South Coast AQMD

APPENDIX I

Base and Future Year Emission Inventory

CHAPTER 1 - INVENTORY DEVELOPMENT

CHAPTER 2 - SUMMARY OF EMISSIONS

Chapter 1

INVENTORY DEVELOPMENT

Background

Federal and State standards limit concentration levels of air contaminants in ambient air to protect public health and welfare. An emission inventory of air pollutants and their sources is essential to identify the major contributors of air contaminants and to identify the measures necessary to reduce air pollution. This Draft PM2.5 Plan includes detailed emissions for base and future milestone years. 2018 is the base year used to project future year emissions for the 2024 PM2.5 Plan and 2030 is the attainment year for the 2012 annual PM2.5 National Ambient Air Quality Standard.

This appendix includes five attachments: Attachment A – Annual Average Emissions Summary by Major Source Category in the South Coast Air Basin (SCAB or Basin); Attachment B – On-Road Emissions by Vehicle Category; Attachment C – Emissions from Diesel Fuel Combustion by Major Source Category; Attachment D – Dust Emissions from Road Construction in SCAB, and Attachment E – Annual Average Emissions Summary for Condensable and Filterable PM2.5 in SCAB. Attachments A through E contain emissions and relevant data for the years of 2018, 2023, 2025, 2028, 2030 and 2031.

Information required to develop the emission inventory is obtained from various programs and rules by South Coast AQMD and other governmental agencies, including the California Air Resources Board (CARB), the California Department of Transportation (Caltrans), and the Southern California Association of Governments (SCAG). Each of these agencies is responsible for collecting data (e.g., industry growth factors, socio-economic projections, travel activity levels, emission factors, emission speciation profiles, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. Entire statewide emissions inventories are compiled and maintained by CARB in the California Emission Inventory Development and Reporting System (CEIDARS)[1] and the California Emission Forecasting and Planning Inventory System (CEFIS)[2]. CARB has primary responsibility for developing the emissions inventory for all mobile sources in collaboration with local districts. CARB provides the tool for on-road inventories, the Emission FACtors (EMFAC) 2021[3] model, and off-road inventories using models specific to each off-road category[4]. Caltrans provides SCAG with information related to highway projects. SCAG then incorporates these data into their Travel Demand Model for estimating/projecting vehicle miles traveled (VMT) and driving speeds for current and future years. SCAG's socio-economic and transportation activity projections in their 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) are integrated in this Draft PM2.5 Plan. 2020 RTP/SCS is the

[1]Bickett, C., California Air Resources Board, "Redesign of the California Emission Inventory System", paper presented at the Emission Inventory International Specialty Conference, October 1993 https://www.arb.ca.gov/app/emsinv/dist/doc/transfmt.pdf

[2] Rulemaking Information: Redesign Of California's Emission Forecasting System (CEFS) https://ww3.arb.ca.gov/ei/pubs/cefs_mj.pdf.

[3] https://ww2.arb.ca.gov/sites/default/files/2021-08/emfac2021_technical_documentation_april2021.pdf

[4] More information about CARB's on-road and off-road models can be found at http://www.arb.ca.gov/msei/categories.htm

latest approved RTP at the time of developing this PM plan. The EMFAC2021 was run with the SCAG custom activities to produce the on-road mobile source inventories.

Air Contaminants

Currently, National Ambient Air Quality Standards (NAAQS), or federal standards, are limited to the following criteria pollutants: ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), fine suspended particulate matter less than 10 microns in diameter (PM10), fine particulate matter less than 2.5 microns in diameter (PM2.5), lead, and sulfate. This appendix presents emission levels for the criteria pollutants and their precursors in the South Coast Air Basin. Specifically, data are included for emissions of total organic gases (TOG), volatile organic compounds (VOCs), oxides of nitrogen (NOx), oxides of sulfur (SOx), CO, particulate matter (PM), PM10, PM2.5, and ammonia (NH3).

TOG incorporates all gaseous compounds containing the element carbon, with the exception of the inorganic compounds, CO, carbon dioxide (CO_2), carbonic acid, carbonates, and metallic carbides. VOCs, a subset of TOG, includes all organic gases in TOG except acetone, ethane, methane, methylene chloride, methylchloroform, perchloroethylene, methyl acetate, para-Chlorobenzo trifluoride (pCBtF), and a number of Freon-type gases. The U.S. EPA definition of VOCs is different from the one used by CARB, which includes some compounds not considered as VOCs by the U.S. EPA. Table I-1-1 lists the compounds that are exempt in the U.S. EPA's VOCs list but are included in CARB's VOCs list. Certain chlorofluorocarbons (CFCs) are still included in CARB's VOCs list. According to CARB, the total VOC emission inventory difference between U.S. EPA and CARB is very small and the added compounds do not have a noticeable contribution to the VOC emission inventory; Those compounds do not impact regional tropospheric ozone and PM formation either.

PM represents all airborne particulate matter, also known as total suspended particles (TSP). PM10 and PM2.5 are important subsets of PM. In this Draft PM2.5 Plan, the amount of VOC in TOG and the amount of PM10 and PM2.5 in PM are calculated for each process primarily using speciation and size fraction profiles provided by CARB.[5] PM2.5 sources include both primary and secondary PM2.5 sources. Primary PM2.5 is directly emitted from various sources, whereas secondary PM2.5 is formed in the atmosphere from chemical reactions involving PM2.5 precursor emissions. Potential precursors of secondary PM2.5 include NOx, SOx, VOC and NH3. Furthermore, while air quality standards for NOx and SOx are based on NO_2 and SO_2, respectively, the emissions inventory includes emissions of NOx and SOx because multiple species of NOx and SOx contribute to the formation of particulate matter, and multiple species of NOx react with VOCs to produce ozone.

[5] https://ww2.arb.ca.gov/speciation-profiles-used-carb-modeling.

TABLE I-1-1

LIST OF COMPOUNDS EXEMPT IN U.S. EPA'S DEFINITION OF VOC; INCLUDED IN CARB'S DEFINITION OF VOC

COMPOUND	CAS*
3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	422-56-0
1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	507-55-1
1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee)	138495-42-8
difluoromethane (HFC-32)	75-10-5
ethylfluoride (HFC-161)	353-36-6
1,1,1,3,3,3-hexafluoropropane (HFC-236fa)	690-39-1
1,1,2,2,3-pentafluoropropane (HFC-245ca)	679-86-7
1,1,2,3,3-pentafluoropropane (HFC-245ea)	24270-66-4
1,1,1,2,3-pentafluoropropane (HFC-245eb)	431-31-2
1,1,1,3,3-pentafluoropropane (HFC-245fa)	460-73-1
1,1,1,2,3,3-hexafluoropropane (HFC-236ea)	431-63-0
1,1,1,3,3-pentafluorobutane (HFC-365mfc)	406-58-6
chlorofluoromethane (HCFC-31)	593-70-4
1 chloro-1-fluoroethane (HCFC-151a)	1615-75-4
1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)	354-23-4
1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C4F9OCH3 or HFE-7100)	163702-07-6
2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF3)2CFCF2OCH3)	163702-08-7
1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C4F9OC2H5 or HFE-7200)(2)	163702-05-4
2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF3)2CFCF2OC2H5)	163702-06-5
1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-C3F7OCH3, HFE-7000)	375-03-1
3-ethoxy- 1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500)	297730-93-9
1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea)	431-89-0
methyl formate (HCOOCH3)(3)	107-31-3
1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane (HFE-7300)(1)	132182-92-4
propylene carbonate(1)	108-32-7
dimethyl carbonate(1)	616-38-6
trans-1,3,3,3-tetrafluoropropene(1)	29118-24-9
HCF2OCF2H (HFE-134) (1)	1691-17-4
HCF2OCF2OCF2H (HFE-236cal2) (1)	78522-47-1
HCF2OCF2CF2OCF2H (HFE-338pcc13) (1)	188690-78-0
HCF2OCF2OCF2CF2OCF2H (H-Galden 1040x or H-Galden ZT 130 (or 150 or 180)) (1)	188690-77-9
trans 1-chloro-3,3,3-trifluoroprop-1-ene(1)	102687-65-0
2,3,3,3-tetrafluoropropene(1)	754-12-1
2-amino-2-methyl-1-propanol(1)	124-68-5
Tertiary butyl acetate (tBAc)	540-88-5

Chemical Abstract Service (CAS) identification numbers have been included for convenience.

(1) Compounds are new since the 2012 AQMP.

(2) Exempt in the consumer product regulation not the architectural coatings suggested control measure.

(3) Recommend exemption for stationary source regulations under South Coast AQMD control.

Inventory Source Categories

Stationary Sources

Stationary sources of emissions are grouped into two categories - point sources and area sources. Point source emissions are from facilities having one or more pieces of equipment registered and permitted with the South Coast Air Quality Management District (AQMD). South Coast AQMD uses permits to collect facility emission-related information for those sources such as facility location in latitude and longitude, chimney stack height, and plume exit temperature. Area source emissions are from numerous small facilities or pieces of equipment, such as gasoline-dispensing facilities, residential water heaters, consumer products and architectural coatings, for which locations may not be specifically identified. For modeling purposes, area source emissions are spatially allocated to grid cells using demographic data as surrogates (e.g., population, housing, and land use).

Point Sources

The point source emission inventory for 2018 is based on the emissions data reported by facilities in the calendar year 2018 via the South Coast AQMD's Annual Emissions Reporting (AER) Program. This program applies to facilities emitting 4 tons per year (TPY) or more of VOCs, NOx, SOx, or PM or emitting more than 100 TPY of CO, as specified in Rule 301(e). Facilities subject to the AER Program calculate or measure their emissions and report them. If calculated, they are primarily based on their throughput data (e.g., fuel usage, material usage), appropriate emission factors or source tests, and control efficiency (if applicable). Under the calendar year 2018 AER Program, approximately, 1,596 facilities reported their annual emissions to the South Coast AQMD. Smaller industrial facilities with emissions below reporting thresholds are not subject to the AER program, but emissions from those facilities are included in the area source inventory.

In order to prepare the point source inventory, emissions data for each facility were categorized based on the U.S. EPA's Source Classification Codes (SCCs) for each emission source category. Since the AER program collects emissions data on an aggregate basis (i.e., similar equipment and processes with the same emission factor are grouped and reported together), facility's equipment permit data were used in conjunction with the reported data to assign the appropriate SCC codes and develop the inventory at the SCC level. Air quality modeling uses specific facility locations provided in latitude and longitude coordinates. Business operation activity profiles are also recorded to allocate the annual emission to finer time resolutions (e.g., hourly, day of the week, and monthly emission rates). The facility business type is assigned to facilities based on North American Industry Classification System (NAICS) Codes according to their primary activity. Growth projections are assigned by NAICS using socioeconomic indexes provided by the SCAG 2020 RTP/SCS.

Area Sources

The South Coast AQMD and CARB shared responsibility for developing the 2018 area source emissions inventory for approximately 400 area source categories. The South Coast AQMD developed the area source inventory for about 150 categories, while CARB developed the remaining area source categories such as consumer products and degreasing. For each area source category, a specific methodology is used to estimate emissions. Using revised data such as throughput, activity, consumption, various demographic data, and recently adopted regulations, the following categories were updated: consumer products, architectural coating, adhesive and

sealants, composting, natural gas and LPG combustion sources, LPG transfer dispensing fugitive loss, paved and unpaved road dust, and livestock.

Rule Implementation

The cutoff dates for regulations on stationary sources included in the baseline emissions are the same as in the 2022 AQMP. All rules adopted since the 2016 AQMP by October 2020 and Rule 1109.1 were included in the baseline and are listed in Table I-1-2A (NOx regulations) and Table I-1-2B (VOC and PM regulations). Since the adoption of the 2016 AQMP and through the cutoff dates, a total of 14 source-specific rules were adopted or amended, that would achieve up to 6.6 tons per day NOx reductions by the milestone year of 2025. Rule 1109.1, amended in November 2021, is expected to achieve 3.94 tons per day NOx reductions by 2030 in addition to the reductions associated with declining RECLAIM allocation cap as defined in the Rule 2002. While the baseline emissions from the RECLAIM universe are the same as the baseline emissions included in the 2022 AQMP, this plan quantifies additional adjustments to RECLAIM sources as a result of recently approved regulations and their associated emission reductions are included in the attainment demonstration. NOx emission reductions from RECLAIM sources and these additional adjustments are discussed in detail in Chapter 3 of this Plan and in Chapter 2 of this Appendix.

TABLE I-1-2A
2016 AQMP NOX EMISSION REDUCTIONS IN TONS PER DAY BY MEASURE/ADOPTION DATE FROM SOUTH COAST AQMD MEASURES

Measure	2016 AQMP Measure	Adopted	2025	
			Commitment[c]	Expected Reductions from the Implementation
Rule 1135[a] – Electricity Generating Facilities	CMB-05	2018	5	0.36
Rules 1146, 1146.1, 1146.2[b] – Industrial/Commercial Boilers, Steam Generator and Process Heaters	CMB-05	2018		0.39
Rule 1118.1[a] – Non-Refinery Flares	CMB-05	2019		0.16
Rule 1134[a] – Stationary Gas Turbine	CMB-05	2019		1.18
Rule 1110.2[a] – Gaseous and Liquid-Fueled Engines	CMB-05	2019		0.15
Rule 1117[a] – Glass Melting Furnaces	CMB-05	2020		0.14
Rule 1179.1 – Combustion Equipment at Publicly Owned Treatment Works Facility	CMB-05	2020		0.05
Rule 1109.1[a] – NOx reduction from Refinery	CMB-05	2021		2.35
Rule 1111[d] – Residential NG Heating Furnaces	CMB-02	2018	1.1	1.28
Total adopted/amended				**6.6**

[a] Reductions are reflected in the RECLAIM allocation caps specified in South Coast AQMD's Rule 2002.
[b] Net reduction excluding the portion reflected in the RECLAIM allocation caps specified in South Coast AQMD Rule 2002
[c] Based on Table 4-8 of Final 2016 AQMP[6]
[d] R1111 reduction reflects the March 2018 amendment, which amended the schedule to implement the rule, but led no additional reductions compared to the previous version

[6] http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/chapter4.pdf?sfvrsn=4

TABLE I-1-2C
2016 AQMP VOC/PM EMISSION REDUCTIONS IN TONS PER DAY BY MEASURE/ADOPTION DATE

Agency	Measure	2016 AQMP Measure	Adopted	2025	
				Commitment	Expected Reductions from the Implementation
South Coast AQMD	Rule 1113 – Architectural Coatings	CTS-01	2016	1	0.95
	Rule 1168 – Adhesive and Sealant Application	CTS-01	2017		0.79
	Total adopted/amended VOC control measures				**1.8**
	Rule 445 – Wood Burning Devices	Contingency Measure	2020		0.13

Mobile Sources

On-Road Mobile Sources

The Draft PM2.5 Plan emission estimates for on-road motor vehicles are derived by applying emission rates from CARB's EMFAC2021[7] model to the transportation activity data provided by SCAG in its adopted 2020 RTP/SCS. The California Department of Transportation (Caltrans), the Department of Motor Vehicles (DMV), and SCAG supply CARB with necessary data to develop the on-road mobile source emissions inventory. The California DMV maintains a count of registered vehicles and Caltrans provides highway network, traffic counts, and road capacity data. SCAG maintains the regional transportation model containing the temporal and spatial distribution of motor vehicle activities (including travel time, travel speed, and volume of traffic for AM-peak, mid-day, PM-peak, evening and night hours). In addition, SCAG periodically conducts origin and destination surveys to validate the regional transportation model and updates the demographic database of population, housing, employment, and land use patterns within its jurisdiction.

Emission rate data in EMFAC2021 are collected from various sources, such as individual vehicles in a laboratory setting, tunnel studies and certification data, etc. Vehicle activity data are obtained from regional planning agencies, such as SCAG. The EMFAC2021 model calculates exhaust and evaporative emission rates by vehicle type under different vehicle speeds and environmental conditions (e.g., temperature and relative humidity). Temperature and humidity profiles are used to produce month specific, annual average, and episodic inventories.

Parameters considered by the EMFAC2021 include the type of emissions control technology, fuel type, distribution of operating speeds, speed and temperature correction factors, and the reduction in emissions resulting from the State's motor vehicle regulatory programs.

The EMFAC2021 Model includes the following mobile source data:

(1) Thirteen vehicle classes (passenger cars, light-duty trucks under 3,750 pounds, light- duty trucks between 3,750 pounds and 5,750 pounds, medium-duty trucks between 5,751 pounds and 8,500 pounds, light-heavy-duty trucks between 8,501 pounds and 10,000 pounds, light-heavy-duty trucks between 10,001 pounds and 14,000 pounds, medium-heavy-duty trucks between 14,001 pounds and 33,000 pounds , heavy-heavy-duty-trucks for over 33,000 pounds, motor homes, motorcycles, school buses, urban buses, and other buses)

(2) Five vehicle fuel types (gasoline, diesel, natural gas, electric and plug-in hybrid)

(3) Truck types (ports, agriculture, construction, interstate, out-of-state, public fleet, utility fleet, power take off, and tractor)

(4) In-state and out-of-state

(5) Fifty calendar years (2000-2050)

(6) Two vehicle exhaust processes (starts and running)

[7] https://ww2.arb.ca.gov/sites/default/files/2021-08/emfac2021_technical_documentation_april2021.pdf

(7) Four evaporative processes (diurnal, hot soak, running loss, and resting loss)

(8) Twelve pollutants (TOG, ROG, CO, CO2, CH4, N2O, NOx, PM, PM10, PM2.5, NH3, and SOx)

(9) Fuel consumption and energy consumption for electric VMT.

To develop the detailed emission inputs needed by air quality chemical transport models, such as the Community Multi-scale Air Quality model (CMAQ), emissions from on-road motor vehicles are estimated at the grid level using the emission processing tool Emissions Spatial and Temporal Allocator (ESTA). ESTA is a command-line tool for processing raw emissions data into spatially and temporally allocated emissions inventories, making them suitable for photochemical modeling or other analysis. ESTA is an open-source, Python-based tool designed by the Air Quality Planning and Science Division (AQPSD) branch of CARB.[8]

EMFAC2021 includes more subcategories for some of the major vehicle class categories (i.e., medium-heavy-duty diesel trucks and heavy-heavy diesel trucks) based on their weights (heavy or small), types (agricultural, construction, CA international registration plan), road type (in-state or out-of-state), etc. However, the on-road mobile sources emissions in the Draft PM2.5 Plan are reported by major vehicle class categories to compare with previous inventory reporting.

