOURCES</b>		
AIRCRAFT	0.00	0.00
RECREATIONAL BOATS	0.79	0.18
OFF-ROAD RECREATIONAL VEHICLES	0.03	0.00
OFF-ROAD EQUIPMENT	0.05	0.07
FARM EQUIPMENT	0.01	0.05
FUEL STORAGE AND HANDLING	0.01	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	0.89	0.30
<b>TOTAL MOBILE SOURCES</b>	1.23	0.78
<b>GRAND TOTAL</b>	2.63	0.80

TABLE A-9: Nevada County (Western part), CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.00	0.00
MANUFACTURING AND INDUSTRIAL	0.00	0.00
FOOD AND AGRICULTURAL PROCESSING	0.00	0.01
SERVICE AND COMMERCIAL	0.00	0.04
OTHER (FUEL COMBUSTION)	0.00	0.03
<b>TOTAL FUEL COMBUSTION</b>	0.00	0.07
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.00	0.00
LANDFILLS	0.00	0.00
INCINERATORS	0.00	0.00
<b>TOTAL WASTE DISPOSAL</b>	0.00	0.00
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.00	0.00
DEGREASING	0.25	0.00
COATINGS AND RELATED PROCESS SOLVENTS	0.09	0.00
PRINTING	0.10	0.00
ADHESIVES AND SEALANTS	0.06	0.00
OTHER (CLEANING AND SURFACE COATINGS)	0.00	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	0.49	0.00
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
PETROLEUM MARKETING	0.14	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	0.14	0.00
<b><u>INDUSTRIAL PROCESSES</u></b>		
CHEMICAL	0.09	0.00
FOOD AND AGRICULTURE	0.00	0.00
MINERAL PROCESSES	0.02	0.03
METAL PROCESSES	0.00	0.00
WOOD AND PAPER	0.00	0.00
<b>TOTAL INDUSTRIAL PROCESSES</b>	0.12	0.03
<b>TOTAL STATIONARY</b>	0.76	0.10
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	0.52	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.31	0.00
PESTICIDES/FERTILIZERS	0.02	0.00
ASPHALT PAVING / ROOFING	0.32	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	1.18	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	0.15	0.14
FARMING OPERATIONS	0.12	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.00	0.00
MANAGED BURNING AND DISPOSAL	0.19	0.01
COOKING	0.01	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	0.47	0.15
<b>TOTAL AREAWIDE</b>	1.65	0.15

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>ON-ROAD MOTOR VEHICLES</u></b>		
LIGHT DUTY PASSENGER (LDA)	0.24	0.16
LIGHT DUTY TRUCKS - 1 (LDT1)	0.09	0.05
LIGHT DUTY TRUCKS - 2 (LDT2)	0.31	0.28
MEDIUM DUTY TRUCKS (MDV)	0.20	0.18
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.10	0.06
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.01	0.00
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.00	0.01
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.00	0.00
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.03	0.62
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.01	0.11
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.02	0.23
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.06	1.01
MOTORCYCLES (MCY)	0.15	0.03
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.00	0.00
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.00	0.00
SCHOOL BUSES - DIESEL (SBD)	0.00	0.02
OTHER BUSES - GAS (OBG)	0.00	0.00
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.01
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.02
MOTOR HOMES (MH)	0.00	0.02
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	1.21	2.80
<b><u>OTHER MOBILE SOURCES</u></b>		
AIRCRAFT	0.05	0.01
TRAINS	0.01	0.22
RECREATIONAL BOATS	0.55	0.12
OFF-ROAD RECREATIONAL VEHICLES	0.14	0.01
OFF-ROAD EQUIPMENT	0.25	0.35
FARM EQUIPMENT	0.02	0.12
FUEL STORAGE AND HANDLING	0.05	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	1.07	0.82
<b>TOTAL MOBILE SOURCES</b>	2.28	3.62
<b>GRAND TOTAL</b>	4.68	3.86

TABLE A-10: Riverside County (Coachella Valley), CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.01	0.12
COGENERATION	0.00	0.00
MANUFACTURING AND INDUSTRIAL	0.15	0.27
FOOD AND AGRICULTURAL PROCESSING	0.00	0.01
SERVICE AND COMMERCIAL	0.13	0.29
OTHER (FUEL COMBUSTION)	0.03	0.62
<b>TOTAL FUEL COMBUSTION</b>	0.31	1.30
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.01	0.00
LANDFILLS	0.00	0.00
INCINERATORS	0.00	0.01
SOIL REMEDIATION	0.00	0.00
OTHER (WASTE DISPOSAL)	0.93	0.00
<b>TOTAL WASTE DISPOSAL</b>	0.94	0.01
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.01	0.00
DEGREASING	0.26	0.00
COATINGS AND RELATED PROCESS SOLVENTS	1.20	0.00
PRINTING	0.02	0.00
ADHESIVES AND SEALANTS	0.22	0.00
OTHER (CLEANING AND SURFACE COATINGS)	0.02	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	1.72	0.00
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
OIL AND GAS PRODUCTION	0.00	0.00
PETROLEUM MARKETING	0.36	0.00
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.00	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	0.36	0.00
<b><u>INDUSTRIAL PROCESSES</u></b>		
CHEMICAL	0.11	0.00
FOOD AND AGRICULTURE	0.03	0.00
MINERAL PROCESSES	0.04	0.00
METAL PROCESSES	0.00	0.00
WOOD AND PAPER	0.00	0.00
ELECTRONICS	0.00	0.00
OTHER (INDUSTRIAL PROCESSES)	0.08	0.00
<b>TOTAL INDUSTRIAL PROCESSES</b>	0.26	0.00
<b>TOTAL STATIONARY</b>	3.58	1.31
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	2.97	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.36	0.00
PESTICIDES/FERTILIZERS	0.26	0.00
ASPHALT PAVING / ROOFING	0.06	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	3.64	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	0.10	0.28
FARMING OPERATIONS	0.04	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
FIRES	0.01	0.00
MANAGED BURNING AND DISPOSAL	0.01	0.00
COOKING	0.03	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	0.18	0.29
<b>TOTAL AREAWIDE</b>	3.82	0.29
<b>ON-ROAD MOTOR VEHICLES</b>		
LIGHT DUTY PASSENGER (LDA)	1.38	0.75
LIGHT DUTY TRUCKS - 1 (LDT1)	0.45	0.27
LIGHT DUTY TRUCKS - 2 (LDT2)	0.72	0.64
MEDIUM DUTY TRUCKS (MDV)	0.70	0.64
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.11	0.09
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.02	0.02
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.03	0.07
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.00	0.00
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.01	0.43
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.01	0.17
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.06	1.19
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.32	7.64
MOTORCYCLES (MCY)	0.40	0.09
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.01	0.04
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.00	0.00
SCHOOL BUSES - DIESEL (SBD)	0.00	0.08
OTHER BUSES - GAS (OBG)	0.00	0.01
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.02
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.02
MOTOR HOMES (MH)	0.00	0.03
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	4.22	12.19
<b>OTHER MOBILE SOURCES</b>		
AIRCRAFT	0.08	0.23
TRAINS	0.11	2.53
RECREATIONAL BOATS	0.64	0.13
OFF-ROAD RECREATIONAL VEHICLES	0.14	0.00
OFF-ROAD EQUIPMENT	1.78	2.64
FARM EQUIPMENT	0.09	0.38
FUEL STORAGE AND HANDLING	0.26	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	3.09	5.91
<b>TOTAL MOBILE SOURCES</b>	7.30	18.10
<b>GRAND TOTAL</b>	14.71	19.70

TABLE A-11: Sacramento Metro, CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.15	1.24
COGENERATION	0.00	0.01
OIL AND GAS PRODUCTION (COMBUSTION)	0.02	0.05
MANUFACTURING AND INDUSTRIAL	0.12	1.13
FOOD AND AGRICULTURAL PROCESSING	0.13	1.21
SERVICE AND COMMERCIAL	0.08	1.58
OTHER (FUEL COMBUSTION)	0.05	0.30
<b>TOTAL FUEL COMBUSTION</b>	0.55	5.51
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.04	0.00
LANDFILLS	0.74	0.05
INCINERATORS	0.01	0.04
SOIL REMEDIATION	0.16	0.00
OTHER (WASTE DISPOSAL)	3.39	0.00
<b>TOTAL WASTE DISPOSAL</b>	4.33	0.10
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.06	0.00
DEGREASING	2.35	0.00
COATINGS AND RELATED PROCESS SOLVENTS	3.23	0.01
PRINTING	1.42	0.00
ADHESIVES AND SEALANTS	0.91	0.00
OTHER (CLEANING AND SURFACE COATINGS)	0.26	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	8.23	0.01
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
OIL AND GAS PRODUCTION	1.16	0.01
PETROLEUM REFINING	0.00	0.00
PETROLEUM MARKETING	4.54	0.02
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.00	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	5.70	0.02
<b><u>INDUSTRIAL PROCESSES</u></b>		
CHEMICAL	2.43	0.06
FOOD AND AGRICULTURE	0.63	0.01
MINERAL PROCESSES	0.28	0.40
METAL PROCESSES	0.01	0.01
WOOD AND PAPER	0.77	0.04
GLASS AND RELATED PRODUCTS	0.00	0.00
ELECTRONICS	0.39	0.04
OTHER (INDUSTRIAL PROCESSES)	4.50	0.56
<b>TOTAL INDUSTRIAL PROCESSES</b>	23.31	6.21
<b>TOTAL STATIONARY</b>		
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	15.19	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	6.85	0.00
PESTICIDES/FERTILIZERS	1.29	0.00
ASPHALT PAVING / ROOFING	1.25	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	24.59	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	2.17	2.00
FARMING OPERATIONS	3.70	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.05	0.01
MANAGED BURNING AND DISPOSAL	1.03	0.32
COOKING	0.16	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	7.10	2.34
<b>TOTAL AREAWIDE</b>	31.69	2.34
<b>ON-ROAD MOTOR VEHICLES</b>		
LIGHT DUTY PASSENGER (LDA)	6.56	3.95
LIGHT DUTY TRUCKS - 1 (LDT1)	1.80	0.89
LIGHT DUTY TRUCKS - 2 (LDT2)	3.23	2.57
MEDIUM DUTY TRUCKS (MDV)	3.03	2.47
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	1.00	0.76
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.09	0.08
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.15	0.20
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.01	0.01
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.28	4.98
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.07	1.11
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.45	6.10
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.56	11.45
MOTORCYCLES (MCY)	2.32	0.45
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.02	0.14
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.01
SCHOOL BUSES - GAS (SBG)	0.00	0.01
SCHOOL BUSES - DIESEL (SBD)	0.01	0.58
OTHER BUSES - GAS (OBG)	0.02	0.05
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.01	0.13
ALL OTHER BUSES - DIESEL (OBD)	0.03	0.27
MOTOR HOMES (MH)	0.02	0.18
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	19.68	36.37
<b>OTHER MOBILE SOURCES</b>		
AIRCRAFT	0.49	1.37
TRAINS	0.16	4.43
OCEAN GOING VESSELS	0.00	0.02
COMMERCIAL HARBOR CRAFT	0.10	0.99
RECREATIONAL BOATS	9.07	1.98
OFF-ROAD RECREATIONAL VEHICLES	0.76	0.03
OFF-ROAD EQUIPMENT	6.52	8.58
FARM EQUIPMENT	1.29	6.85
FUEL STORAGE AND HANDLING	1.41	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	19.79	24.25
<b>TOTAL MOBILE SOURCES</b>	39.47	60.61
<b>GRAND TOTAL</b>	94.46	69.16