EMFAC2021 was the basis for on-road planning inventories, emission budgets, and rate-of-progress calculations. The EMFAC2021 model has undergone extensive revisions from the previous version (EMFAC2017) to make it more user-friendly and flexible as well as to allow incorporation of larger amounts of data demanded by the current regulatory and planning processes. In addition to the model structural changes, other updates include:

- New data and significant changes to the methodologies regarding calculation of motor vehicle emissions and revisions to implementation data for control measures;
- New methodologies for brake and tire wear and evaporative emissions;
- New approaches to light-duty activity forecasting, using up-to-date modeling approaches from academic and government agencies to assess historic trends in multiple economic indicators to forecast future vehicle activity, alongside novel forecasting frameworks for heavy duty VMT and light duty ZEV sales;
- Updated emissions factors and data on car and truck activities, and emissions reductions associated with new regulations supporting new estimates of emissions from heavy-heavy duty diesel trucks and buses. New emission factors were developed based on data from the U.S. EPA's In-Use Vehicle Program, CARB's Vehicle and Truck and Bus Surveillance Programs, CARB's Portable Emissions Measurement Systems (PEMS), and Transit Bus testing, dynamometer and Portable Emission Measurement Systems Data;
- Updated motor vehicle fleet age, vehicle types, and vehicle population based on 2013-2019 California Department of Motor Vehicle (DMV) data, International Registration Plan (IRP) data, Truck Regulation Upload, Compliance, and Reporting System (TRUCRS) data, Port Vehicle Identification Number (VIN) data, California

[8] https://github.com/mmb-carb/ESTA_Documentation.

Highway Patrol School Bus Inspections, and National Transit Database information. Each of these changes affect emission factors for each area in California.[9]

Figure I-1-1 compares on-road baseline emissions estimated by EMFAC2017, which are used in the 2022 AQMP, with those estimated by EMFAC2021, which are used in the Draft 2024 PM Plan. Both sets of emission estimates use the same travel activity data from the 2020 RTP/SCS. The figure includes emissions for base year 2018 and selected future milestone years: 2023, 2025, 2028, 2030, and 2031. The comparison of on-road emissions reflects changes due to the updated EMFAC model. EMFAC2021 is the most recent version of EMFAC that is approved by U.S. EPA, and it provides the basis of the Draft 2024 PM Plan on-road emission estimates. The values shown in Figure I-1-1 reflects reductions from heavy-duty vehicle inspection and maintenance (HD I/M) regulation.

For year 2018, EMFAC2021 estimates notably higher VOC and NOx emissions, and lower emissions of PM2.5 than EMFAC2017. Estimates of NOx and VOC in EMFAC2021 are higher than in EMFAC2017 because newer vehicle test data show that light-duty vehicles have higher exhaust emissions, and updated DMV data for 2018 indicate that medium heavy-duty trucks are older than what was assumed in EMFAC2017. PM2.5 emissions are substantially reduced in EMFAC2021 with respect to EMFAC2017, as a result of updates on emissions and speed correction factors for brake wear obtained from newer emission testing. The differences in VOC and PM2.5 emissions are propagated through 2030, whereas NOx emissions only differ slightly between EMFAC2017 and EMFAC2021.

Emissions in future milestone years are significantly lower than the base year 2018 emissions for all pollutants except for ammonia. These emission reductions in the future can be attributed to the ongoing implementation of regulations and programs, such as Advanced Clean Cars Program[10], ICT Regulation, Zero Emission Airport Shuttle Bus Regulation[11], Clean Miles Standard[12], ACT, and HD Omnibus low NOx requirements. Despite the growth in vehicular activities, emissions from on-road mobile sources are expected to decrease in future years, with NOx and VOC emissions in 2030 projected to be 73 and 49 percent lower than those in 2018, respectively. Emissions of NH3 from both gasoline and diesel vehicles are projected to increase in the future. NH3 emissions from gasoline vehicles are produced as a reaction in the catalytic converter. NH3 emitted by heavy-duty diesel trucks originates from the use of selective catalytic reactors (SCR) to control NOx emissions from diesel vehicles. Ammonia emissions from SCR systems is generally referred to as *ammonia slip*. SCR technology reduces NOx emissions by converting them into harmless nitrogen and water vapor through a reaction with ammonia. However, if the SCR system injects more ammonia than required for the NOx reduction process, or if the catalyst becomes inefficient, unreacted ammonia can escape into the exhaust stream. The projected increase in vehicle activity for light-, medium- and heavy-duty vehicles leads to the increase in NH3 emissions.

[9] More detailed information on the changes incorporated in EMFAC2017 can be found at: https://ww3.arb.ca.gov/msei/downloads/emfac2017-volume-iii-technical-documentation.pdf

[10] Advanced Clean Cars Program, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program

[11] Zero-Emission Airport Shuttle Regulation, https://ww2.arb.ca.gov/our-work/programs/zero-emission-airport-shuttle

[12] Clean Mile Standard, https://ww2.arb.ca.gov/our-work/programs/clean-miles-standard

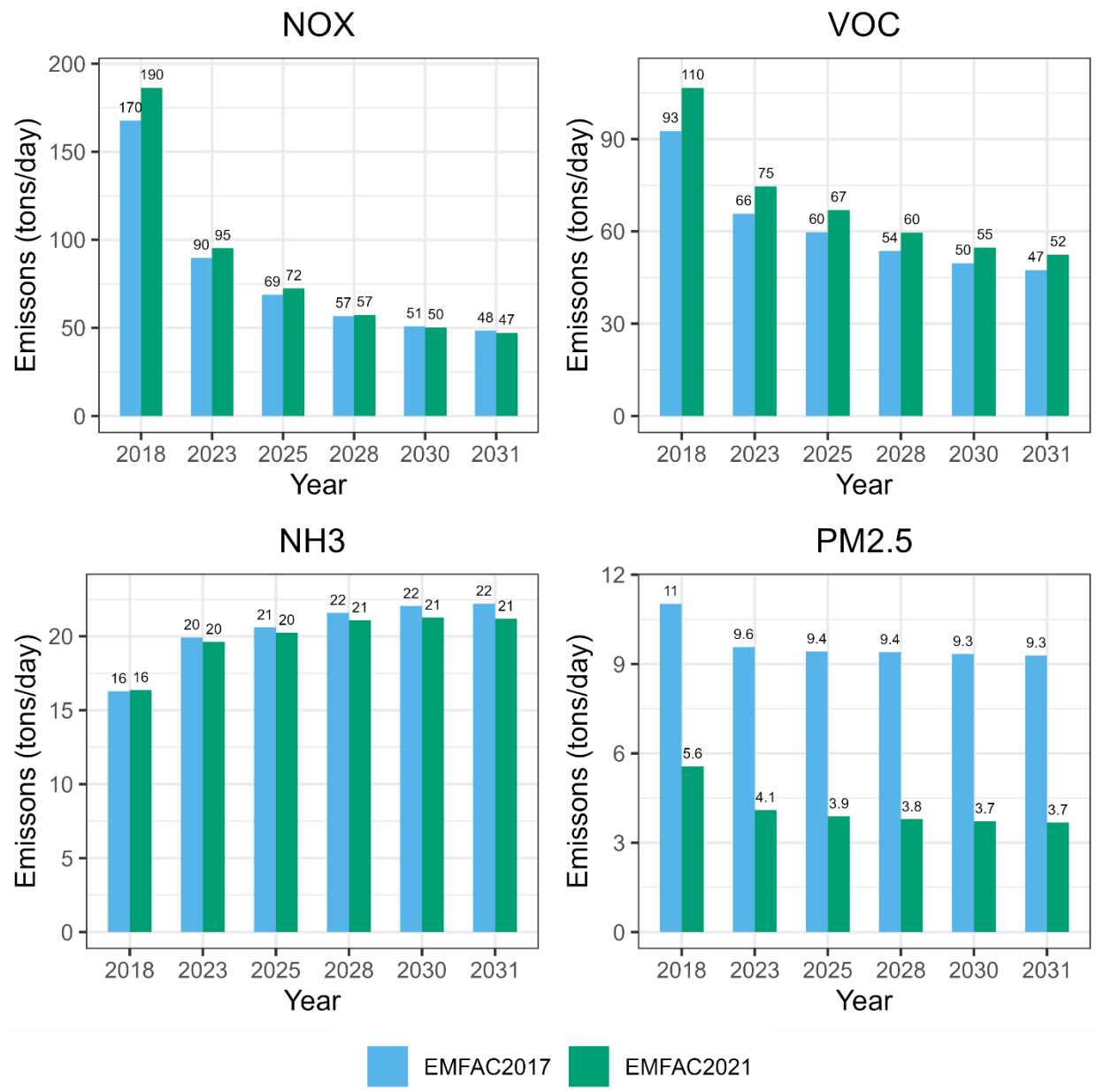


FIGURE I-1-1
COMPARISON OF ON-ROAD EMISSIONS OF BASE AND FUTURE MILESTONE YEARS USING EMFAC 2017 VERSUS EMFAC 2021
(ANNUAL AVERAGES)

Off-Road Mobile Sources

Mobile sources not included in the on-road mobile source emissions inventory are classified as off-road mobile sources. CARB uses a number of models to estimate emissions for more than one hundred off-road equipment categories. The models account for the effects of various adopted regulations, technology types, and seasonal effects on emissions. The models combine population, equipment activity, horsepower, load factors, population growth, retirement factors, and emission factors to yield annual emissions by county, air basin, or Statewide. Temporal usage profiles are used to develop seasonal emission estimates, which are then spatially allocated to counties or air basins using surrogates such as population.[13] The emissions presented here are consistent with the off-road emissions developed for the 2022 AQMP[14], except for a small change in construction equipment emissions. After the development of the 2022 AQMP, an error was discovered in the emission allocations for in-use emissions from off-road construction equipment in Riverside County. This error only affected future year emissions and is now corrected in this Draft PM2.5 Plan.

[13] More information about off-road models can be found at http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

[14] 2022 AQMP Appendix III: Base and Future Year Emission Inventory http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/appendix-iii.pdf?sfvrsn=6

Chapter 2

SUMMARY OF EMISSIONS

Baseline Emission Inventories

Base Year Emissions

Table I-2-1A compares the annual average emissions in the 2022 AQMP base year inventory and the emissions estimated in the Draft PM2.5 Plan for all PM2.5 precursors. As described above, the differences between the 2022 AQMP and the Draft PM2.5 Plan are from on-road sources due to the transition from EMFAC2017 to EMFAC2021. Overall, the base year 2018 emissions of VOC, NOx, and SOx in the Draft PM2.5 Plan are higher than those in the 2022 AQMP by 4%, 5% and 1%, respectively. In contrast, direct PM2.5 emissions in the Draft PM2.5 Plan are 9% lower than the 2022 AQMP.

Table I-2-1B shows the 2018 annual average emissions inventory by major source category. Stationary sources are further divided into point sources (e.g., petroleum production and electric utilities) and area sources (e.g., architectural coatings, residential water heaters, consumer products, and permitted sources smaller than the emission reporting threshold – generally 4 tons per year). Mobile sources consist of on-road (e.g., passenger cars and heavy-duty trucks) and off-road sources (e.g., locomotives and ships).

Figure I-2-1 illustrates the relative contribution of each source category to the 2018 inventory. VOC and NH3 emissions are both largely driven by area sources, although specific area sources differ for the two pollutants. Area sources account for half of the total VOC emissions, with consumer products alone accounting for 27% of total VOC emissions. For NH3 emissions, humans and pets contribute to half of the total area source emissions, and overall, area sources contribute to 70% of the total NH3 emissions. Mobile sources are the top contributor to NOx emissions, whereas area sources are the top contributor to PM2.5 emissions. Overall, total mobile source emissions account for almost 45% of VOC emissions and 85% of NOx emissions. The on-road mobile category alone contributes over 23% and 49% of VOC and NOx emissions, respectively. For directly emitted PM2.5, mobile sources represent 18% of total emissions, with an additional 15% from vehicle-related entrained dust from paved and unpaved roads. Non-vehicle related area sources, such as commercial cooking and residential fuel combustion, are the predominant source of directly emitted PM2.5 emissions, contributing 46% of total emissions. Stationary sources are responsible for most of the SOx emissions in the Basin, with the point source category (larger facilities subject to AER requirements) contributing 49% of total SOx emissions, whereas off-road mobile sources, mainly ocean-going vessels (OGV) and aircraft, contribute to 26% of total SOx emissions.

Figure I-2-2 shows the fraction of the 2018 inventory by responsible agency. The U.S. EPA, CARB, and South Coast AQMD split regulatory authority over these pollutants, with the U.S. EPA and CARB primarily responsible for mobile sources. Specifically, the U.S. EPA's authority applies to aircraft, locomotives, OGVs, military harbor craft, and other mobile categories, including California international registration plan (CAIRP) and out-of-state (OOS) medium- and heavy-duty trucks and pre-empt off-road equipment with less than 175 horsepower. CARB regulates other mobile sources, consumer products, and portions of area sources related to fuel combustion, and petroleum production and marketing. The South Coast AQMD has limited authority over mobile sources, which it exercises via fleet rules and facility-based mobile source measurements. On the other hand, it exercises authority over most area sources and all point sources. The same figure also illustrates agency responsibility as it pertains to VOC, NOx, SOx, NH3, and directly emitted PM2.5 emissions. NOx and VOCs are

important precursors to ozone and PM2.5 formation, and SOx, NH3 and directly emitted PM2.5. As shown, most NOx and VOC emissions in the Basin are from sources that fall under the primary jurisdiction of the U.S. EPA or CARB. For example, 84% of NOx and 74% of VOC emissions are from sources primarily under CARB and the U.S. EPA control. Conversely, 61% of SOx emissions, 76% of NH3 emissions, and 81% of directly emitted PM2.5 emissions are from sources under the South Coast AQMD control. This underscores the need for coordinated actions at the local, state, and federal levels to ensure that the region attains the federal ambient air quality standards.

TABLE I-2-1A
COMPARISON OF 2018 EMISSIONS
BETWEEN THE 2022 AQMP AND THE DRAFT 2024 PM2.5 PLAN (TONS PER DAY)

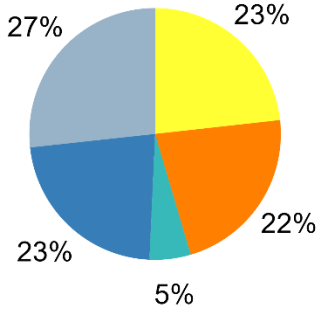
	On-Road Vehicles	Total Emissions
VOC		
2022 AQMP	78.5	387
Draft PM2.5 Plan	93.4	401.9
% Change	+19.0%	+3.9%
NOx		
2022 AQMP	167.7	364.7
Draft PM2.5 Plan	186.3	383.2
% Change	+11.1%	+5.1%
SOx		
2022 AQMP	1.7	14.3
Draft PM2.5 Plan	1.8	14.4
% Change	+5.9%	+0.7%
PM2.5		
2022 AQMP	11	61.5
Draft PM2.5 Plan	5.6	56
% Change	-49.1%	-8.9%
NH3		
2022 AQMP	16.3	74.5
Draft PM2.5 Plan	16.4	74.6
% Change	+0.6%	+0.1%

TABLE I-2-1B
SUMMARY OF 2018 EMISSIONS BY MAJOR SOURCE CATEGORY
(TONS PER DAY*)

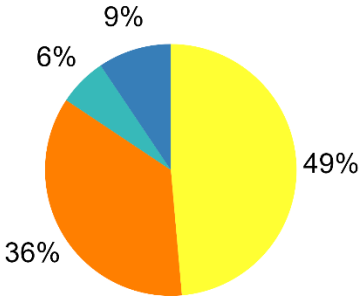
Source Category	PM2.5 PLAN				
	VOC	NOx	SOx	PM2.5	NH3
Fuel Combustion	5.4	21.1	2.1	5.3	7.8
Waste Disposal	14.7	1.4	0.4	0.3	5.7
Cleaning and Surface Coatings	36.9	0.0	0.0	1.4	0.1
Petroleum Production and Marketing	19.6	0.3	0.3	0.9	0.1
Industrial Processes	10.2	0.1	0.1	4.7	8.7
Misc. Processes					
Residential fuel combustion	8.9	19.1	0.3	6.8	0.1
Cooking	1.1	0.0	0.0	11.4	0.0
Paved & Unpaved Road Dust	0.0	0.0	0.0	10.3	0.0
Others	2.6	0.2	0.1	4.1	34.3
Solvent Evaporation	120.0	0.0	0.0	0.0	1.2
RECLAIM Sources		17.8	5.5		
Total Stationary Sources	**219.4**	**59.9**	**8.8**	**45.2**	**58.0**
On-Road Vehicles	93.4	186.3	1.8	5.6	16.4
Off-Road Vehicles	89.2	137.1	3.8	5.2	0.2
Total Mobile Sources	**182.6**	**323.3**	**5.6**	**10.8**	**16.5**
TOTAL	**401.9**	**383.3**	**14.4**	**56.0**	**74.6**

*Values may not sum due to rounding error.