TABLE A-12: San Francisco Bay Area, CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.30	1.54
COGENERATION	0.18	2.22
OIL AND GAS PRODUCTION (COMBUSTION)	0.00	0.01
PETROLEUM REFINING (COMBUSTION)	1.49	7.63
MANUFACTURING AND INDUSTRIAL	0.64	8.19
FOOD AND AGRICULTURAL PROCESSING	0.02	0.47
SERVICE AND COMMERCIAL	1.47	5.16
OTHER (FUEL COMBUSTION)	0.12	1.88
<b>TOTAL FUEL COMBUSTION</b>	4.21	27.09
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.34	0.27
LANDFILLS	1.18	0.01
INCINERATORS	1.37	0.88
SOIL REMEDIATION	0.08	0.00
OTHER (WASTE DISPOSAL)	0.75	0.00
<b>TOTAL WASTE DISPOSAL</b>	3.72	1.16
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.51	0.00
DEGREASING	4.81	0.00
COATINGS AND RELATED PROCESS SOLVENTS	9.38	0.01
PRINTING	4.10	0.00
ADHESIVES AND SEALANTS	10.12	0.00
OTHER (CLEANING AND SURFACE COATINGS)	0.87	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	29.79	0.01
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
OIL AND GAS PRODUCTION	0.28	0.00
PETROLEUM REFINING	8.07	0.29
PETROLEUM MARKETING	8.89	0.00
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.04	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	17.28	0.29
<b><u>INDUSTRIAL PROCESSES</u></b>		
CHEMICAL	2.93	0.20
FOOD AND AGRICULTURE	2.13	0.12
MINERAL PROCESSES	1.91	3.48
METAL PROCESSES	0.16	0.10
WOOD AND PAPER	0.00	0.00
GLASS AND RELATED PRODUCTS	0.00	0.00
ELECTRONICS	0.20	0.00
OTHER (INDUSTRIAL PROCESSES)	6.18	0.53
<b>TOTAL INDUSTRIAL PROCESSES</b>	13.51	4.42
<b>TOTAL STATIONARY</b>	68.49	32.96
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	48.48	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	18.28	0.00
PESTICIDES/FERTILIZERS	0.94	0.00
ASPHALT PAVING / ROOFING	1.06	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	68.76	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	1.67	6.37
FARMING OPERATIONS	3.25	0.00

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.26	0.09
MANAGED BURNING AND DISPOSAL	0.51	0.30
COOKING	0.41	0.00
OTHER (MISCELLANEOUS PROCESSES)	1.95	0.03
<b>TOTAL MISCELLANEOUS PROCESSES</b>	8.04	6.79
<b>TOTAL AREAWIDE</b>	76.80	6.79
<b>ON-ROAD MOTOR VEHICLES</b>		
LIGHT DUTY PASSENGER (LDA)	15.59	10.72
LIGHT DUTY TRUCKS - 1 (LDT1)	3.51	2.13
LIGHT DUTY TRUCKS - 2 (LDT2)	6.71	6.09
MEDIUM DUTY TRUCKS (MDV)	5.25	4.92
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	1.82	1.52
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.21	0.20
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.24	0.41
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.01	0.02
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.34	5.70
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.11	1.53
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	1.14	13.88
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	1.44	26.82
MOTORCYCLES (MCY)	4.67	1.11
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.01	0.97
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.01	0.01
SCHOOL BUSES - DIESEL (SBD)	0.01	0.80
OTHER BUSES - GAS (OBG)	0.05	0.12
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.03	0.43
ALL OTHER BUSES - DIESEL (OBD)	0.06	0.64
MOTOR HOMES (MH)	0.03	0.26
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	41.21	78.28
<b>OTHER MOBILE SOURCES</b>		
AIRCRAFT	5.52	14.35
TRAINS	0.07	4.80
OCEAN GOING VESSELS	0.68	11.67
COMMERCIAL HARBOR CRAFT	0.99	9.40
RECREATIONAL BOATS	11.16	2.27
OFF-ROAD RECREATIONAL VEHICLES	1.13	0.05
OFF-ROAD EQUIPMENT	22.26	26.34
FARM EQUIPMENT	0.84	3.99
FUEL STORAGE AND HANDLING	3.95	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	46.60	72.87
<b>TOTAL MOBILE SOURCES</b>	87.81	151.15
<b>GRAND TOTAL</b>	233.10	190.90

TABLE A-13: San Joaquin Valley, CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.18	2.81
COGENERATION	0.43	0.74
OIL AND GAS PRODUCTION (COMBUSTION)	1.15	2.75
PETROLEUM REFINING (COMBUSTION)	0.04	0.24
MANUFACTURING AND INDUSTRIAL	0.13	5.15
FOOD AND AGRICULTURAL PROCESSING	0.80	7.10
SERVICE AND COMMERCIAL	0.54	4.24
OTHER (FUEL COMBUSTION)	0.04	0.74
<b>TOTAL FUEL COMBUSTION</b>	<b>3.31</b>	<b>23.76</b>
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.05	0.05
LANDFILLS	1.51	0.23
INCINERATORS	0.01	0.04
SOIL REMEDIATION	0.09	0.00
OTHER (WASTE DISPOSAL)	21.54	0.01
<b>TOTAL WASTE DISPOSAL</b>	<b>23.19</b>	<b>0.32</b>
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.08	0.00
DEGREASING	1.79	0.00
COATINGS AND RELATED PROCESS SOLVENTS	8.84	0.00
PRINTING	5.61	0.00
ADHESIVES AND SEALANTS	0.62	0.00
OTHER (CLEANING AND SURFACE COATINGS)	7.03	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	<b>23.97</b>	<b>0.00</b>
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
OIL AND GAS PRODUCTION	11.46	0.23
PETROLEUM REFINING	0.44	0.01
PETROLEUM MARKETING	5.09	0.06
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.01	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	<b>17.00</b>	<b>0.30</b>
<b><u>INDUSTRIAL PROCESSES</u></b>		
CHEMICAL	2.63	0.32
FOOD AND AGRICULTURE	12.76	0.00
MINERAL PROCESSES	0.22	0.25
METAL PROCESSES	0.17	0.00
WOOD AND PAPER	0.01	0.00
GLASS AND RELATED PRODUCTS	0.01	3.08
ELECTRONICS	0.00	0.00
OTHER (INDUSTRIAL PROCESSES)	0.49	0.01
<b>TOTAL INDUSTRIAL PROCESSES</b>	<b>16.28</b>	<b>3.66</b>
<b>TOTAL STATIONARY</b>	<b>83.75</b>	<b>28.04</b>
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	25.90	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	10.70	0.00
PESTICIDES/FERTILIZERS	17.02	0.00
ASPHALT PAVING / ROOFING	1.04	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	<b>54.67</b>	<b>0.00</b>
<b><u>MISCELLANEOUS PROCESSES</u></b>		

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
RESIDENTIAL FUEL COMBUSTION	0.42	3.15
FARMING OPERATIONS	93.75	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.13	0.03
MANAGED BURNING AND DISPOSAL	5.09	1.03
COOKING	0.60	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	<b>100.00</b>	<b>4.21</b>
<b>TOTAL AREAWIDE</b>	<b>154.67</b>	<b>4.21</b>
<b>ON-ROAD MOTOR VEHICLES</b>		
LIGHT DUTY PASSENGER (LDA)	9.49	6.10
LIGHT DUTY TRUCKS - 1 (LDT1)	3.10	1.71
LIGHT DUTY TRUCKS - 2 (LDT2)	5.47	4.65
MEDIUM DUTY TRUCKS (MDV)	6.14	5.44
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	1.52	1.14
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.18	0.17
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.22	0.29
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.01	0.02
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.42	7.29
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.12	1.90
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	1.13	12.84
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	2.89	55.86
MOTORCYCLES (MCY)	3.20	0.70
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.02	0.22
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.01
SCHOOL BUSES - GAS (SBG)	0.02	0.04
SCHOOL BUSES - DIESEL (SBD)	0.02	1.25
OTHER BUSES - GAS (OBG)	0.03	0.08
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.01	0.18
ALL OTHER BUSES - DIESEL (OBD)	0.02	0.23
MOTOR HOMES (MH)	0.03	0.26
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	<b>34.06</b>	<b>100.38</b>
<b>OTHER MOBILE SOURCES</b>		
AIRCRAFT	3.01	2.53
TRAINS	0.33	9.25
OCEAN GOING VESSELS	0.01	0.15
COMMERCIAL HARBOR CRAFT	0.05	0.51
RECREATIONAL BOATS	8.94	1.95
OFF-ROAD RECREATIONAL VEHICLES	2.35	0.08
OFF-ROAD EQUIPMENT	9.65	22.72
FARM EQUIPMENT	8.77	50.39
FUEL STORAGE AND HANDLING	2.28	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	<b>35.37</b>	<b>87.57</b>
<b>TOTAL MOBILE SOURCES</b>	<b>69.43</b>	<b>187.95</b>
<b>GRAND TOTAL</b>	<b>307.85</b>	<b>220.20</b>

TABLE A-14: San Luis Obispo (Eastern part), CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
COGENERATION	0.00	0.00
OIL AND GAS PRODUCTION (COMBUSTION)	0.00	0.01
MANUFACTURING AND INDUSTRIAL	0.00	0.00
FOOD AND AGRICULTURAL PROCESSING	0.02	0.38
SERVICE AND COMMERCIAL	0.00	0.01
OTHER (FUEL COMBUSTION)	0.00	0.06
<b>TOTAL FUEL COMBUSTION</b>	0.02	0.45
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.00	0.00
LANDFILLS	0.00	0.00
OTHER (WASTE DISPOSAL)	0.00	0.00
<b>TOTAL WASTE DISPOSAL</b>	0.00	0.00
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.00	0.00
DEGREASING	0.00	0.00
COATINGS AND RELATED PROCESS SOLVENTS	0.00	0.00
PRINTING	0.00	0.00
ADHESIVES AND SEALANTS	0.00	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	0.00	0.00
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
OIL AND GAS PRODUCTION	0.07	0.00
PETROLEUM MARKETING	0.00	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	0.07	0.00
<b><u>INDUSTRIAL PROCESSES</u></b>		
CHEMICAL	0.00	0.00
FOOD AND AGRICULTURE	0.00	0.00
MINERAL PROCESSES	0.00	0.00
<b>TOTAL INDUSTRIAL PROCESSES</b>	0.00	0.00
<b>TOTAL STATIONARY</b>	0.09	0.45
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	0.01	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.01	0.00
PESTICIDES/FERTILIZERS	0.18	0.00
ASPHALT PAVING / ROOFING	0.00	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	0.20	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	0.01	0.00
FARMING OPERATIONS	0.00	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.00	0.00
MANAGED BURNING AND DISPOSAL	0.01	0.00
COOKING	0.00	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	0.02	0.01
<b>TOTAL AREA WIDE</b>	0.22	0.01