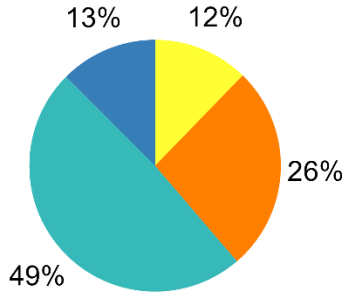
VOC Emissions: 402 tons/day



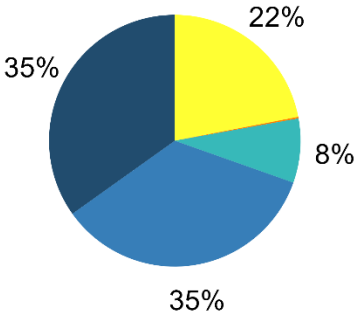
NOx Emissions: 383 tons/day



SOx Emissions: 14 tons/day



NH3 Emissions: 75 tons/day



PM2.5 Emissions: 56 tons/day

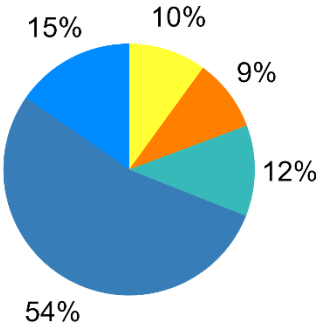


FIGURE I-2-1
2018 EMISSIONS BY MAJOR SOURCES
(Annual Average)

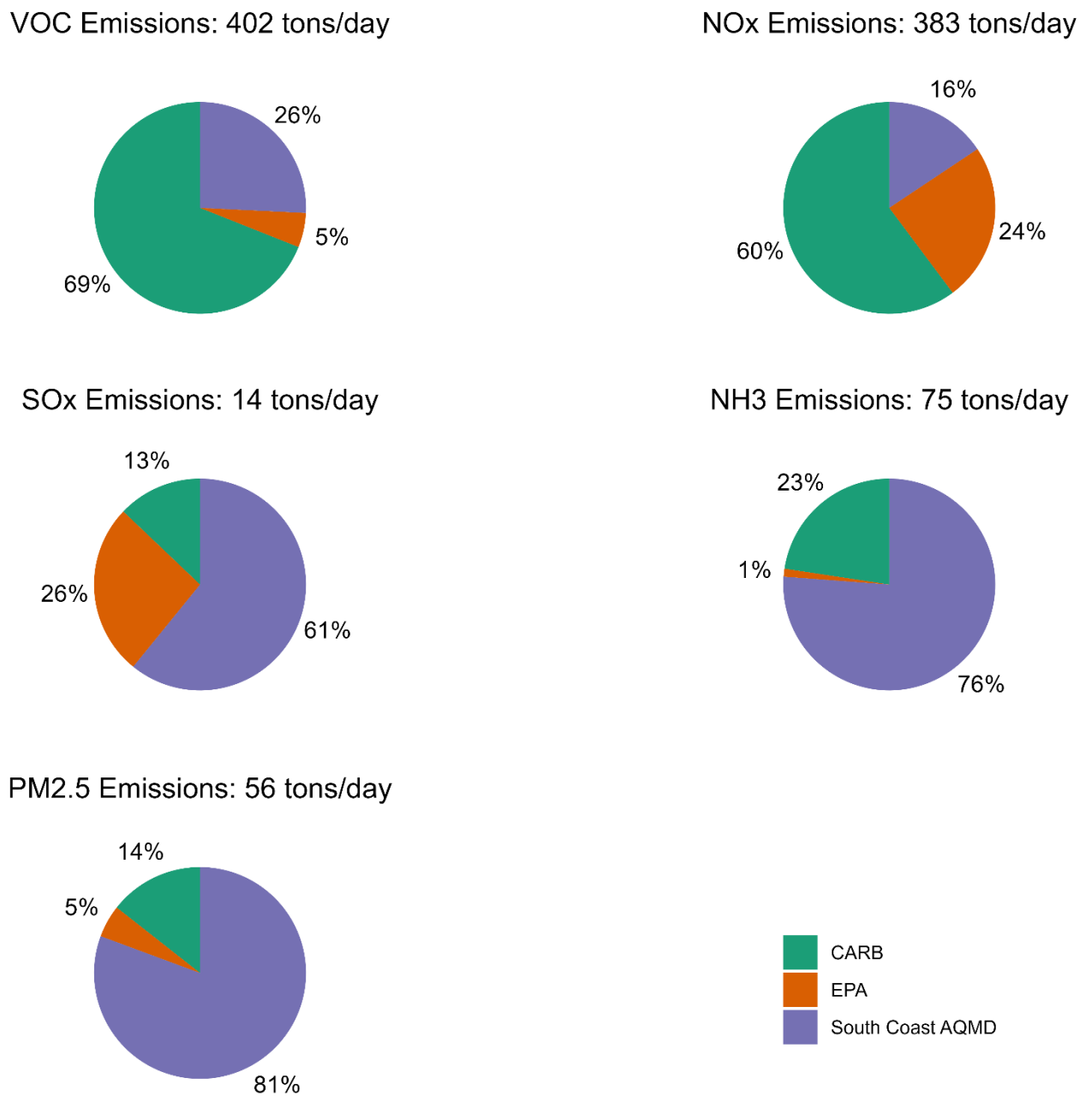


FIGURE I-2-2
2018 EMISSION INVENTORY AGENCY RESPONSIBILITY
(Annual Average)

Future Year Emissions

Future baseline emissions, which assume no additional air quality regulations introduced beyond those already adopted regulations and programs, are presented in this appendix. The future years include the attainment year and other milestone years significant to demonstrate progress toward attainment. They are 2023, 2025, 2028, 2030 and 2031. Emissions by major source category are provided in Attachment A. These emissions are forecasted from the 2018 base year by incorporating the controls implemented under South Coast AQMD rules and programs adopted as of October 2020, CARB rules adopted by December 2021, and a specific set of growth rates from SCAG for population, industry, and motor vehicle activity. South Coast AQMD's Rule 1109.1- Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations, which was adopted in November 2021, is also reflected in this Draft PM2.5 Plan emissions inventory. Emission reductions from CARB's Heavy-Duty Inspection and Maintenance (HD I/M)[15] adopted in December 2021 are not embedded in EMFAC2021 but were reflected in the baseline emissions using an off-EMFAC model adjustment. Growth projections from SCAG were replaced in certain categories where more specific information was available to improve emission forecasts. For example, District-wide natural gas consumption forecasts, consistent with the 2020 California Gas Report,[16] were used to estimate the area source emissions associated with natural gas combustion.

The methodology used to forecast emissions for non-RECLAIM sources is described in the following sections. Baseline emissions for future years are obtained using the following equation:

$$\mathbf{FY_i = BY \times CF_i \times GF_i}$$

where FY_i is the forecasted emissions of an air pollutant in the Basin for a future year *i*. *BY* refers to the base year (2018) emissions of the air pollutant. The control factor, CF_i, is an indicator of the level of control on a specific source category as a result of adopted state and local air quality regulations in year *i*. GF_i is a growth factor determined for different categories of industry with socioeconomic data for year *i* with respect to base year. Both CF_i and GF_i are unitless factors that reflect a change with respect to the base year 2018.

For RECLAIM sources, baseline emissions are the same as the baseline emissions included in the 2022 AQMP. The RECLAIM allocation cap defined in the South Coast AQMD's rule 2002 was used for years prior to the conversion to a traditional command and control structure. After the sunset year, sources belonging to the RECLAIM universe, referred to as "former-RECLAIM", are then scaled using growth and control factors normalized by the growth and control factors of the sunset year. Baseline emissions for years after sunset are projected as follows:

$$\mathbf{FY_i = SY \times CF_i/CF_S \times GF_i/GF_S}$$

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[15] Heavy-Duty Inspection and Maintenance Program, https://ww2.arb.ca.gov/our-work/programs/heavy-duty-inspection-and-maintenance-program

[16] https://www.socalgas.com/sites/default/files/2020-10/2020_California_Gas_Report_Joint_Utility_Biennial_Comprehensive_Filing.pdf.

where FY_i is the forecasted emissions for year *i*. *SY* is the emissions in the sunset year. CF_i is the control factor for year *i*, and CF_S is the control factor in the sunset year. GF_i is the growth factor for year *i* and GF_S is the growth factor in the sunset year.

In the 2022 AQMP, it was assumed that 2025 and 2026 would mark the initial years without RECLAIM programs for NOx and SOx, respectively, based on the best available information at the time of plan development. However, during the development of the RECLAIM landing rules, the sunset timeline was revised, delaying the sunset of the NOx RECLAIM program by one year to 2026, and placing the sunset of the SOx RECLAIM program on hold to accommodate operational requirements and stakeholder feedback. The change in the sunset year for NOx is not expected to affect the attainment demonstration, because landing rules are effectively implemented prior to 2030 and the reductions anticipated for 2030 are not impacted by the change of the sunset schedule. The change in sunset for SOx will ensure that the SOx emissions remain below the cap, and thus, does not affect the PM2.5 attainment strategy.

Control Factors

The impacts of South Coast AQMD rules and programs adopted or amended with compliance dates after 2018 are included in the baseline emission forecasts using control factors. Control factors were developed with reference to 2018 and applied to source categories and/or specific industries affected by the adopted rules/amendments. For industrial sources, the standard industrial codes (SIC) system is used. The U.S. EPA's SCC system is used for equipment. A control factor, CF_i, is calculated with the following equation for each individual source category:

$$\mathbf{CF_i = 1 - Control\ Efficiency}$$

Control efficiency is mostly based on estimates projected during rulemaking. Control factors represent the remaining emissions after a rule or regulation is implemented after 2018. Table I-2-2A lists control factors for the year 2025 and the attainment year 2030 for South Coast AQMD rules for non-RECLAIM sources amended or adopted between the adoption of the 2016 AQMP and the cutoff dates for this Plan, and that have post-2018 compliance dates. Table I-2-2B lists the resulting future accumulated annual average emission reductions in 2025 and 2030. In total, eleven regulations and a Facility Based Mobile Source Measure for Commercial Airports were amended or adopted by South Coast AQMD since the development of the 2016 AQMP, and they are reflected in the baseline emissions inventory of this Draft PM2.5 Plan.

Table I-2-2C lists the South Coast AQMD's regulations to convert the RECLAIM program to a traditional command-and-control structure. As of September of 2023, South Coast AQMD has adopted eleven so-called 'landing' rules to transition out of RECLAIM program to a traditional command-and-control structure. A portion of R1109.1 (2.35 tons per day NOx reduction) implements Rule 2002, therefore it was counted toward the RECLAIM cap "shave". The reductions attributed to the non-shave portion of Rule 1109.1, which amount to 3.94 and 4.65 tons per day by 2030 and 2037, respectively, are already reflected in the baseline emissions (and not included in Table I-2-2C). In contrast, the remaining landing rules were not included in the baseline. At the time of the 2022 AQMP development, many of these rules were still in progress, and it was uncertain whether

the reductions would be considered part of the RECLAIM shave. To prevent double counting, the reductions from the landing rules were assumed to be included in the RECLAIM shave in the 2022 AQMP. Subsequently, the majority of the landing rules have been adopted, and they are expected to achieve reductions exceeding the requirements of the RECLAIM shave over a longer timeframe. Given the maturity of the RECLAIM shave in 2022, any reductions in excess of the 2022 reductions are considered new reductions. Consequently, the net NOx reductions from landing rules beyond the shave are projected to be 2.86 tons per day by 2030, as shown in Table I-2-2C.

Figure I-2-3 shows the (former-) RECLAIM universe NOx emission trend in the baseline for the Draft PM2.5 Plan SIP inventory for future years (which is the same as in the 2022 AQMP) and the adjusted future RECLAIM emissions that result from the quantification of all landing rules. The latest amendment of the Rule 2002 in December 2015 reduces NOx allocation cap for RECLAIM facilities from 26.5 tons per day in 2015 to 14.5 tons per day in 2022. The 2018 emissions are reported emissions which are smaller than the allocation cap, 23.5 tons per day, for that year. In the RECLAIM baseline emissions for this Plan, the NOx emissions under former-RECLAIM undergo a steady decrease with the implementation of R1109.1 from 2025 to future years. With the additional adjustment to the RECLAIM universe, RECLAIM NOx emissions in 2030 are reduced by 2.86 tons per day with respect to the baseline (consistent with Table I-2-2C). This adjustment to RECLAIM emissions is not included in the baseline, but it is included in the attainment strategy in this Plan for 2030.

There are several stationary rules for non-RECLAIM sources adopted or amended after the cut-off date of this Plan (October 2020 expect for R1109.1). Table I-2-2D lists the resulting future accumulated annual average emission reductions in 2030. R1111 was amended in January 2023 to update the implementation schedule with the full implementation year revised to 2048 with the same net reductions. R1168 was amended in November 2022 to revise the emission reductions. R1147, R1147.2 and R1150.3 are newly adopted or amended rules that have quantified emission reductions in milestone years for this plan, although those reductions were not reflected into the baseline emissions. As in the case of the RECLAIM adjustment, the emission reductions from these newly adopted or amended rules are included in the attainment strategy in this Plan for 2030.

TABLE I-2-2A
CONTROL FACTORS BY SOUTH COAST AQMD RULES APPLYING TO NON-RECLAIM SOURCES WITH POST-2018 COMPLIANCE DATES

RULES	DESCRIPTION	Adoption /Amend Date	2025			2030		
			VOC	NOx	PM	VOC	NOx	PM
445	Wood Burning Devices	3-Oct-20	-	-	0.97	-	-	0.97
1109.1	NOx reduction from refinery	5-Nov-21	-	0.89	-	-	0.64	-
1111[a]	Residential NG Heating Furnaces (<175k btu/hr)	2-Mar-18	-	0.82	-	-	0.68	-
1113	Architectural Coatings	5-Feb-16	0.92	-	-	0.92	-	-
1118.1	Non-Refinery Flares	4-Jan-19	0.97	0.81	-	0.97	0.81	-
1134	Stationary Gas Turbine	5-Apr-19	-	0.58	-	-	0.36	-
1135	Electricity Generating Facilities	2-Nov-18	-	0.09	-	-	0.09	-
1146 & 1146.1	Industrial /Commercial Boilers, Steam Generator, & Process Heaters	7-Dec-18	-	0.35	-	-	0.34	-
1168	Adhesive and Sealant Applications	6-Oct-17	0.87	-	-	0.82	-	-
1179.1	Combustion Equipment at Publicly Owned Treatment Works Facility	2-Oct-20	0.75	-	-	0.75	-	-
Airport	FBMSM – Commercial Airports	6-Dec-19	0.46	0.46	-	0.34	0.34	-

[a]R1111 reduction reflect the implementation schedule for the March 2018 amendment.

TABLE I-2-2B
ACCUMULATED EMISSION REDUCTIONS IN TONS PER DAY BY SOUTH COAST AQMD RULES APPLYING TO NON-RECLAIM SOURCES

RULES	DESCRIPTION	Adoption /Amend Date	2025			2030		
			VOC	NOx	PM	VOC	NOx	PM
445	Wood Burning Devices	27-Oct-20	-	-	0.13	-	-	0.13
1109.1	NOx reduction from refinery	5-Nov-21	-	1.17	-	-	4.65	-
1111[a]	Residential NG Heating Furnaces	2-Mar-18		2.38	-	-	4.12	-
1113	Architectural Coatings	5-Feb-16	0.95	-	-	0.95	-	-
1118.1 (non-RECLAIM)[b]	Non-Refinery Flares	4-Jan-19	-	0.12	-	-	0.12	-
1134 (non-RECLAIM)[b]	Stationary Gas Turbine	5-Apr-19	-	0.11	-	-	0.17	-
1135 (non-RECLAIM)[b]	Electricity Generating Facilities	2-Nov-18	-	0.04	-	-	0.04	-
1146 & 1146.1 (non-RECLAIM)[b]	Industrial /Commercial Boilers, Steam Generator, & Process Heaters	7-Dec-18	-	-	-	-	0.06	-
1168	Adhesive and Sealant Applications	6-Oct-17	0.79	-	-	0.79	-	-
1179.1	Combustion Equipment at Publicly Owned Treatment Works Facility	2-Oct-20	0.05	-	-	0.05	-	-
Airport	FBMSM – Commercial Airports	6-Dec-19	-	0.5	-	-	0.5	-

[a]R1111 reduction reflect the implementation schedule for the March 2018 amendment.
[b]The emission reductions for RECLAIM portion are not included to avoid double counting.

TABLE I-2-2C
REDUCTIONS IN TONS PER DAY FROM SOUTH COAST AQMD'S REGULATIONS TO CONVERT THE RECLAIM PROGRAM TO A COMMAND-AND-CONTROL STRUCTURE

Adopted/Amended Date	District Rule	Implementation Schedule		Total Reductions from RECLAIM Sources in 2030 (tpd)	2030 Reduction in excess of 2022 reductions (tpd)
		Start Year	End Year		
11/1/2019	Rule 1110.2 – Control of Emissions from Gaseous- and Liquid-fueled Engines	2020	2029	0.25	0.21
1/4/2019	Rule 1118.1 – Control of Emissions from Non-Refinery Flares	2022	2025	0.03	0.03
4/5/2019	Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines	2024	2027	1.66	1.66
11/2/2018	Rule 1135 – Electricity Generating Facilities	2020	2025	0.30	0.18
12/7/2018	Rule 1146 & 1146.1 – Emissions of Oxides of Nitrogen from Industrial, Institutional, Commercial Boilers, Steam Generators, and Process Heaters	2019	2033	0.36	0.08
12/7/2018	Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Heaters and Small Boilers and Process Heaters	2022	2023	0.002	0.002
5/6/2022	Rule 1147 – NOx Reductions from Miscellaneous Sources	2024	2059	0.40	0.40
8/6/2021	Rule 1147.1 – NOx Reductions from Aggregate Dryers	2025	2057	0.01	0.01
4/1/2022	Rule 1147.2 – NOx Reductions from Metal Melting and Heating Furnaces	2026	2057	0.49	0.36
8/4/2023	Rule 1153.1 – Emissions of Oxides of Nitrogen from Commercial Food Ovens	2024	2036	0.02	0.02
Cumulative reductions from the landing rules listed above*				3.47	2.86

* Reductions are calculated for each rule individually. Because some sources are affected by more than one rule, the compounded emission reductions are slightly lower than the sum of reductions from individual rules.

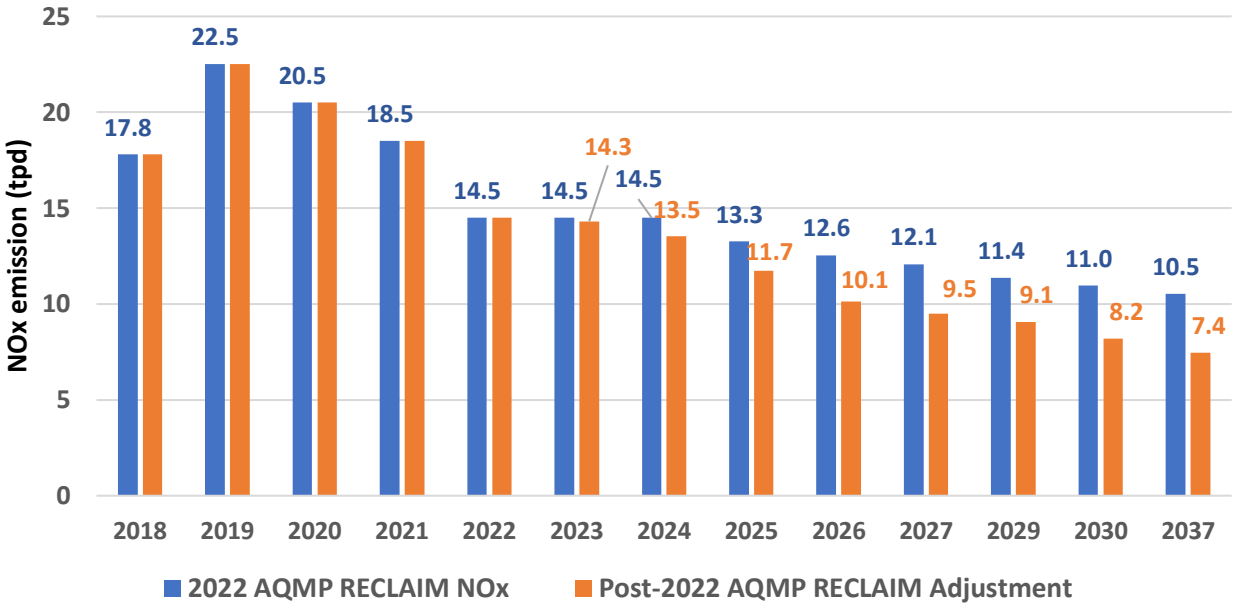

FIGURE I-2-3
NOX EMISSION OF (FORMER-) RECLAIM SOURCES FOR FUTURE YEARS IN THE DRAFT PM2.5 BASELINE AND ADJUSTED RECLAIM EMISSIONS AS A RESULT OF QUANTIFIED LANDING RULES

TABLE I-2-2D
ACCUMULATED EMISSION REDUCTIONS IN TONS PER DAY BY POST-2022 AQMP SOUTH COAST AQMD RULES FOR NON-RECLAIM SOURCES

Adoption Date	District Rule	Implementation Schedule		Net SIP Reduction by 2030* (tpd)
		Start Year	End Year	
9/1/2023	Rule 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces	2012	2050	-0.07**
5/6/2022	Rule 1147 – NOx Reductions from Miscellaneous Sources	2024	2059	0.28
8/6/2021	Rule 1147.1 – NOx Reductions from Aggregate Dryers	2025	2057	0.01
4/1/2022	Rule 1147.2 – NOx Reductions from Metal Melting and Heating Furnaces	2026	2057	0.06
2/5/2021	Rule 1150.3 – Emissions of Oxides of Nitrogen from Combustion Equipment at Landfills	2021	2031	0.04
8/4/2023	Rule 1153.1 – Emissions of Oxides of Nitrogen from Commercial Food Ovens	2024	2036	0.02
11/4/2022	Rule 1168 – VOC reductions from adhesive and sealant applications	2017	2028	-0.14**

*Reductions by 2030 for each rule are calculated with SIP baseline inventory and associated control factors based on rule-specific implementation schedules.

**The amendment allowed more time to comply with the rule requirements, which resulted in less reductions in 2030 than the earlier version. Negative values indicate the changes from the previous version reflected in the 2022 AQMP.

Growth Factors

To quantify growth, a facility business type is assigned to each facility based on the North American Industry Classification System (NAICS) Code according to their primary activity. Growth projections by NAICS are based on SCAG's 2020 RTP/SCS. The growth scalars were developed using the most recent data from Energy Information Administration (EIA), Southern California Gas Company, Bureau of Land Management (BLM), and South Coast AQMD rule compliance records.

Each emission inventory source grows based on its growth surrogate. These growth surrogates include industry output growth, employment growth, demographic growth, vehicle miles traveled (VMT) growth, and others. The demographic forecasts from the year 2018 through 2031 for population, housing, employment, and motor vehicle activity are shown in Table I-2-3. Current forecasts indicate that this region will experience a 7.9 percent population growth by the year 2030 with a 1.8 percent increase in vehicle miles traveled (VMT) from the 2018 levels. Housing units and total employment are projected to grow by 11.7 percent and 7.3 percent, respectively. Table I-2-4 shows the relative distribution of population by county in the Basin for the years 2018, 2023, 2025, 2028, 2030 and 2031. By 2031 the populations in Los Angeles and Orange counties are projected

to increase by 9 percent from the 2018 levels, compared with the increases for Riverside and San Bernardino counties of 23 percent and 19 percent, respectively, indicating faster growth in inland counties than Los Angeles and Orange counties.

The selection of the surrogate by which emission growth is projected depends on the type of activity. For instance, manufacturing sectors use output growth as a surrogate. Output growth is the product of employment and productivity. Employment growth is chosen for labor intensive sectors, such as construction and laundering. Certain emission sources use demographic data as their surrogate; for example, the number of housing units is used to project emissions from architectural coatings, and population growth is used for the composting waste disposal category. Some growth projections are from SoCalGas 2020 Gas Data Report for natural gas combustion related categories. Growth factors for specified ranges of NAICS categories were projected by SCAG and are based on predictions of growth for different industrial sectors in each county. SCAG has provided growth factors for future milestone years such as 2023, 2025, 2028, 2030, and 2031. Table I-2-5 lists the point sources growth surrogate by NAICS. Table I-2-6 shows the area sources growth surrogate by source category. Tables I-2-7 through Table I-2-11 illustrate the growth factors for point sources by NAICS for years of 2023, 2025, 2028, 2030, and 2031 in the Draft PM2.5 Plan. Tables I-2-12 through Table I-2-16 contain the growth factors for years of 2023, 2025, 2028, 2030, and 2031 in the Draft PM2.5 Plan for the area sources by source category.

TABLE I-2-3
BASELINE DEMOGRAPHIC FORECASTS IN THE DRAFT 2024 PM PLAN

CATEGORY		2018	2023	2025	2030	2031
Population	Millions	16.7	17.3	17.5	18	18.1
	Growth (%)		3.5	4.8	7.9	8.5
Housing Units	Millions	5.3	5.7	5.7	6	6
	Growth (%)	-	5.9	7.7	11.7	12.5
Total Employment	Millions	7.7	8	8.1	8.3	8.4
	Growth (%)	-	3	4.4	7.3	7.9
Daily VMT	Millions	388	394	394	395	397
	Growth (%)	-	1.7	1.6	1.8	2.5

TABLE I-2-4
POPULATION DISTRIBUTION BY COUNTY IN SCAB (IN THOUSANDS)

YEAR	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO	BASIN TOTAL
2018	9,869	3,232	1,937	1,634	16,672
2023	10,149	3,324	2,067	1,724	17,263
2025	10,239	3,361	2,124	1,753	17,477
2028	10,373	3,409	2,202	1,797	17,781
2030	10,463	3,441	2,254	1,827	17,985
2031	10,513	3,453	2,273	1,844	18,082

TABLE I-2-5
POINT SOURCES GROWTH SURROGATE BY SOURCE CATEGORY

NAICS	SOURCE DESCRIPTION	GROWTH SURROGATE
111	Crop Production	111-115 Output
112	Animal Production	111-115 Output
113	Forestry and Logging	111-115 Output
114	Fishing Hunting and Trapping	111-115 Output
115	Support Activities for Agriculture and Forestry	111-115 Output
211	Oil and Gas Extraction	211 Output
212	Mining (except Oil and Gas)	212-213 Output
213	Support Activities for Mining	212-213 Output
221111	Hydroelectric Power Generation	SCG-Electricity Power
221112	Fossil Fuel Electric Generation	SCG-Electricity Power
221113	Nuclear Electric Generation	SCG-Electricity Power
221119	Other Electric Generation	SCG-Electricity Power
221121	Electric Bulk Transmission and Control	SCG-Electricity Power
221122	Electric Power Distribution	SCG-Electricity Power
221	Utilities - Except Electricity	Total Employment
236	Construction of Buildings	236-238 Employment
237	Heavy and Civil Engineering Construction	236-238 Employment
238	Specialty Trade Contractors	236-238 Employment
311	Food Manufacturing	311 Output
312	Beverage and Tobacco Product Manufacturing	312 Output
313	Textile Mills	313 Output
314	Textile Product Mills	314 Output
315	Apparel Manufacturing	315 Output
316	Leather and Allied Product Manufacturing	316 Output
321	Wood Product Manufacturing	321 Output
322	Paper Manufacturing	322 Output
323	Printing and Related Support Activities	323 Output
324	Petroleum and Coal Products Manufacturing	No Growth
325	Chemical Manufacturing	325 Output
326	Plastics and Rubber Products Manufacturing	326 Output
327	Nonmetallic Mineral Product Manufacturing	327 Output
331	Primary Metal Manufacturing	331 Output
332	Fabricated Metal Product Manufacturing	332 Output

TABLE I-2-5 (CONTINUED)
POINT SOURCES GROWTH SURROGATE BY SOURCE CATEGORY

NAICS	SOURCE DESCRIPTION	GROWTH SURROGATE
333	Machinery Manufacturing	333 Output
334	Computer and Electronic Product Manufacturing	334 Output
335	Electrical Equipment -Appliance-Component Manufacturing	335 Output
336	Transportation Equipment Manufacturing	336 Output
337	Furniture and Related Product Manufacturing	337 Output
339	Miscellaneous Manufacturing	339 Output
423	Merchant Wholesalers-Durable Goods	423 Employment
424	Merchant Wholesalers - Nondurable Goods	424 Employment
425	Wholesale Electronic Markets and Agents and Brokers	425 Employment
441	Motor Vehicle and Parts Dealers	441 Employment
442	Furniture and Home Furniture Stores	442 Employment
443	Electronics and Appliance Stores	443 Employment
444	Building Material-Garden Equipment-Supplies Dealers	444 Employment
445	Food and Beverage Stores	445-6 Employment
446	Health and Personal Care Stores	445-6 Employment
447	Gasoline Stations	447 Output
448	Clothing and Clothing Accessories Stores	448 Output
451	Sporting Goods-Hobby-Book- Music Stores	451-454 Output
452	General Merchandise Stores	451-454 Output
453	Miscellaneous Store Retailers	451-454 Output
454	Nonstore Retailers	451-454 Output
481	Air Transportation	481 Output
482	Rail Transportation	482 Output
483	Water Transportation	483 Output
484	Truck Transportation	484 Output
485	Transit and Ground Passenger Transportation	485 Output
486	Pipeline Transportation	486 Output
487	Scenic and Sightseeing Transportation	487 Output
488	Support Activities for Transportation	488 Output
491	Postal Service	491-493 Employment
492	Couriers and Messengers	491-493 Employment
493	Warehousing and Storage	491-493 Output
511	Publishing Industries (except Internet)	511-519 Output

TABLE I-2-5 (CONTINUED)
POINT SOURCES GROWTH SURROGATE BY SOURCE CATEGORY

NAICS	SOURCE DESCRIPTION	GROWTH SURROGATE
512	Motion Picture and Sound Recording Industries	511-519 Output
515	Broadcasting (except Internet)	511-519 Output
517	Telecommunications	511-519 Output
518	Data Processing- Hosting and Related Services	511-519 Output
519	Other Information Services	511-519 Output
521	Monetary Authorities-Central Bank	521-525 Employment
522	Credit Intermediation and Related Activities	521-525 Employment
523	Securities-Commodity-Other Financial Investments	521-525 Employment
524	Insurance Carriers and Related Activities	521-525 Employment
525	Funds-Trusts-and Other Financial Vehicles	521-525 Employment
531	Real Estate	531-533 Employment
532	Rental and Leasing Services	531-533 Employment
533	Lessors of Nonfinancial Intangible Assets (no Copyright)	531-533 Employment
541	Professional-Scientific-and Technical Services	541 Employment
551	Management of Companies and Enterprises	551 Employment
561	Administrative and Support Services	561-562 Employment
562	Waste Management and Remediation Services	561-562 Employment
611	Educational Services	Pop 5 to 24
621	Ambulatory Health Care Services	Population
622	Hospitals	Pop 0 to 4 and 65 up
623	Nursing and Residential Care Facilities	Pop 65 up
624	Social Assistance	621-624 Employment
711	Performing Arts-Spectator Sports-and Related Industries	711-713 Output
712	Museums-Historical Sites-and Similar Institutions	711-713 Output
713	Amusement-Gambling-and Recreation Industries	711-713 Output
721	Accommodation	Total Employment
722	Food Services and Drinking Places	Total Employment
811	Repair and Maintenance	Total Employment
812	Personal and Laundry Services	Total Employment
813	Religious-Grant-Civic-Professional-and Similar Org	811-814 Employment
814	Private Households	811-814 Employment
921	Executive-Legislative-and Other General Govt Support	921-928 Employment
922	Justice-Public Order-and Safety Activities	921-928 Employment

TABLE I-2-5 (CONCLUDED)
POINT SOURCES GROWTH SURROGATE BY SOURCE CATEGORY

NAICS	SOURCE DESCRIPTION	GROWTH SURROGATE
923	Administration of Human Resource Programs	921-928 Employment
924	Administration of Environmental Quality Programs	921-928 Employment
925	Admin of Housing Pgms-Urban-Community Development	921-928 Employment
926	Administration of Economic Programs	921-928 Employment
927	Space Research and Technology	921-928 Employment
928	National Security and International Affairs	921-928 Employment

TABLE I-2-6
AREA SOURCES GROWTH SURROGATE BY SOURCE CATEGORY

SOURCE DESCRIPTION	SURROGATE
Cogen	SCG-Cogen*
Gaseous Fuel	NAICS 211 Output
Ind. Stationary IC Engines - Natural Gas	SCG - Industrial Combustion*
Industrial Natural Gas (Unspecified)	SCG - Industrial Combustion*
Industrial LPG Combustion	Manufacturing Output
Industrial Distillate Oil Combustion	Manufacturing Output
Ind. Stationary IC Engines - Other Fuel	Manufacturing Output
Ag Irrigation IC Engines-Stationary	CARB Growth Data
Ag Irrigation IC Engines-Portable	CARB Growth Data
Commercial Space Heating	SCG - Commercial Space*
Commercial Water Heating	SCG - Commercial Water*
Commercial Combustion – Internal	SCG - Commercial Combustion*
Commercial Combustion – External	SCG - Commercial Combustion*
Commercial LPG Combustion	Service Output
Stationary Engines – Diesel	CARB Growth Data
Resource Recovery	SCG-Cogen*
Sewage Treatment Plants - POTWs - Ammonia	Population
Municipal Waste Disposal	Population
Composting – Ammonia	No Growth
Biological Waste – Composting	Population
Laundering	Total Employment
Degreasing	Manufacturing Output
Auto Refinishing	Misc. Services Employment
Marine Coating	Water Transportation Output
Paper Coating	Paper Manufacturing Output
Fabric Coatings	Textile Output
Can and Coil Coatings	Fabricated Metal Output
Metal Part and Products Coatings	Fabricated Metal Output
Wood and Fabricated Furniture Coatings	Furniture Output
Plastic Parts Coatings	Plastic Output
Semiconductor Coatings	Computer Output
Aircraft and Aerospace Coatings	Air Transportation Output
Thinning and Cleanup Solvent Use	Manufacturing Output

TABLE I-2-6 (CONTINUED)
AREA SOURCES GROWTH SURROGATE BY SOURCE CATEGORY

SOURCE DESCRIPTION	SURROGATE
Printing	Printing Output
Adhesive and Sealants (Solvent Based)	Manufacturing Output
Adhesive and Sealants (Water Based)	Manufacturing Output
Miscellaneous Industrial Solvents	Manufacturing Output
Oil Production Fugitive	NAICS 211 Output
Natural Gas Transmission Losses	SCG - Total - Natural Gas*
LPG Transfer and Dispensing - Fugitive Losses	Households
Gasoline Dispersing Tank-Working Losses	Gasoline Consumption
Gasoline Dispensing Tank-Breathing Losses	Gasoline Consumption
Vehicle Refueling-Vapor Displacement Losses	Gasoline Consumption
Vehicle Refueling-Spillage	Gasoline Consumption
Storage Tank and Pipeline Cleaning	Gasoline Consumption
Tank Cargo-Pressure Related Fug. Losses	Gasoline Consumption
Tank Cargo-Vapor Hose Fugitive Losses	Gasoline Consumption
Tank Cargo-Product Hose Fugitive Losses	Gasoline Consumption
Bulk Gasoline Storage and Transfer (Unspec)	Gasoline Consumption
Rubber and Rubber Products	Plastic Output
Fiberglass and Fiberglass Products	Plastic Output
Plastic and Plastic Products	Plastic Output
Wine Fermentation	Beverage Manufacturing Output
Wine Aging	CARB Growth Data
Bakeries	Food Output
Agricultural Products Processing Losses	Agriculture Output
Agricultural Crop Processing Losses	Agriculture Output
Sand and Gravel Excavation	Mineral Product Output
Asphaltic Concrete Production	Construction Employment
Grinding/Crushing of Aggregates	Mineral Product Output
Surface Blasting	Mining Extraction Output
Cement Concrete Manufacturing and Fabrication	Mineral Product Output
Open Pile Storage	No Growth
Other Mineral Processes	Mineral Product Output
Secondary Metal Production	Primary Metal Output
Wood Product Losses	Furniture Output