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>ON-ROAD MOTOR VEHICLES</u></b>		
LIGHT DUTY PASSENGER (LDA)	0.03	0.02
LIGHT DUTY TRUCKS - 1 (LDT1)	0.01	0.00
LIGHT DUTY TRUCKS - 2 (LDT2)	0.02	0.02
MEDIUM DUTY TRUCKS (MDV)	0.02	0.02
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.01	0.01
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.00	0.00
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.00	0.00
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.00	0.00
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.00	0.04
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.00	0.01
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.00	0.03
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.00	0.04
MOTORCYCLES (MCY)	0.01	0.00
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.00	0.00
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.00	0.00
SCHOOL BUSES - DIESEL (SBD)	0.00	0.00
OTHER BUSES - GAS (OBG)	0.00	0.00
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.00
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.00
MOTOR HOMES (MH)	0.00	0.00
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	0.10	0.20
<b><u>OTHER MOBILE SOURCES</u></b>		
AIRCRAFT	0.00	0.00
TRAINS	0.00	0.00
OCEAN GOING VESSELS	0.00	0.00
COMMERCIAL HARBOR CRAFT	0.00	0.00
RECREATIONAL BOATS	0.00	0.00
OFF-ROAD RECREATIONAL VEHICLES	0.00	0.00
OFF-ROAD EQUIPMENT	0.01	0.00
FARM EQUIPMENT	0.02	0.11
FUEL STORAGE AND HANDLING	0.01	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	0.04	0.12
<b>TOTAL MOBILE SOURCES</b>	0.13	0.32
<b>GRAND TOTAL</b>	0.44	0.77

TABLE A-15: Tuolumne County, CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.00	0.48
COGENERATION	0.00	0.42
MANUFACTURING AND INDUSTRIAL	0.00	0.08
FOOD AND AGRICULTURAL PROCESSING	0.00	0.00
SERVICE AND COMMERCIAL	0.01	0.06
<b>TOTAL FUEL COMBUSTION</b>	0.01	1.05
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.00	0.00
LANDFILLS	0.00	0.00
<b>TOTAL WASTE DISPOSAL</b>	0.00	0.00
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.00	0.00
DEGREASING	0.13	0.00
COATINGS AND RELATED PROCESS SOLVENTS	0.17	0.00
ADHESIVES AND SEALANTS	0.04	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	0.35	0.00
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
OIL AND GAS PRODUCTION	0.09	0.00
PETROLEUM MARKETING	0.00	0.00
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.09	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	0.09	0.00
<b><u>INDUSTRIAL PROCESSES</u></b>		
FOOD AND AGRICULTURE	0.00	0.00
MINERAL PROCESSES	0.01	0.00
WOOD AND PAPER	0.04	0.00
<b>TOTAL INDUSTRIAL PROCESSES</b>	0.05	0.00
<b>TOTAL STATIONARY</b>	0.50	1.05
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	0.34	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	0.22	0.00
PESTICIDES/FERTILIZERS	0.01	0.00
ASPHALT PAVING / ROOFING	0.67	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	1.24	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	0.14	0.03
FARMING OPERATIONS	0.27	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.00	0.00
MANAGED BURNING AND DISPOSAL	0.50	0.04
COOKING	0.01	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	0.91	0.07
<b>TOTAL AREAWIDE</b>	2.15	0.07
<b><u>ON-ROAD MOTOR VEHICLES</u></b>		
LIGHT DUTY PASSENGER (LDA)	0.22	0.14
LIGHT DUTY TRUCKS - 1 (LDT1)	0.17	0.08

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
LIGHT DUTY TRUCKS - 2 (LDT2)	0.21	0.16
MEDIUM DUTY TRUCKS (MDV)	0.22	0.17
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.15	0.07
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.01	0.01
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.01	0.00
HEAVY HEAVY DUTY GAS TRUCKS (HHDGT)	0.00	0.00
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.03	0.51
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.01	0.08
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.01	0.14
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.01	0.13
MOTORCYCLES (MCY)	0.11	0.02
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.00	0.00
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.00	0.00
SCHOOL BUSES - DIESEL (SBD)	0.00	0.04
OTHER BUSES - GAS (OBG)	0.00	0.00
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.00
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.01
MOTOR HOMES (MH)	0.00	0.02
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	1.15	1.59
<b><u>OTHER MOBILE SOURCES</u></b>		
AIRCRAFT	0.07	0.01
TRAINS	0.00	0.01
RECREATIONAL BOATS	2.97	0.68
OFF-ROAD RECREATIONAL VEHICLES	0.05	0.00
OFF-ROAD EQUIPMENT	0.25	0.33
FARM EQUIPMENT	0.01	0.05
FUEL STORAGE AND HANDLING	0.03	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	3.38	1.08
<b>TOTAL MOBILE SOURCES</b>	4.53	2.67
<b>GRAND TOTAL</b>	7.18	3.78