TABLE I-2-6 (CONTINUED)
AREA SOURCES GROWTH SURROGATE BY SOURCE CATEGORY

SOURCE DESCRIPTION	SURROGATE
Industrial Lubricant	Population
Industrial Process Losses (Unspecified)	No Growth
Consumer Products (Except Aerosol)	Population
Aerosol Consumer Product – Aerosol	No Growth
Architectural Coatings	Households
Ag Pesticides Methyl Bromide	CARB Growth Data
Ag Pesticides non-Methyl Bromide	CARB Growth Data
non-Ag Pesticides-Methyl Bromide	CARB Growth Data
non-Ag Pesticides-non-Methyl Bromide	CARB Growth Data
Agricultural Fertilizer – Ammonia	CARB Growth Data
Asphalt Paving	Construction Employment
Residential Wood Stoves	No Growth
Residential Wood Fireplaces	No Growth
Residential Natural Gas Space Heating	SCG - Residential Space*
Residential Distillate Oil Combustion	Households
Residential Natural Gas Water Heating	SCG - Residential Water*
Residential Natural Gas Cooking	SCG - Residential Cooking*
Residential Natural Gas Comb – Other	SCG - Residential Combustion*
Residential LPG Combustion	Households
Farming Operations	CARB Growth Data
Residential Building Construction - Dust	Construction Employment
Commercial Building Construction - Dust	Construction Employment
Industrial Building Construction – Dust	Construction Employment
Institutional Building Construction - Dust	Construction Employment
Road Construction – Dust	Construction Employment
Paved Road Travel – Freeways	VMT (freeway)
Paved Road Travel (Unspecified)	No Growth
Paved Road Travel-Major	VMT (major)
Paved Road Travel-Collector	VMT (other)
Paved Road Travel-Local	VMT (other)
Unpaved Road Travel -City and County Roads	No Growth
Unpaved Road Travel - US Forest and Park Roads	No Growth
Unpaved Road Travel -BLM Roads	No Growth

TABLE I-2-6 (CONCLUDED)
AREA SOURCES GROWTH SURROGATE BY SOURCE CATEGORY

SOURCE DESCRIPTION	SURROGATE
Unpaved Road Travel -Farm Roads	CARB Growth Data
Unpaved Roads (Unspecified)	No Growth
Ag Land (Non-Pasture) - Wind Dust	CARB Growth Data
Ag Land (Pasture) - Wind Dust	CARB Growth Data
Unpaved Roads - Wind Dust	No Growth
Fires	No Growth
Ag Burning – Pruning	CARB Growth Data
Agricultural Burning - Field Crops	CARB Growth Data
Range Improvement	Agriculture Output
Forest Management	Forest Management Services Data**
Wildland Fire Use (WFU)	CARB Growth Data
Weed Abatement	No Growth
Waste Burning (Unspecified)	CARB Growth Data
Cooking	Total Employment
Domestic Activity – Ammonia	Population

* These projections by SCG incorporate the energy efficiency programs/standards.[17]

** FRAP provided burn perimeters and ignition dates which is used in FOOEM model to estimate prescribed burning emissions; future year estimates are based on a 10-year average, held flat in the forecast.

[17] https://www.socalgas.com/sites/default/files/2020-10/2020_California_Gas_Report_Joint_Utility_Biennial_Comprehensive_Filing.pdf

TABLE I-2-7
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2023

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.078	0.987	1.111	1.032
Oil and Gas Extraction	211	1.276	1.168	1.315	1.221
Mining (except Oil and Gas)	212	1.009	0.923	1.039	0.966
Support Activities for Mining	213	1.009	0.923	1.039	0.966
Utilities - Except Electricity	221	1.039	1.024	1.081	1.000
Utilities – Electricity	221	1.027	1.043	1.164	1.061
Construction	23	1.022	1.027	1.108	1.026
Food Manufacturing	311	1.037	1.060	1.124	1.071
Beverage and Tobacco Product Manufacturing	312	0.939	0.959	1.018	0.970
Textile Mills	313	1.130	1.155	1.225	1.167
Textile Product Mills	314	1.130	1.155	1.225	1.167
Apparel Manufacturing	315	1.127	1.151	1.221	1.163
Leather and Allied Product Manufacturing	316	1.127	1.151	1.221	1.163
Wood Product Manufacturing	321	1.032	1.054	1.118	1.065
Paper Manufacturing	322	1.033	1.056	1.120	1.067
Printing and Related Support Activities	323	1.104	1.128	1.196	1.140
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.047	1.069	1.134	1.081
Plastics and Rubber Products Manufacturing	326	1.003	1.025	1.087	1.036
Nonmetallic Mineral Product Manufacturing	327	1.026	1.048	1.112	1.059
Primary Metal Manufacturing	331	1.097	1.121	1.189	1.133
Fabricated Metal Product Manufacturing	332	1.032	1.054	1.118	1.066
Machinery Manufacturing	333	1.053	1.076	1.141	1.087
Computer and Electronic Product Manufacturing	334	1.108	1.132	1.200	1.144
Electrical Equipment -Appliance-Component Manufacturing	335	1.049	1.072	1.137	1.083
Transportation Equipment Manufacturing	336	1.052	1.075	1.140	1.086
Furniture and Related Product Manufacturing	337	1.079	1.103	1.169	1.114

TABLE I-2-7 (CONTINUED)
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2023

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Miscellaneous Manufacturing	339	1.071	1.095	1.161	1.106
Wholesale Trade	42	1.000	0.997	1.055	0.994
Motor Vehicle and Parts Dealers	441	1.077	1.152	1.143	1.119
Furniture and Home Furniture Stores	442	1.120	1.198	1.188	1.164
Electronics and Appliance Stores	443	1.120	1.198	1.188	1.164
Building Material-Garden Equipment-Supplies Dealers	444	1.120	1.198	1.188	1.164
Food and Beverage Stores	445	0.990	1.059	1.050	1.029
Health and Personal Care Stores	446	0.990	1.059	1.050	1.029
Gasoline Stations	447	1.120	1.198	1.188	1.164
Clothing and Clothing Accessories Stores	448	1.120	1.198	1.188	1.164
Sporting Goods-Hobby-Book- Music Stores	451	1.120	1.198	1.188	1.164
General Merchandise Stores	452	1.120	1.198	1.188	1.164
Miscellaneous Store Retailers	453	1.120	1.198	1.188	1.164
Nonstore Retailers	454	1.120	1.198	1.188	1.164
Air Transportation	481	1.084	1.101	1.229	1.120
Rail Transportation	482	1.043	1.060	1.000	1.077
Water Transportation	483	1.179	1.198	1.336	1.218
Truck Transportation	484	1.115	1.133	1.264	1.152
Transit and Ground Passenger Transportation	485	1.105	1.123	1.253	1.142
Pipeline Transportation	486	1.097	1.115	1.243	1.133
Scenic and Sightseeing Transportation	487	1.052	1.069	1.192	1.087
Support Activities for Transportation	488	1.052	1.069	1.192	1.087
Postal Service	491	1.012	1.028	1.147	1.045
Couriers and Messengers	492	1.012	1.028	1.147	1.045
Warehousing and Storage	493	1.079	1.097	1.223	1.115
Information	51	1.165	1.150	1.207	1.155
Finance and Insurance	52	1.105	1.109	1.167	1.113
Real Estate and Rental and Leasing	53	1.106	1.110	1.168	1.113
Professional-Scientific-and Technical Services	541	1.064	1.076	1.156	1.064
Management of Companies and Enterprises	551	1.084	1.097	1.178	1.084

TABLE I-2-7 (CONCLUDED)
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2023

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Administrative and Support Services	561	1.014	1.027	1.103	1.014
Waste Management and Remediation Services	562	1.014	1.027	1.103	1.014
Educational Services	611	1.063	1.069	1.150	1.064
Ambulatory Health Care Services	621	1.028	1.028	1.067	1.054
Hospitals	622	1.121	1.120	1.160	1.140
Nursing and Residential Care Facilities	623	1.175	1.160	1.226	1.222
Social Assistance	624	1.060	1.065	1.146	1.061
Arts, Entertainment, Museums, and Recreation	71	1.104	1.119	1.191	1.204
Accommodation and Food Services	72	1.065	1.079	1.149	1.161
Repair and Maintenance	811	1.019	1.030	1.101	1.039
Personal and Laundry Services	812	1.019	1.030	1.101	1.039
Religious-Grant-Civic-Professional-and Similar Org	813	1.015	1.024	1.057	1.024
Private Households	814	1.015	1.024	1.057	1.024
Public Administration	92	1.057	1.050	1.151	1.053

TABLE I-2-8
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2025

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
uAgriculture, Forestry, Animal, Fishing and Hunting	11	1.102	0.992	1.157	1.050
Oil and Gas Extraction	211	1.396	1.255	1.465	1.329
Mining (except Oil and Gas)	212	1.004	0.904	1.054	0.957
Support Activities for Mining	213	1.004	0.904	1.054	0.957
Utilities - Except Electricity	221	1.058	1.035	1.122	1.000
Utilities - Electricity	221	0.940	0.965	1.126	0.984
Construction	23	1.032	1.039	1.167	1.043
Food Manufacturing	311	1.052	1.086	1.187	1.105
Beverage and Tobacco Product Manufacturing	312	0.915	0.945	1.032	0.961
Textile Mills	313	1.186	1.225	1.338	1.246
Textile Product Mills	314	1.186	1.225	1.338	1.246
Apparel Manufacturing	315	1.181	1.219	1.332	1.240
Leather and Allied Product Manufacturing	316	1.181	1.219	1.332	1.240
Wood Product Manufacturing	321	1.044	1.078	1.178	1.097
Paper Manufacturing	322	1.047	1.080	1.181	1.099
Printing and Related Support Activities	323	1.148	1.185	1.295	1.206
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.065	1.100	1.202	1.119
Plastics and Rubber Products Manufacturing	326	1.004	1.036	1.132	1.054
Nonmetallic Mineral Product Manufacturing	327	1.036	1.070	1.169	1.088
Primary Metal Manufacturing	331	1.138	1.175	1.284	1.195
Fabricated Metal Product Manufacturing	332	1.044	1.078	1.178	1.097
Machinery Manufacturing	333	1.074	1.109	1.212	1.128
Computer and Electronic Product Manufacturing	334	1.154	1.191	1.301	1.211
Electrical Equipment -Appliance-Component Manufacturing	335	1.069	1.103	1.206	1.122
Transportation Equipment Manufacturing	336	1.073	1.108	1.210	1.127
Furniture and Related Product Manufacturing	337	1.112	1.148	1.254	1.168

TABLE I-2-8 (CONTINUED)
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2025

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Miscellaneous Manufacturing	339	1.100	1.136	1.241	1.156
Wholesale Trade	42	1.000	0.997	1.088	0.995
Motor Vehicle and Parts Dealers	441	1.112	1.212	1.211	1.171
Furniture and Home Furniture Stores	442	1.174	1.281	1.279	1.237
Electronics and Appliance Stores	443	1.174	1.281	1.279	1.237
Building Material-Garden Equipment-Supplies Dealers	444	1.174	1.281	1.279	1.237
Food and Beverage Stores	445	0.988	1.077	1.076	1.040
Health and Personal Care Stores	446	0.988	1.077	1.076	1.040
Gasoline Stations	447	1.174	1.281	1.279	1.237
Clothing and Clothing Accessories Stores	448	1.174	1.281	1.279	1.237
Sporting Goods-Hobby-Book- Music Stores	451	1.174	1.281	1.279	1.237
General Merchandise Stores	452	1.174	1.281	1.279	1.237
Miscellaneous Store Retailers	453	1.174	1.281	1.279	1.237
Nonstore Retailers	454	1.174	1.281	1.279	1.237
Air Transportation	481	1.119	1.149	1.341	1.171
Rail Transportation	482	1.060	1.089	0.000	1.110
Water Transportation	483	1.259	1.293	1.509	1.317
Truck Transportation	484	1.164	1.196	1.396	1.219
Transit and Ground Passenger Transportation	485	1.150	1.181	1.379	1.204
Pipeline Transportation	486	1.138	1.168	1.364	1.191
Scenic and Sightseeing Transportation	487	1.073	1.102	1.286	1.123
Support Activities for Transportation	488	1.073	1.102	1.286	1.123
Postal Service	491	1.016	1.044	1.218	1.064
Couriers and Messengers	492	1.016	1.044	1.218	1.064
Warehousing and Storage	493	1.112	1.142	1.333	1.164
Information	51	1.241	1.215	1.315	1.215
Finance and Insurance	52	1.151	1.159	1.247	1.174
Real Estate and Rental and Leasing	53	1.153	1.161	1.248	1.175
Professional-Scientific-and Technical Services	541	1.093	1.111	1.236	1.096
Management of Companies and Enterprises	551	1.122	1.141	1.269	1.126

TABLE I-2-8 (CONCLUDED)
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2025

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Administrative and Support Services	561	1.022	1.040	1.157	1.026
Waste Management and Remediation Services	562	1.022	1.040	1.157	1.026
Educational Services	611	1.090	1.099	1.221	1.092
Ambulatory Health Care Services	621	1.038	1.040	1.097	1.073
Hospitals	622	1.168	1.169	1.229	1.193
Nursing and Residential Care Facilities	623	1.244	1.227	1.324	1.308
Social Assistance	624	1.086	1.095	1.216	1.087
Arts, Entertainment, Museums, and Recreation	71	1.152	1.173	1.282	1.296
Accommodation and Food Services	72	1.095	1.115	1.219	1.231
Repair and Maintenance	811	1.028	1.044	1.152	1.058
Personal and Laundry Services	812	1.028	1.044	1.152	1.058
Religious-Grant-Civic-Professional-and Similar Org	813	1.023	1.038	1.095	1.041
Private Households	814	1.023	1.038	1.095	1.041
Public Administration	92	1.082	1.073	1.229	1.084

TABLE I-2-9
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2028

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.147	0.988	1.189	1.095
Oil and Gas Extraction	211	1.598	1.375	1.656	1.526
Mining (except Oil and Gas)	212	1.008	0.868	1.045	0.962
Support Activities for Mining	213	1.008	0.868	1.045	0.962
Utilities - Except Electricity	221	1.086	1.050	1.182	0.991
Utilities - Electricity	221	0.820	0.849	1.022	0.877
Construction	23	1.047	1.056	1.212	1.068
Food Manufacturing	311	1.070	1.118	1.240	1.153
Beverage and Tobacco Product Manufacturing	312	0.882	0.921	1.022	0.950
Textile Mills	313	1.263	1.320	1.465	1.362
Textile Product Mills	314	1.263	1.320	1.465	1.362
Apparel Manufacturing	315	1.259	1.315	1.459	1.357
Leather and Allied Product Manufacturing	316	1.259	1.315	1.459	1.357
Wood Product Manufacturing	321	1.059	1.107	1.228	1.142
Paper Manufacturing	322	1.062	1.110	1.232	1.145
Printing and Related Support Activities	323	1.207	1.261	1.400	1.302
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.088	1.137	1.262	1.173
Plastics and Rubber Products Manufacturing	326	1.002	1.047	1.162	1.080
Nonmetallic Mineral Product Manufacturing	327	1.048	1.095	1.215	1.129
Primary Metal Manufacturing	331	1.192	1.246	1.382	1.285
Fabricated Metal Product Manufacturing	332	1.059	1.106	1.228	1.141
Machinery Manufacturing	333	1.101	1.150	1.276	1.187
Computer and Electronic Product Manufacturing	334	1.216	1.270	1.410	1.310
Electrical Equipment -Appliance-Component Manufacturing	335	1.093	1.142	1.268	1.179
Transportation Equipment Manufacturing	336	1.100	1.149	1.276	1.186
Furniture and Related Product Manufacturing	337	1.155	1.206	1.339	1.245

TABLE I-2-9 (CONTINUED)
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2028

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Miscellaneous Manufacturing	339	1.138	1.189	1.320	1.227
Wholesale Trade	42	1.003	0.996	1.100	1.000
Motor Vehicle and Parts Dealers	441	1.161	1.295	1.276	1.248
Furniture and Home Furniture Stores	442	1.252	1.396	1.375	1.346
Electronics and Appliance Stores	443	1.252	1.396	1.375	1.346
Building Material-Garden Equipment-Supplies Dealers	444	1.252	1.396	1.375	1.346
Food and Beverage Stores	445	0.984	1.098	1.081	1.058
Health and Personal Care Stores	446	0.984	1.098	1.081	1.058
Gasoline Stations	447	1.252	1.396	1.375	1.346
Clothing and Clothing Accessories Stores	448	1.252	1.396	1.375	1.346
Sporting Goods-Hobby-Book- Music Stores	451	1.252	1.396	1.375	1.346
General Merchandise Stores	452	1.252	1.396	1.375	1.346
Miscellaneous Store Retailers	453	1.252	1.396	1.375	1.346
Nonstore Retailers	454	1.252	1.396	1.375	1.346
Air Transportation	481	1.171	1.211	1.455	1.252
Rail Transportation	482	1.087	1.124	1.000	1.162
Water Transportation	483	1.377	1.425	1.711	1.473
Truck Transportation	484	1.237	1.280	1.537	1.323
Transit and Ground Passenger Transportation	485	1.217	1.260	1.513	1.302
Pipeline Transportation	486	1.197	1.239	1.488	1.280
Scenic and Sightseeing Transportation	487	1.104	1.143	1.372	1.181
Support Activities for Transportation	488	1.104	1.143	1.372	1.181
Postal Service	491	1.025	1.061	1.274	1.096
Couriers and Messengers	492	1.025	1.061	1.274	1.096
Warehousing and Storage	493	1.161	1.201	1.442	1.241
Information	51	1.353	1.315	1.432	1.322
Finance and Insurance	52	1.217	1.228	1.327	1.254
Real Estate and Rental and Leasing	53	1.219	1.230	1.329	1.256
Professional-Scientific-and Technical Services	541	1.133	1.158	1.308	1.142
Management of Companies and Enterprises	551	1.174	1.200	1.356	1.184

TABLE I-2-9 (CONCLUDED)
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2028