TABLE A-16: Ventura County, CA Ozone Nonattainment Area

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
<b><u>FUEL COMBUSTION</u></b>		
ELECTRIC UTILITIES	0.07	0.72
COGENERATION	0.00	0.02
OIL AND GAS PRODUCTION (COMBUSTION)	0.02	0.17
PETROLEUM REFINING (COMBUSTION)	0.00	0.00
MANUFACTURING AND INDUSTRIAL	0.02	0.26
FOOD AND AGRICULTURAL PROCESSING	0.02	0.30
SERVICE AND COMMERCIAL	0.02	0.27
OTHER (FUEL COMBUSTION)	0.01	0.11
<b>TOTAL FUEL COMBUSTION</b>	0.16	1.83
<b><u>WASTE DISPOSAL</u></b>		
SEWAGE TREATMENT	0.01	0.01
LANDFILLS	0.11	0.05
INCINERATORS	0.00	0.01
SOIL REMEDIATION	0.00	0.00
OTHER (WASTE DISPOSAL)	0.77	0.00
<b>TOTAL WASTE DISPOSAL</b>	0.88	0.06
<b><u>CLEANING AND SURFACE COATINGS</u></b>		
LAUNDERING	0.04	0.00
DEGREASING	1.96	0.00
COATINGS AND RELATED PROCESS SOLVENTS	0.94	0.00
PRINTING	0.14	0.00
ADHESIVES AND SEALANTS	0.44	0.00
OTHER (CLEANING AND SURFACE COATINGS)	0.63	0.00
<b>TOTAL CLEANING AND SURFACE COATINGS</b>	4.15	0.00
<b><u>PETROLEUM PRODUCTION AND MARKETING</u></b>		
OIL AND GAS PRODUCTION	1.23	0.07
PETROLEUM REFINING	0.00	0.00
PETROLEUM MARKETING	1.07	0.00
OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.00	0.00
<b>TOTAL PETROLEUM PRODUCTION AND MARKETING</b>	2.30	0.07
<b><u>INDUSTRIAL PROCESSES</u></b>		
CHEMICAL	0.09	0.00
FOOD AND AGRICULTURE	0.01	0.00
MINERAL PROCESSES	0.01	0.00
METAL PROCESSES	0.00	0.00
WOOD AND PAPER	0.14	0.00
ELECTRONICS	0.02	0.00
OTHER (INDUSTRIAL PROCESSES)	0.30	0.06
<b>TOTAL INDUSTRIAL PROCESSES</b>	0.59	0.06
<b>TOTAL STATIONARY</b>	8.08	2.02
<b><u>SOLVENT EVAPORATION</u></b>		
CONSUMER PRODUCTS	5.48	0.00
ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	2.39	0.00
PESTICIDES/FERTILIZERS	1.24	0.00
ASPHALT PAVING / ROOFING	0.73	0.00
<b>TOTAL SOLVENT EVAPORATION</b>	9.85	0.00
<b><u>MISCELLANEOUS PROCESSES</u></b>		
RESIDENTIAL FUEL COMBUSTION	0.39	0.61
FARMING OPERATIONS	0.12	0.00
CONSTRUCTION AND DEMOLITION	0.00	0.00

SUMMARY CATEGORY NAME	ROG (tpd)	NOX (tpd)
PAVED ROAD DUST	0.00	0.00
UNPAVED ROAD DUST	0.00	0.00
FUGITIVE WINDBLOWN DUST	0.00	0.00
FIRES	0.01	0.01
MANAGED BURNING AND DISPOSAL	0.04	0.01
COOKING	0.05	0.00
OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00
<b>TOTAL MISCELLANEOUS PROCESSES</b>	0.60	0.63
<b>TOTAL AREAWIDE</b>	10.45	0.63
<b>ON-ROAD MOTOR VEHICLES</b>		
LIGHT DUTY PASSENGER (LDA)	1.79	1.29
LIGHT DUTY TRUCKS - 1 (LDT1)	0.52	0.34
LIGHT DUTY TRUCKS - 2 (LDT2)	0.93	0.91
MEDIUM DUTY TRUCKS (MDV)	0.86	0.84
LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDGT1)	0.17	0.14
LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDGT2)	0.02	0.02
MEDIUM HEAVY DUTY GAS TRUCKS (MHDGT)	0.02	0.04
HEAVY HEAVY DUTY GAS TRUCKS (HHGT)	0.00	0.00
LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDDT1)	0.03	0.85
LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDDT2)	0.01	0.24
MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDDT)	0.08	1.35
HEAVY HEAVY DUTY DIESEL TRUCKS (HHDDT)	0.08	1.90
MOTORCYCLES (MCY)	0.54	0.12
HEAVY DUTY DIESEL URBAN BUSES (UBD)	0.01	0.08
HEAVY DUTY GAS URBAN BUSES (UBG)	0.00	0.00
SCHOOL BUSES - GAS (SBG)	0.00	0.01
SCHOOL BUSES - DIESEL (SBD)	0.00	0.13
OTHER BUSES - GAS (OBG)	0.01	0.01
OTHER BUSES - MOTOR COACH - DIESEL (OBC)	0.00	0.01
ALL OTHER BUSES - DIESEL (OBD)	0.00	0.05
MOTOR HOMES (MH)	0.01	0.08
<b>TOTAL ON-ROAD MOTOR VEHICLES</b>	5.08	8.41
<b>OTHER MOBILE SOURCES</b>		
AIRCRAFT	0.48	0.32
TRAINS	0.00	0.49
OCEAN GOING VESSELS	0.04	0.80
COMMERCIAL HARBOR CRAFT	0.09	0.80
RECREATIONAL BOATS	2.38	0.49
OFF-ROAD RECREATIONAL VEHICLES	0.22	0.01
OFF-ROAD EQUIPMENT	2.56	3.08
FARM EQUIPMENT	0.41	2.16
FUEL STORAGE AND HANDLING	0.45	0.00
<b>TOTAL OTHER MOBILE SOURCES</b>	6.63	8.09
<b>TOTAL MOBILE SOURCES</b>	11.71	16.5
<b>GRAND TOTAL</b>	30.23	19.14

**Attachment B-1: State of California Motor Vehicle Control Program (1990-Present)**

<b>Measure</b>	<b>Hearing Date</b>	<b>Category</b>
California Reformulated Gasoline (CalRFG), Phase I. T 13, CCR, 2251.5	9/27/1990	Fuels
California Reformulated Gasoline, Phase II. T 13, CCR, 2250, 2255.1, 2252, 2260 - 2272, 2295	11/21/1991	Fuels
Wintertime Gasoline Program. T 13, CCR, 2258, 2298, 2251.5, 2296	11/21/1991	Fuels
Wintertime Oxygenate Program. T 13, CCR, 2258, 2251.5, 2263(b), 2267, 2298, 2259, 2283, 2293.5	9/9/1993	Fuels
Diesel Fuel Certification Test Methods. T 13, CCR, 1956.8(b), 1960.1(k), 2281(c), 2282(b), (c) and (g)	10/24/1996	Fuels
Diesel Fuel Test Methods. T 13, CCR, 1956.8(b), 1960.1(k), 2281(c), 2282(b), (c) and (g)	10/24/1996	Fuels
1997 Amendments to Onboard Diagnostics, Phase II, Technical Status. T 13, CCR, 1968.1, 2030, 2031	12/12/1996	On-Road
Low Emission Vehicles Standards (LEV 2) and Compliance Assurance Program (CAP 2000). T 13, CCR, 1961 & 1962 (both new); 1900, 1960.1, 1965, 1968.1, 1976, 1978, 2037, 2038, 2062, 2101, 2106, 2107, 2110, 2112, 2114, 2119, 2130, 2137-2140, 2143-2148	11/5/1998	On-Road
Exhaust Standards for (On-Road) Motorcycles. T 13, CCR, 1900, 1958, 1965	12/10/1998	On-Road
Light-and Medium Duty Low Emission Vehicle Alignment with Federal Standards. Exhaust Emission Standards for Heavy Duty Gas Engines. T 13, CCR, 1956.8 & 1961	12/7/2000	On-Road
Heavy Duty Diesel Engine Standards for 2007 and Later. T 13, CCR, 1956.8 and incorporated test procedures	10/25/2001	On-Road

Measure	Hearing Date	Category
Low Emission Vehicle Regulations. T 13, CCR, 1960.1, 1960.5, 1961, 1962 and incorporate test procedures and guidelines	11/15/2001	On-Road
2003 Amendments to On-Board Diagnostic II Review Amendments. T 13, CCR, 1968.1, 1968.2, 1968.5	4/25/2002	On-Road
CaRFG Phase 3 Amendments. T 13, CCR, 2261, 2262, 2262.4, 2262.5, 2262.6, 2262.9, 2266.5, 2269, 2271, 2272, 2265, and 2296	7/25/2002	Fuels
Adoption of Minor Amendments to the Low-Emission Vehicle Regulations. T 13, CCR, 1961, 1965, 1978, and the incorporate test procedures	12/12/2002	On-Road
Incorporation of Federal Exhaust Emission Standards for 2008 and Later Model-Year Heavy Duty Gasoline Engines and the Adoption of Minor Amendments to the Low-Emission Vehicle Regulations. T 13, CCR, 1956.8 and documents incorporated by reference	12/12/2002	On-Road
CaRFG Phase 3 Amendments (specifications for De Minimis Levels of Oxygenates and MTBE Phase Out Issues). T 13, CCR, 2261, 2262.6, 2263, 2266.5, 2272, 2273, 2260, 2273.5	12/12/2002	Fuels
Specifications for Motor Vehicle Diesel Fuel. T 13 & T17, CCR, 1961, 2281, 2282, 2701, 2284, 2285, 93114, and incorporated test procedures	7/24/2003	Fuel
California Reformulated Gasoline, Phase 3. T 13, CCR, 2260, 2262, 2262.4, 2262.5, 2262.6, 2262.9, 2263, 2265 (and the incorporated "California Procedures"), and 2266.5	11/18/2004	Fuels
On-Board Diagnostic System Requirements for 2010 and Subsequent Model-Year Heavy-Duty Engines (HD OBD). T 13, CCR, 1971.1	7/21/2005	On-Road

Measure	Hearing Date	Category
Requirements to Reduce Idling Emissions from New and In-Use Trucks, Beginning in 2008. T 13, CCR, 1956.8, 2404, 2424, 2425, and 2485 and the incorporated document	10/20/2005	On-Road
Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yard. T 13, CCR, 2479	12/8/2005	On-road and Off-road
Evaporative and Exhaust Emission Test Procedures. T 13, CCR, 1961, 1976, 1978	6/22/2006	On-road
Heavy-Duty In-Use Compliance Regulation. T 13, CCR, 1956.1, 1956.8, and documents incorporated by reference	9/28/2006	On-Road
2007 Amendments to On-Board Diagnostic II. T 13, CCR, 1968.2, 1968.5, 2035, 2037 and 2038	9/28/2006	On-Road
Phase 3 Reformulated Gasoline (Ethanol Permeation) T 13, CCR, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2270, 2271, and 2273	6/14/2007	Fuel
2007 Amendments to Heavy-Duty In-Use Compliance Regulation. T 13, CCR, 1956.1, 1956.8, and documents incorporated by reference	12/6/2007	On-Road
Port Truck Modernization T 13, CCR, 2027	12/6/2007	On-Road
Cleaner In-Use Heavy-Duty Trucks (Truck and Bus Reg) T 13, CCR, 2025	12/11/2008	On-Road
2010 Amendments to On-Board Diagnostic II. T 13, CCR, 1968.2, 1968.5, 2035, 2037 and 2038	5/28/2009	On-Road
Plug-In Hybrid Electric Vehicle Test Procedure Amendments. T 13, CCR, 2032, 1900, 1962, 1962.1	5/28/2009	On-Road
2010 Amendments to On-Board Diagnostic System Requirements for Heavy-Duty Engines (HD OBD). T 13, CCR, 1971.1 and 1971.5	5/28/2009	On-Road