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Administrative and Support Services	561	1.033	1.056	1.193	1.042
Waste Management and Remediation Services	562	1.033	1.056	1.193	1.042
Educational Services	611	1.048	1.043	1.121	1.429
Ambulatory Health Care Services	621	1.100	1.092	1.148	1.528
Hospitals	622	1.231	1.230	1.319	1.262
Nursing and Residential Care Facilities	623	1.420	1.357	1.409	2.212
Social Assistance	624	1.124	1.135	1.277	1.126
Arts, Entertainment, Museums, and Recreation	71	1.218	1.248	1.370	1.429
Accommodation and Food Services	72	1.136	1.164	1.277	1.332
Repair and Maintenance	811	1.086	1.050	1.182	0.991
Personal and Laundry Services	812	1.086	1.050	1.182	0.991
Religious-Grant-Civic-Professional-and Similar Org	813	1.034	1.052	1.117	1.064
Private Households	814	1.034	1.052	1.117	1.064
Public Administration	92	1.082	1.073	1.229	1.084

(Base year is 2018)

TABLE I-2-10
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2030

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.154	0.958	1.188	1.093
Oil and Gas Extraction	211	1.687	1.401	1.736	1.598
Mining (except Oil and Gas)	212	0.998	0.828	1.027	0.945
Support Activities for Mining	213	0.998	0.828	1.027	0.945
Utilities - Except Electricity	221	1.105	1.062	1.223	1.000
Utilities - Electricity	221	0.750	0.781	0.958	0.812
Construction	23	1.057	1.066	1.242	1.084
Food Manufacturing	311	1.066	1.123	1.260	1.171
Beverage and Tobacco Product Manufacturing	312	0.858	0.904	1.015	0.943
Textile Mills	313	1.282	1.351	1.516	1.408
Textile Product Mills	314	1.282	1.351	1.516	1.408
Apparel Manufacturing	315	1.285	1.354	1.519	1.411
Leather and Allied Product Manufacturing	316	1.285	1.354	1.519	1.411
Wood Product Manufacturing	321	1.056	1.112	1.248	1.159
Paper Manufacturing	322	1.058	1.115	1.251	1.162
Printing and Related Support Activities	323	1.219	1.284	1.441	1.339
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.086	1.144	1.284	1.192
Plastics and Rubber Products Manufacturing	326	0.991	1.045	1.172	1.089
Nonmetallic Mineral Product Manufacturing	327	1.042	1.098	1.232	1.145
Primary Metal Manufacturing	331	1.202	1.266	1.421	1.320
Fabricated Metal Product Manufacturing	332	1.053	1.110	1.245	1.157
Machinery Manufacturing	333	1.100	1.159	1.300	1.208
Computer and Electronic Product Manufacturing	334	1.229	1.295	1.453	1.350
Electrical Equipment -Appliance-Component Manufacturing	335	1.091	1.150	1.290	1.199
Transportation Equipment Manufacturing	336	1.102	1.161	1.303	1.211
Furniture and Related Product Manufacturing	337	1.160	1.222	1.371	1.274

TABLE I-2-10 (CONTINUED)
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2030

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Miscellaneous Manufacturing	339	1.141	1.202	1.349	1.253
Wholesale Trade	42	1.003	0.993	1.107	1.001
Motor Vehicle and Parts Dealers	441	1.185	1.342	1.309	1.291
Furniture and Home Furniture Stores	442	1.284	1.455	1.419	1.400
Electronics and Appliance Stores	443	1.284	1.455	1.419	1.400
Building Material-Garden Equipment-Supplies Dealers	444	1.284	1.455	1.419	1.400
Food and Beverage Stores	445	0.981	1.112	1.084	1.070
Health and Personal Care Stores	446	0.981	1.112	1.084	1.070
Gasoline Stations	447	1.284	1.455	1.419	1.400
Clothing and Clothing Accessories Stores	448	1.284	1.455	1.419	1.400
Sporting Goods-Hobby-Book- Music Stores	451	1.284	1.455	1.419	1.400
General Merchandise Stores	452	1.284	1.455	1.419	1.400
Miscellaneous Store Retailers	453	1.284	1.455	1.419	1.400
Nonstore Retailers	454	1.284	1.455	1.419	1.400
Air Transportation	481	1.194	1.244	1.526	1.293
Rail Transportation	482	1.099	1.145	1.000	1.190
Water Transportation	483	1.426	1.485	1.822	1.544
Truck Transportation	484	1.268	1.320	1.620	1.373
Transit and Ground Passenger Transportation	485	1.249	1.301	1.596	1.353
Pipeline Transportation	486	1.220	1.271	1.559	1.322
Scenic and Sightseeing Transportation	487	1.118	1.165	1.429	1.211
Support Activities for Transportation	488	1.118	1.165	1.429	1.211
Postal Service	491	1.031	1.074	1.317	1.116
Couriers and Messengers	492	1.031	1.074	1.317	1.116
Warehousing and Storage	493	1.180	1.229	1.507	1.278
Information	51	1.410	1.358	1.490	1.365
Finance and Insurance	52	1.245	1.257	1.361	1.294
Real Estate and Rental and Leasing	53	1.249	1.260	1.365	1.298
Professional-Scientific-and Technical Services	541	1.152	1.182	1.350	1.167
Management of Companies and Enterprises	551	1.195	1.225	1.400	1.209

TABLE I-2-10 (CONCLUDED)
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2030

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Administrative and Support Services	561	1.041	1.067	1.219	1.053
Waste Management and Remediation Services	562	1.041	1.067	1.219	1.053
Educational Services	611	1.153	1.167	1.322	1.156
Ambulatory Health Care Services	621	1.060	1.065	1.164	1.118
Hospitals	622	1.273	1.271	1.379	1.310
Nursing and Residential Care Facilities	623	1.403	1.372	1.534	1.498
Social Assistance	624	1.149	1.163	1.317	1.152
Arts, Entertainment, Museums, and Recreation	71	1.249	1.285	1.414	1.506
Accommodation and Food Services	72	1.156	1.190	1.309	1.394
Repair and Maintenance	811	1.051	1.073	1.211	1.105
Personal and Laundry Services	812	1.051	1.073	1.211	1.105
Religious-Grant-Civic-Professional-and Similar Org	813	1.041	1.063	1.133	1.080
Private Households	814	1.041	1.063	1.133	1.080
Public Administration	92	1.137	1.121	1.327	1.149

(Base year is 2018)

TABLE I-2-11
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2031

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.155	0.955	1.192	1.100
Oil and Gas Extraction	211	1.725	1.425	1.779	1.641
Mining (except Oil and Gas)	212	0.992	0.820	1.024	0.944
Support Activities for Mining	213	0.992	0.820	1.024	0.944
Utilities - Except Electricity	221	1.114	1.068	1.243	1.000
Utilities - Electricity	221	0.745	0.776	0.963	0.812
Construction	23	1.062	1.071	1.258	1.093
Food Manufacturing	311	1.063	1.123	1.269	1.178
Beverage and Tobacco Product Manufacturing	312	0.848	0.896	1.013	0.940
Textile Mills	313	1.287	1.360	1.537	1.426
Textile Product Mills	314	1.287	1.360	1.537	1.426
Apparel Manufacturing	315	1.295	1.368	1.547	1.435
Leather and Allied Product Manufacturing	316	1.295	1.368	1.547	1.435
Wood Product Manufacturing	321	1.053	1.112	1.257	1.167
Paper Manufacturing	322	1.055	1.115	1.260	1.169
Printing and Related Support Activities	323	1.221	1.290	1.458	1.353
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.083	1.144	1.293	1.200
Plastics and Rubber Products Manufacturing	326	0.986	1.041	1.177	1.092
Nonmetallic Mineral Product Manufacturing	327	1.039	1.097	1.240	1.151
Primary Metal Manufacturing	331	1.203	1.271	1.436	1.333
Fabricated Metal Product Manufacturing	332	1.049	1.108	1.253	1.162
Machinery Manufacturing	333	1.097	1.159	1.310	1.216
Computer and Electronic Product Manufacturing	334	1.232	1.302	1.471	1.365
Electrical Equipment -Appliance-Component Manufacturing	335	1.089	1.150	1.300	1.206
Transportation Equipment Manufacturing	336	1.102	1.164	1.316	1.221
Furniture and Related Product Manufacturing	337	1.160	1.225	1.385	1.285

TABLE I-2-11 (CONTINUED)
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2031

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Miscellaneous Manufacturing	339	1.139	1.203	1.360	1.262
Wholesale Trade	42	1.005	0.993	1.112	1.004
Motor Vehicle and Parts Dealers	441	1.195	1.362	1.325	1.310
Furniture and Home Furniture Stores	442	1.298	1.479	1.439	1.422
Electronics and Appliance Stores	443	1.298	1.479	1.439	1.422
Building Material-Garden Equipment-Supplies Dealers	444	1.298	1.479	1.439	1.422
Food and Beverage Stores	445	0.981	1.118	1.088	1.075
Health and Personal Care Stores	446	0.981	1.118	1.088	1.075
Gasoline Stations	447	1.298	1.479	1.439	1.422
Clothing and Clothing Accessories Stores	448	1.298	1.479	1.439	1.422
Sporting Goods-Hobby-Book- Music Stores	451	1.298	1.479	1.439	1.422
General Merchandise Stores	452	1.298	1.479	1.439	1.422
Miscellaneous Store Retailers	453	1.298	1.479	1.439	1.422
Nonstore Retailers	454	1.298	1.479	1.439	1.422
Air Transportation	481	1.204	1.254	1.557	1.312
Rail Transportation	482	1.105	1.150	1.000	1.204
Water Transportation	483	1.444	1.504	1.868	1.574
Truck Transportation	484	1.280	1.333	1.655	1.395
Transit and Ground Passenger Transportation	485	1.263	1.315	1.633	1.376
Pipeline Transportation	486	1.229	1.280	1.589	1.340
Scenic and Sightseeing Transportation	487	1.124	1.171	1.453	1.225
Support Activities for Transportation	488	1.124	1.171	1.453	1.225
Postal Service	491	1.034	1.077	1.337	1.127
Couriers and Messengers	492	1.034	1.077	1.337	1.127
Warehousing and Storage	493	1.187	1.237	1.535	1.294
Information	51	1.434	1.378	1.515	1.386
Finance and Insurance	52	1.255	1.267	1.377	1.308
Real Estate and Rental and Leasing	53	1.259	1.271	1.382	1.312
Professional-Scientific-and Technical Services	541	1.161	1.191	1.369	1.177
Management of Companies and Enterprises	551	1.202	1.233	1.418	1.219

TABLE I-2-11 (CONCLUDED)
NAIC EMISSION GROWTH FACTORS BY COUNTY FOR THE YEAR 2031

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Administrative and Support Services	561	1.044	1.071	1.232	1.059
Waste Management and Remediation Services	562	1.044	1.071	1.232	1.059
Educational Services	611	1.165	1.178	1.341	1.167
Ambulatory Health Care Services	621	1.065	1.068	1.174	1.128
Hospitals	622	1.291	1.286	1.399	1.329
Nursing and Residential Care Facilities	623	1.430	1.393	1.563	1.528
Social Assistance	624	1.162	1.175	1.338	1.164
Arts, Entertainment, Museums, and Recreation	71	1.261	1.298	1.434	1.539
Accommodation and Food Services	72	1.165	1.199	1.324	1.421
Repair and Maintenance	811	1.055	1.078	1.224	1.114
Personal and Laundry Services	812	1.055	1.078	1.224	1.114
Religious-Grant-Civic-Professional-and Similar Org	813	1.045	1.066	1.142	1.087
Private Households	814	1.045	1.066	1.142	1.087
Public Administration	92	1.145	1.125	1.345	1.160

TABLE I-2-12
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2023

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	1.059	1.076	1.200	1.094
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.276	1.168	1.315	1.221
050	Industrial Stationary I.C. Engines - Natural Gas	1.276	1.168	1.315	1.221
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	1.008	1.030	1.092	1.041
060	Commercial Natural Gas Combustion - Space Heating	0.951	1.017	1.009	0.988
060	Commercial Natural Gas Combustion - Water Heating	0.938	1.003	0.995	0.975
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.939	1.004	0.996	0.976
060	Commercial L.P.G. Combustion	1.058	1.064	1.130	1.059
099	Resource Recovery	1.059	1.076	1.200	1.094
110	Sewage Treatment Plants-Potws - Ammonia	1.028	1.028	1.067	1.054
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.028	1.028	1.067	1.054
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.028	1.028	1.067	1.054
210	Dry Cleaning	1.019	1.030	1.101	1.039
220	Degreasing	1.008	1.030	1.092	1.041
230	Auto Refinishing - Coatings	1.015	1.024	1.057	1.024
230	Marine Coatings	1.179	1.198	1.336	1.218
230	Paper Coatings	1.033	1.056	1.120	1.067
230	Can And Coil, Metal Parts And Products Coatings	1.032	1.054	1.118	1.066
230	Wood Furniture And Fabricated Products Coatings	1.079	1.103	1.169	1.114
230	Plastic Parts	1.003	1.025	1.087	1.036
230	Semiconductor Coatings	1.108	1.132	1.200	1.144
230	Aircraft And Aerospace Coatings	1.084	1.101	1.229	1.120
240	Printing	1.104	1.128	1.196	1.140
250	Adhesives And Sealants	1.008	1.030	1.092	1.041
299	Miscellaneous Industrial Solvent Uses	1.008	1.030	1.092	1.041
310	Oil & Gas Production	1.276	1.168	1.315	1.221

TABLE I-2-12 (CONTINUED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2023

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
330	Petroleum Marketing - Natural Gas Transmission Losses	1.002	1.009	1.065	1.033
330	LPG Transfer And Dispensing - Fugitive Losses	1.052	1.036	1.131	1.065
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.876	0.878	0.921	0.900
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.876	0.878	0.921	0.900
410	Chemical	1.047	1.069	1.134	1.081
420	Wine Fermentation / Aging	0.990	1.059	1.050	1.029
420	Bakeries	1.037	1.060	1.124	1.071
430	Asphaltic Concrete Production	1.022	1.027	1.108	1.026
430	Surface Blasting	1.009	0.923	1.039	0.966
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.026	1.048	1.112	1.059
440	Secondary Metal Production	1.097	1.121	1.189	1.133
450	Wood Processing Losses	1.079	1.103	1.169	1.114
499	Industrial Lubricant	1.028	1.028	1.067	1.054
499	Industrial Process Losses (Unspecified Material)	1.000	1.000	1.000	1.000
510	Consumer Products - Aerosol	1.000	1.000	1.000	1.000
510	Consumer Products - Non Aerosol	1.028	1.028	1.067	1.054
520	Architectural Coatings	1.052	1.036	1.131	1.065
540	Asphalt Paving And Roofing Operations	1.022	1.027	1.108	1.026
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.052	1.036	1.131	1.065
610	Residential Natural Gas Combustion - Space Heating	1.068	1.068	1.109	1.095
610	Residential Natural Gas Combustion - Water Heating	1.063	1.063	1.103	1.090
610	Residential Natural Gas Combustion - Cooking/Other	1.067	1.067	1.108	1.094
610	Residential L.P.G. Combustion (Unspecified)	1.052	1.036	1.131	1.065
620	Tilling/Harvest Operations - Dust	1.000	1.000	1.000	1.000

TABLE I-2-12 (CONCLUDED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2023

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	1.000	1.000
620	Livestock Husbandry - Layers	1.000	1.000	0.819	0.864
620	Livestock Husbandry - Others	1.000	1.000	1.037	0.858
630	Building And Road Construction - Dust	1.022	1.027	1.108	1.026
640	Paved Road Travel - Freeways - Dust	0.993	1.006	1.040	1.042
640	Paved Road Travel - (Unspecified) - Dust	0.993	1.006	1.040	1.042
640	Paved Road Travel - Major Streets - Dust	1.017	1.037	1.075	1.028
640	Paved Road Travel - Collector/Local Streets - Dust	1.014	1.025	1.068	1.029
645	Unpaved Road Travel - Farm Roads - Dust	1.000	0.933	0.982	0.883
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.995	0.933	0.982	0.883
650	Unpaved Roads And Associated Areas - Windblown Dust	1.000	1.000	1.000	1.000
660	Structural/Automobile Fires	1.000	1.000	1.000	1.000
670	Agricultural Burning - Pruning/Field Crops	1.000	1.000	0.982	0.883
670	Agricultural Burning - Forest Management*	----	----	----	----
670	Agricultural Burning - Weed Abatement	1.000	1.000	1.000	1.000
670	Wildland Fire Use And Waste Burning (Unspecified)	1.000	1.000	1.000	1.000
690	Cooking	1.019	1.030	1.101	1.039
699	Domestic Activity - Ammonia	1.028	1.028	1.067	1.054

* 2018 emissions based on information provided by Forest Management Services and special handling for future year emissions.