Measure	Hearing Date	Category
Truck and Bus Regulation 2010. T13, CCR, 2025	12/16/2010	On-Road
2011 Amendments to Heavy-Duty In-Use Compliance Regulation. T 13, CCR, 1956.1, 1956.8, and documents incorporated by reference	6/23/2011	On-Road
Amendments to Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yard. T 13, CCR, 2479	9/22/2011	On-Road
Advanced Clean Cars T 13, CCR, 1900, 1956, 1960, 1961, 1962, 1965, 1968, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, 2300, 2302, 2303, 2304, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, and 2318	1/26/2012	On-Road
Zero Emission Vehicle Standards for 2009 through 2017 models. T 13, CCR, 1962.1, 1962.3	1/26/2012	On-Road
2012 Amendments to On-Board Diagnostic II. T 13, CCR, 1968.2, 1968.5, 2035, 2037 and 2038	1/26/2012	On-Road
Emergency Regulatory Amendments to the Tractor-Trailer Greenhouse Gas Regulation T 17, CCR, 95307	2/29/2012	On-Road
2013 Amendments to On-Board Diagnostics (OBD I and II) Regulations T 13, CCR, 1968.2, 1971.1	8/23/2012	On-Road
2013 Amendments to Heavy Duty On Board Diagnostic Requirements	8/23/2012	On-Road
Low Emission Vehicle III Greenhouse Gas and Zero Emission Vehicle Regulation Amendments for Federal Compliance Option T 13, CCR, 1900, 1956.8, 1960.1, 1961, 1961.2, 1961.3, 1962.1, 1962.2, 1976	11/15/2012	On-Road

Measure	Hearing Date	Category
Heavy-Duty Greenhouse Gas Phase 1: On-Road Heavy Duty Greenhouse Gas Emissions Rule, Tractor-Trailer Rule, Commercial Motor Vehicle Idling Rule, Optional Emission Standards, Heavy-Duty Hybrid-Electric Vehicle Certification Procedure T 13, CCR, 1900, 1956.	12/12/2013	On-Road
Heavy-Duty Hybrid-Electric Vehicle Certification Procedure T 13, CCR, 1900, 1956.8, 2036, 2037, 2112, 2139, 2140, 2147, 2485, T 17, CCR, 95300, 95301, 95302, 95303, 95305, 95660, 95661, 95662, 95663, 95664	12/12/2013	On-Road
Amendments to Low Emission Vehicle III Criteria Pollutant Requirements for Light-and Medium-Duty Vehicles the Hybrid Electric Vehicle Test Procedures, and the Heavy-Duty Otto-Cycle and Heavy-Duty Diesel Test Procedures T 13, CCR, 1900, 1956.8, 1961.2, 1962.2, 1965, 1976, 1978	10/23/2014	On-Road
2014 Amendments to Zero Emission Vehicle Regulation T 13, CCR, 1962.1, 1962.2	10/23/2014/5/21/2015	On-Road
Amendments to the Heavy-Duty Vehicle Inspection Program and Periodic Smoke Inspection Program T13, CCR, 2180.1, 2181, 2182, 2183, 2185, 2186, 2187, 2190, 2191, 2192, 2193, 2194	5/28/2018	On-Road
Innovative Clean Transit Regulation T13, CCR, 2023, 2023.1, 2023.2, 2023.3, 2023.4, 2023.5, 2023.6, 2023.7, 2023.8.2023.9, 2023.10, 2023.11	12/14/2018	On-Road
Zero-Emission Airport Shuttle Regulation T17, CCR, 95690.1, 95690.2, 95690.3, 95690.4, 95690.5, 95690.6, 95690.7, 95690.8	6/27/2019	On-Road

## Attachment B-2: Adopted Transportation Control Measures

Metropolitan Planning Organizations	Transportation Control Measures	Section/Page Numbers
Southern California Association of Government	<a href="#">2019 FTIP: Timely Implementation of TCMs</a>	III-5 and III-6
Fresno Council of Governments	<a href="#">Final 2015 Ozone Conformity Analysis for the 2019 FTIP Amendment #3 and the 2018 Regional Transportation Plan (RTP) Amendment #1</a>	Appendix B and Appendix D
Kern Council of Governments	<a href="#">Final 2015 Ozone Conformity Analysis for the 2019 FTIP Amendment #2 and the 2018 RTP</a>	Appendix B and Appendix D
Kings County Association of Governments	<a href="#">Final 2015 Ozone Conformity Analysis for the 2019 FTIP and the 2018 RTP</a>	Appendix B and Appendix D
Madera County Transportation Commission	<a href="#">Final 2015 Ozone Conformity Analysis for the 2019 FTIP Amendment #3 and the 2018 RTP Amendment #1</a>	Appendix B and Appendix D
Merced County Association of Governments	<a href="#">Final 2015 Ozone Conformity Analysis for the 2019 FTIP and the 2018 RTP</a>	Appendix B and Appendix D
San Joaquin Council of Governments	<a href="#">Final Conformity Analysis for the 2019 FTIP and the 2018 RTP</a>	Appendix B and Appendix D
Stanislaus Council of Governments	<a href="#">2019 Conformity Analysis for the 2019 FTIP Amendment #9 and the 2018 RTP Amendment #1</a>	Appendix B and Appendix D
Tulare County Association of Governments	<a href="#">Final 2019 Conformity Analysis for the 2019 FTIP Amendment #9 and the 2018 RTP Amendment #1</a>	Appendix B and Appendix D