TABLE I-2-13
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2025

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	1.046	1.074	1.253	1.094
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.396	1.255	1.465	1.329
050	Industrial Stationary I.C. Engines - Natural Gas	1.396	1.255	1.465	1.329
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	1.012	1.045	1.142	1.063
060	Commercial Natural Gas Combustion - Space Heating	0.913	0.996	0.994	0.961
060	Commercial Natural Gas Combustion - Water Heating	0.895	0.976	0.975	0.943
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.891	0.972	0.971	0.939
060	Commercial L.P.G. Combustion	1.085	1.093	1.197	1.090
099	Resource Recovery	1.046	1.074	1.253	1.094
110	Sewage Treatment Plants-Potws - Ammonia	1.038	1.040	1.097	1.073
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.038	1.040	1.097	1.073
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.038	1.040	1.097	1.073
210	Dry Cleaning	1.028	1.044	1.152	1.058
220	Degreasing	1.012	1.045	1.142	1.063
230	Auto Refinishing - Coatings	1.023	1.038	1.095	1.041
230	Marine Coatings	1.259	1.293	1.509	1.317
230	Paper Coatings	1.047	1.080	1.181	1.099
230	Can And Coil, Metal Parts And Products Coatings	1.044	1.078	1.178	1.097
230	Wood Furniture And Fabricated Products Coatings	1.112	1.148	1.254	1.168
230	Plastic Parts	1.004	1.036	1.132	1.054
230	Semiconductor Coatings	1.154	1.191	1.301	1.211
230	Aircraft And Aerospace Coatings	1.119	1.149	1.341	1.171
240	Printing	1.148	1.185	1.295	1.206
250	Adhesives And Sealants	1.012	1.045	1.142	1.063
299	Miscellaneous Industrial Solvent Uses	1.012	1.045	1.142	1.063
310	Oil & Gas Production	1.396	1.255	1.465	1.329

TABLE I-2-13 (CONTINUED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2025

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
330	Petroleum Marketing - Natural Gas Transmission Losses	0.976	0.996	1.061	1.017
330	LPG Transfer And Dispensing - Fugitive Losses	1.069	1.045	1.172	1.088
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.829	0.828	0.884	0.864
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.829	0.828	0.884	0.864
410	Chemical	1.065	1.100	1.202	1.119
420	Wine Fermentation / Aging	0.988	1.077	1.076	1.040
420	Bakeries	1.052	1.086	1.187	1.105
430	Asphaltic Concrete Production	1.032	1.039	1.167	1.043
430	Surface Blasting	1.004	0.904	1.054	0.957
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.036	1.070	1.169	1.088
440	Secondary Metal Production	1.138	1.175	1.284	1.195
450	Wood Processing Losses	1.112	1.148	1.254	1.168
499	Industrial Lubricant	1.038	1.040	1.097	1.073
499	Industrial Process Losses (Unspecified Material)	1.000	1.000	1.000	1.000
510	Consumer Products - Aerosol	1.000	1.000	1.000	1.000
510	Consumer Products - Non Aerosol	1.038	1.040	1.097	1.073
520	Architectural Coatings	1.069	1.045	1.172	1.088
540	Asphalt Paving And Roofing Operations	1.032	1.039	1.167	1.043
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.069	1.045	1.172	1.088
610	Residential Natural Gas Combustion - Space Heating	1.034	1.036	1.093	1.069
610	Residential Natural Gas Combustion - Water Heating	1.027	1.029	1.086	1.061
610	Residential Natural Gas Combustion - Cooking/Other	1.033	1.035	1.092	1.068
610	Residential L.P.G. Combustion (Unspecified)	1.069	1.045	1.172	1.088
620	Tilling/Harvest Operations - Dust	1.000	1.000	1.000	1.000

TABLE I-2-13 (CONCLUDED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2025

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	1.056	1.000
620	Livestock Husbandry - Layers	0.762	1.000	0.762	0.820
620	Livestock Husbandry - Others	1.000	1.000	1.050	0.811
630	Building And Road Construction - Dust	1.032	1.039	1.167	1.043
640	Paved Road Travel - Freeways - Dust	0.982	1.014	1.046	1.022
640	Paved Road Travel - (Unspecified) - Dust	0.982	1.014	1.046	1.022
640	Paved Road Travel - Major Streets - Dust	1.011	1.035	1.121	1.043
640	Paved Road Travel - Collector/Local Streets - Dust	1.009	1.025	1.105	1.049
645	Unpaved Road Travel - Farm Roads - Dust	1.000	0.978	0.994	0.955
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.999	0.978	0.994	0.955
650	Unpaved Roads And Associated Areas - Windblown Dust	1.000	1.000	1.000	1.000
660	Structural/Automobile Fires	1.000	1.000	1.000	1.000
670	Agricultural Burning - Prunings/Field Crops	1.000	1.000	0.975	0.843
670	Agricultural Burning - Forest Management*	----	----	----	----
670	Agricultural Burning - Weed Abatement	1.000	1.000	1.000	1.000
670	Wildland Fire Use And Waste Burning (Unspecified)	1.000	1.000	1.000	1.000
690	Cooking	1.028	1.044	1.152	1.058
699	Domestic Activity - Ammonia	1.038	1.040	1.097	1.073

* 2018 emissions based on information provided by Forest Management Services and special handling for future year emissions.

TABLE I-2-14
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2028

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	1.018	1.053	1.268	1.088
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.598	1.375	1.656	1.526
050	Industrial Stationary I.C. Engines - Natural Gas	0.090	0.950	1.054	0.981
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	1.016	1.053	1.156	1.076
060	Commercial Natural Gas Combustion - Space Heating	0.891	0.978	0.973	0.944
060	Commercial Natural Gas Combustion - Water Heating	0.873	0.958	0.953	0.925
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.866	0.951	0.945	0.917
060	Commercial L.P.G. Combustion	1.098	1.107	1.216	1.105
099	Resource Recovery	1.040	1.069	1.262	1.097
110	Sewage Treatment Plants-Potws - Ammonia	1.042	1.045	1.110	1.082
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.042	1.045	1.110	1.082
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.042	1.045	1.110	1.082
210	Dry Cleaning	1.033	1.050	1.164	1.067
220	Degreasing	1.016	1.053	1.156	1.076
230	Auto Refinishing - Coatings	1.026	1.041	1.103	1.048
230	Marine Coatings	1.301	1.338	1.579	1.373
230	Paper Coatings	1.055	1.093	1.200	1.117
230	Can And Coil, Metal Parts And Products Coatings	1.053	1.090	1.198	1.115
230	Wood Furniture And Fabricated Products Coatings	1.130	1.171	1.286	1.197
230	Plastic Parts	1.006	1.042	1.144	1.065
230	Semiconductor Coatings	1.179	1.222	1.342	1.249
230	Aircraft And Aerospace Coatings	1.138	1.170	1.380	1.200
240	Printing	1.173	1.215	1.334	1.242
250	Adhesives And Sealants	1.016	1.053	1.156	1.076
299	Miscellaneous Industrial Solvent Uses	1.016	1.053	1.156	1.076
310	Oil & Gas Production	1.459	1.309	1.535	1.399

TABLE I-2-14 (CONTINUED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2028

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
330	Petroleum Marketing - Natural Gas Transmission Losses	0.962	0.986	1.052	1.008
330	LPG Transfer And Dispensing - Fugitive Losses	1.077	1.048	1.191	1.099
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.806	0.804	0.865	0.844
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.806	0.804	0.865	0.844
410	Chemical	1.077	1.115	1.225	1.140
420	Wine Fermentation / Aging	0.987	1.084	1.078	1.046
420	Bakeries	1.061	1.099	1.207	1.124
430	Asphaltic Concrete Production	1.037	1.045	1.182	1.052
430	Surface Blasting	1.002	0.899	1.054	0.961
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.043	1.081	1.187	1.105
440	Secondary Metal Production	1.161	1.202	1.321	1.229
450	Wood Processing Losses	1.130	1.171	1.286	1.197
499	Industrial Lubricant	1.042	1.045	1.110	1.082
499	Industrial Process Losses (Unspecified Material)	1.000	1.000	1.000	1.000
510	Consumer Products - Aerosol	1.000	1.000	1.000	1.000
510	Consumer Products - Non Aerosol	1.042	1.045	1.110	1.082
520	Architectural Coatings	1.077	1.048	1.191	1.099
540	Asphalt Paving And Roofing Operations	1.037	1.045	1.182	1.052
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.077	1.048	1.191	1.099
610	Residential Natural Gas Combustion - Space Heating	1.016	1.019	1.083	1.055
610	Residential Natural Gas Combustion - Water Heating	1.009	1.012	1.075	1.047
610	Residential Natural Gas Combustion - Cooking/Other	1.015	1.018	1.082	1.054
610	Residential L.P.G. Combustion (Unspecified)	1.077	1.048	1.191	1.099
620	Tilling/Harvest Operations - Dust	1.000	1.000	1.000	1.000

TABLE I-2-14 (CONCLUDED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2028

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	1.086	1.000
620	Livestock Husbandry - Layers	0.736	1.000	0.736	0.800
620	Livestock Husbandry - Others	1.000	1.000	1.056	0.79
630	Building And Road Construction - Dust	1.037	1.045	1.182	1.052
640	Paved Road Travel - Freeways - Dust	0.984	1.032	1.059	1.035
640	Paved Road Travel - (Unspecified) - Dust	0.984	1.032	1.059	1.035
640	Paved Road Travel - Major Streets - Dust	1.009	1.038	1.153	1.050
640	Paved Road Travel - Collector/Local Streets - Dust	1.009	1.015	1.122	1.062
645	Unpaved Road Travel - Farm Roads - Dust	1.000	0.957	0.988	0.915
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust				
650	Unpaved Roads And Associated Areas - Windblown Dust	1.000	1.000	1.000	1.000
660	Structural/Automobile Fires	1.000	1.000	1.000	1.000
670	Agricultural Burning - Prunings/Field Crops	1.000	1.000	0.973	0.824
670	Agricultural Burning - Forest Management*	--	--	--	--
670	Agricultural Burning - Weed Abatement	1.000	1.000	1.000	1.000
670	Wildland Fire Use And Waste Burning (Unspecified)	1.000	1.000	1.000	1.000
690	Cooking	1.033	1.050	1.164	1.067
699	Domestic Activity - Ammonia	1.042	1.045	1.110	1.082

TABLE I-2-15
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2030

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	1.004	1.045	1.283	1.087
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.687	1.401	1.736	1.598
050	Industrial Stationary I.C. Engines - Natural Gas	1.687	1.401	1.736	1.598
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	1.009	1.063	1.193	1.108
060	Commercial Natural Gas Combustion - Space Heating	0.822	0.932	0.909	0.896
060	Commercial Natural Gas Combustion - Water Heating	0.804	0.911	0.888	0.876
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.794	0.899	0.877	0.865
060	Commercial L.P.G. Combustion	1.142	1.152	1.285	1.157
099	Resource Recovery	1.004	1.045	1.283	1.087
110	Sewage Treatment Plants-Potws - Ammonia	1.060	1.065	1.164	1.118
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.060	1.065	1.164	1.118
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.060	1.065	1.164	1.118
210	Dry Cleaning	1.051	1.073	1.211	1.105
220	Degreasing	1.009	1.063	1.193	1.108
230	Auto Refinishing - Coatings	1.041	1.063	1.133	1.080
230	Marine Coatings	1.426	1.485	1.822	1.544
230	Paper Coatings	1.058	1.115	1.251	1.162
230	Can And Coil, Metal Parts And Products Coatings	1.053	1.110	1.245	1.157
230	Wood Furniture And Fabricated Products Coatings	1.160	1.222	1.371	1.274
230	Plastic Parts	0.991	1.045	1.172	1.089
230	Semiconductor Coatings	1.229	1.295	1.453	1.350
230	Aircraft And Aerospace Coatings	1.194	1.244	1.526	1.293
240	Printing	1.219	1.284	1.441	1.339
250	Adhesives And Sealants	1.009	1.063	1.193	1.108
299	Miscellaneous Industrial Solvent Uses	1.009	1.063	1.193	1.108
310	Oil & Gas Production	1.687	1.401	1.736	1.598

TABLE I-2-15 (CONTINUED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2030

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
330	Petroleum Marketing - Natural Gas Transmission Losses	0.898	0.934	1.010	0.964
330	LPG Transfer And Dispensing - Fugitive Losses	1.106	1.060	1.263	1.144
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.741	0.737	0.818	0.790
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.741	0.737	0.818	0.790
410	Chemical	1.086	1.144	1.284	1.192
420	Wine Fermentation / Aging	0.981	1.112	1.084	1.070
420	Bakeries	1.066	1.123	1.260	1.171
430	Asphaltic Concrete Production	1.057	1.066	1.242	1.084
430	Surface Blasting	0.998	0.828	1.027	0.945
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.042	1.098	1.232	1.145
440	Secondary Metal Production	1.202	1.266	1.421	1.320
450	Wood Processing Losses	1.160	1.222	1.371	1.274
499	Industrial Lubricant	1.060	1.065	1.164	1.118
499	Industrial Process Losses (Unspecified Material)	1.000	1.000	1.000	1.000
510	Consumer Products - Aerosol	1.000	1.000	1.000	1.000
510	Consumer Products - Non Aerosol	1.060	1.065	1.164	1.118
520	Architectural Coatings	1.106	1.060	1.263	1.144
540	Asphalt Paving And Roofing Operations	1.057	1.066	1.242	1.084
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.106	1.060	1.263	1.144
610	Residential Natural Gas Combustion - Space Heating	0.951	0.954	1.043	1.002
610	Residential Natural Gas Combustion - Water Heating	0.942	0.946	1.034	0.993
610	Residential Natural Gas Combustion - Cooking/Other	0.950	0.953	1.042	1.001
610	Residential L.P.G. Combustion (Unspecified)	1.106	1.060	1.263	1.144
620	Tilling/Harvest Operations - Dust	1.000	1.000	1.000	1.000

TABLE I-2-15 (CONCLUDED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2030

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	1.094	1.000
620	Livestock Husbandry - Layers	0.648	1.000	0.648	0.728
620	Livestock Husbandry - Others	1.000	1.000	1.08	0.716
630	Building And Road Construction - Dust	1.057	1.066	1.242	1.084
640	Paved Road Travel - Freeways - Dust	1.015	1.031	1.124	1.037
640	Paved Road Travel - (Unspecified) - Dust	1.000	1.000	1.000	1.000
640	Paved Road Travel - Major Streets - Dust	1.005	1.040	1.225	1.083
640	Paved Road Travel - Collector/Local Streets - Dust	0.975	1.019	1.135	1.079
645	Unpaved Road Travel - Farm Roads - Dust	1.000	0.872	0.962	0.756
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust				
650	Unpaved Roads And Associated Areas - Windblown Dust	1.000	1.000	1.000	1.000
660	Structural/Automobile Fires	1.000	1.000	1.000	1.000
670	Agricultural Burning - Pruning/Field Crops	1.000	1.000	0.963	0.756
670	Agricultural Burning - Forest Management*	----	----	----	----
670	Agricultural Burning - Weed Abatement	1.000	1.000	1.000	1.000
670	Wildland Fire Use And Waste Burning (Unspecified)	1.000	1.000	1.000	1.000
690	Cooking	1.051	1.073	1.211	1.105
699	Domestic Activity - Ammonia	1.060	1.065	1.164	1.118

* 2018 emissions based on information provided by Forest Management Services and special handling for future year emissions.

TABLE I-2-16
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2031

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.993	1.034	1.284	1.082
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.725	1.425	1.779	1.641
050	Industrial Stationary I.C. Engines - Natural Gas	1.725	1.425	1.779	1.641
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	1.005	1.062	1.200	1.113
060	Commercial Natural Gas Combustion - Space Heating	0.809	0.922	0.897	0.887
060	Commercial Natural Gas Combustion - Water Heating	0.792	0.902	0.878	0.868
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.782	0.891	0.867	0.857
060	Commercial L.P.G. Combustion	1.150	1.160	1.300	1.167
099	Resource Recovery	0.993	1.034	1.284	1.082
110	Sewage Treatment Plants-Potws - Ammonia	1.065	1.068	1.174	1.128
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.065	1.068	1.174	1.128
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.065	1.068	1.174	1.128
210	Dry Cleaning	1.055	1.078	1.224	1.114
220	Degreasing	1.005	1.062	1.200	1.113
230	Auto Refinishing - Coatings	1.045	1.066	1.142	1.087
230	Marine Coatings	1.444	1.504	1.868	1.574
230	Paper Coatings	1.055	1.115	1.260	1.169
230	Can And Coil, Metal Parts And Products Coatings	1.049	1.108	1.253	1.162
230	Wood Furniture And Fabricated Products Coatings	1.160	1.225	1.385	1.285
230	Plastic Parts	0.986	1.041	1.177	1.092
230	Semiconductor Coatings	1.232	1.302	1.471	1.365
230	Aircraft And Aerospace Coatings	1.204	1.254	1.557	1.312
240	Printing	1.221	1.290	1.458	1.353
250	Adhesives And Sealants	1.005	1.062	1.200	1.113
299	Miscellaneous Industrial Solvent Uses	1.005	1.062	1.200	1.113
310	Oil & Gas Production	1.725	1.425	1.779	1.641

TABLE I-2-16 (CONTINUED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2031

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
330	Petroleum Marketing - Natural Gas Transmission Losses	0.892	0.928	1.009	0.963
330	LPG Transfer And Dispensing - Fugitive Losses	1.114	1.064	1.277	1.156
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.730	0.724	0.810	0.784
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.730	0.724	0.810	0.784
410	Chemical	1.083	1.144	1.293	1.200
420	Wine Fermentation / Aging	0.981	1.118	1.088	1.075
420	Bakeries	1.063	1.123	1.269	1.178
430	Asphaltic Concrete Production	1.062	1.071	1.258	1.093
430	Surface Blasting	0.992	0.820	1.024	0.944
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.039	1.097	1.240	1.151
440	Secondary Metal Production	1.203	1.271	1.436	1.333
450	Wood Processing Losses	1.160	1.225	1.385	1.285
499	Industrial Lubricant	1.065	1.068	1.174	1.128
499	Industrial Process Losses (Unspecified Material)	1.000	1.000	1.000	1.000
510	Consumer Products - Aerosol	1.000	1.000	1.000	1.000
510	Consumer Products - Non Aerosol	1.065	1.068	1.174	1.128
520	Architectural Coatings	1.114	1.064	1.277	1.156
540	Asphalt Paving And Roofing Operations	1.062	1.071	1.258	1.093
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.114	1.064	1.277	1.156
610	Residential Natural Gas Combustion - Space Heating	0.948	0.951	1.045	1.004
610	Residential Natural Gas Combustion - Water Heating	0.939	0.942	1.035	0.994
610	Residential Natural Gas Combustion - Cooking/Other	0.947	0.949	1.043	1.002
610	Residential L.P.G. Combustion (Unspecified)	1.114	1.064	1.277	1.156
620	Tilling/Harvest Operations - Dust	1.000	1.000	1.000	1.000

TABLE I-2-16 (CONCLUDED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS FOR THE YEAR 2031

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	1.069	1.000
620	Livestock Husbandry - Layers	0.629	1.000	0.629	0.713
620	Livestock Husbandry - Others	1.000	1.000	1.085	0.700
630	Building And Road Construction - Dust	1.062	1.071	1.258	1.093
640	Paved Road Travel - Freeways - Dust	1.015	1.031	1.124	1.057
640	Paved Road Travel - (Unspecified) - Dust	1.015	1.031	1.124	1.057
640	Paved Road Travel - Major Streets - Dust	1.005	1.040	1.225	1.083
640	Paved Road Travel - Collector/Local Streets - Dust	0.975	1.019	1.135	1.079
645	Unpaved Road Travel - Farm Roads - Dust	1.000	0.865	0.960	0.741
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.991	0.865	0.960	0.741
650	Unpaved Roads And Associated Areas - Windblown Dust	1.000	1.000	1.000	1.000
660	Structural/Automobile Fires	1.000	1.000	1.000	1.000
670	Agricultural Burning - Prunings/Field Crops	1.000	1.000	0.960	0.741
670	Agricultural Burning - Forest Management*	----	----	----	----
670	Agricultural Burning - Weed Abatement	1.000	1.000	1.000	1.000
670	Wildland Fire Use And Waste Burning (Unspecified)	1.000	1.000	1.000	1.000
690	Cooking	1.055	1.078	1.224	1.114
699	Domestic Activity - Ammonia	1.065	1.068	1.174	1.128

* 2018 emissions based on information provided by Forest Management Services and special handling for future year emissions.

Future Emission Trends and Agency Responsibilities

Even- and odd-numbered figures from Figures I-2-4 through I-2-11 present the relative contributions by source categories (i.e., point, area, on-road, and off-road) and the agency with primary authority to regulate emissions from the source category, respectively, for the years 2025, 2028, 2030 and 2031. These figures present total annual average emission levels for VOC, NOx, NH3, SOx, and PM2.5.

Odd-numbered figures from Figure I-2-5 to Figure I-2-11 show the emissions coming from sources under the primary regulatory purview of each of the three agencies – U.S. EPA, CARB, and South Coast AQMD – for all the milestone years. South Coast AQMD primarily oversees stationary sources via permitting, while CARB is responsible for selected area sources such as consumer products and pesticide/fertilizer and on-road and off-road mobile sources. Among off-road mobile sources, locomotive, OGVs, aircraft, selected heavy-duty trucks such as out-out-state, international registration, and interstate trucks are subject to federal and international regulations. Preempted off-road equipment with horsepower less than 175 are federally regulated as well.

NOx emissions are one of the important precursors for ozone and PM2.5 formation, and majority of NOx emissions fall under the authority of CARB and U.S. EPA. In 2030, 77 percent of the NOx emissions fall under U.S. EPA and CARB control. Conversely, most SOx, NH3, and PM2.5 emissions are from sources under South Coast AQMD authority. Given the relationship between a growing population and economic activity, emissions regulations, and air pollution, the projections discussed in this chapter suggest that meeting the district's ozone and PM2.5 attainment obligations will require collaboration and efforts from all three agencies.

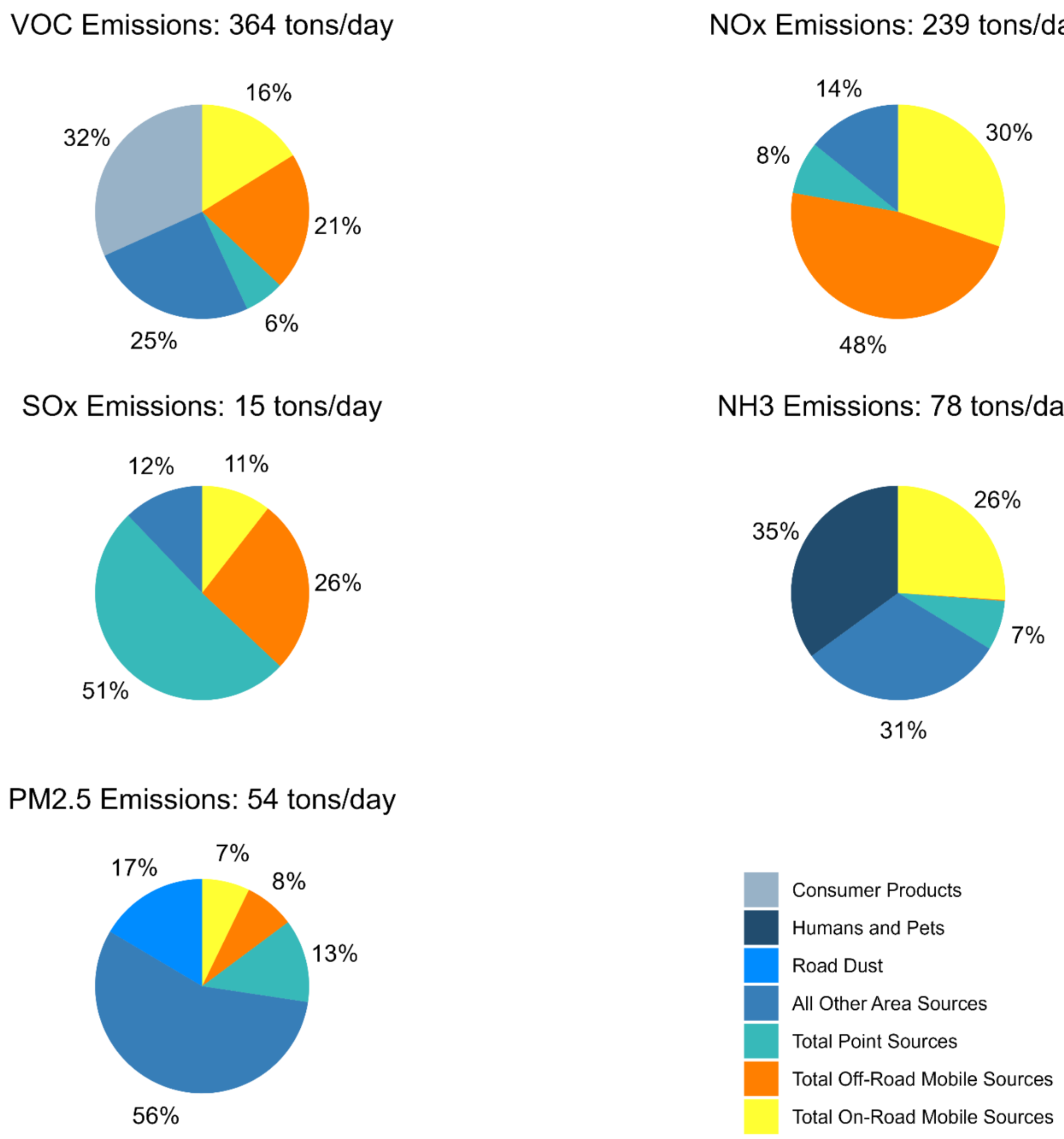

FIGURE I-2-4
RELATIVE CONTRIBUTION BY SOURCE CATEGORY TO 2025 EMISSION INVENTORY
(Annual Average)

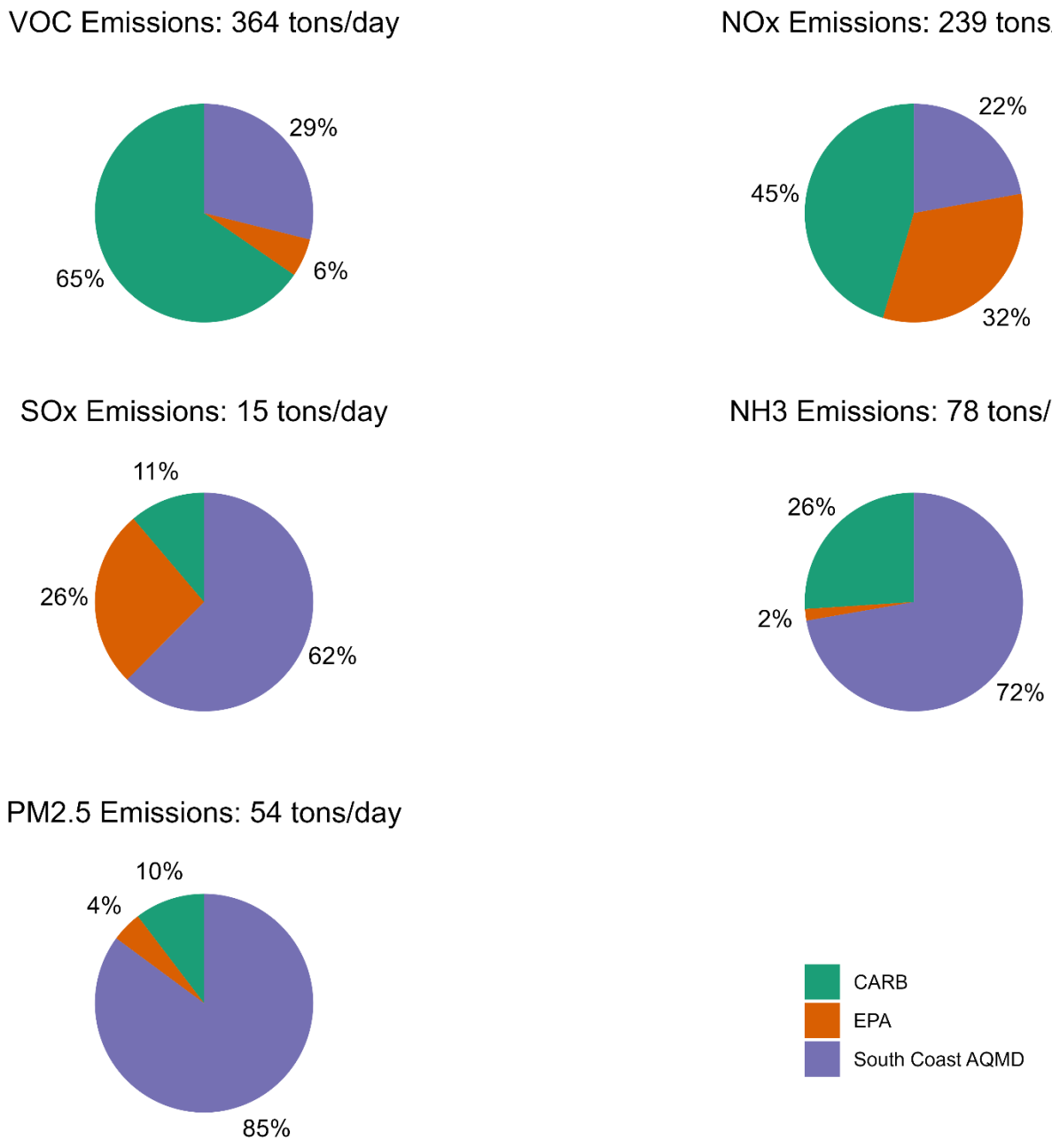

FIGURE I-2-5
2025 EMISSION INVENTORY AGENCY RESPONSIBILITY
(Annual Average)

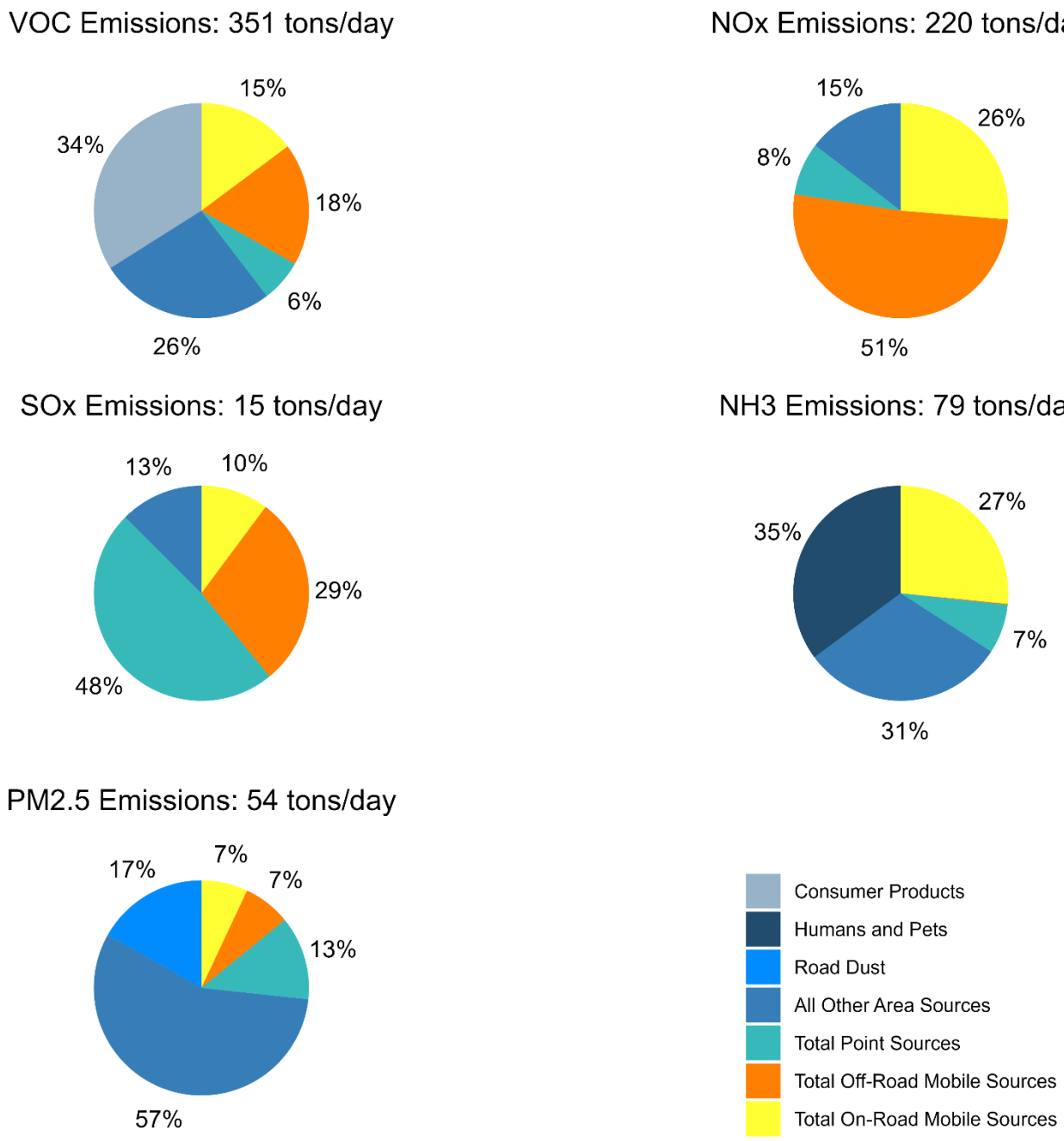

FIGURE I-2-6
RELATIVE CONTRIBUTION BY SOURCE CATEGORY TO 2028 EMISSION INVENTORY
(Annual Average)

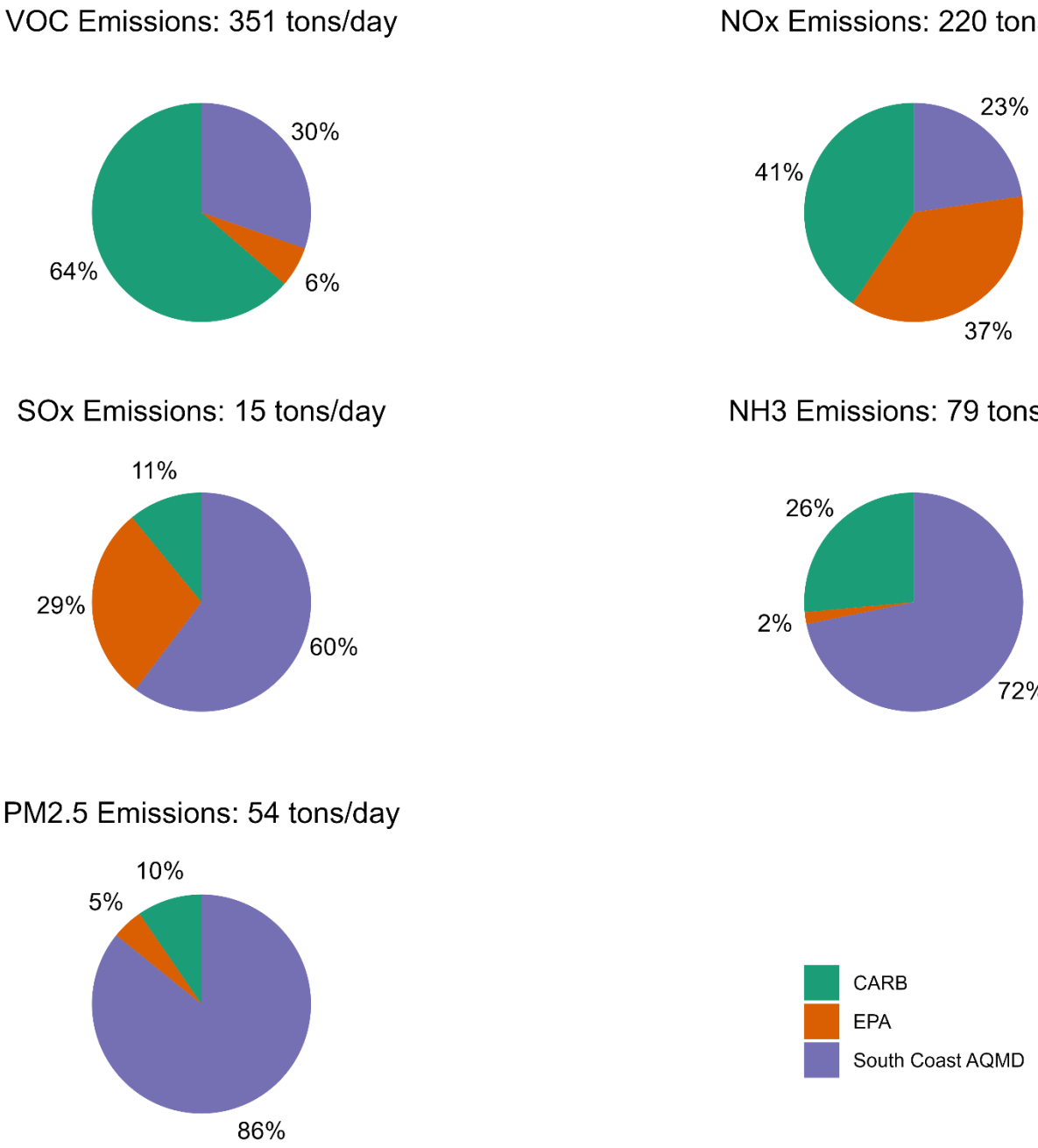

FIGURE I-2-7
2028 EMISSION INVENTORY AGENCY RESPONSIBILITY
(Annual Average)

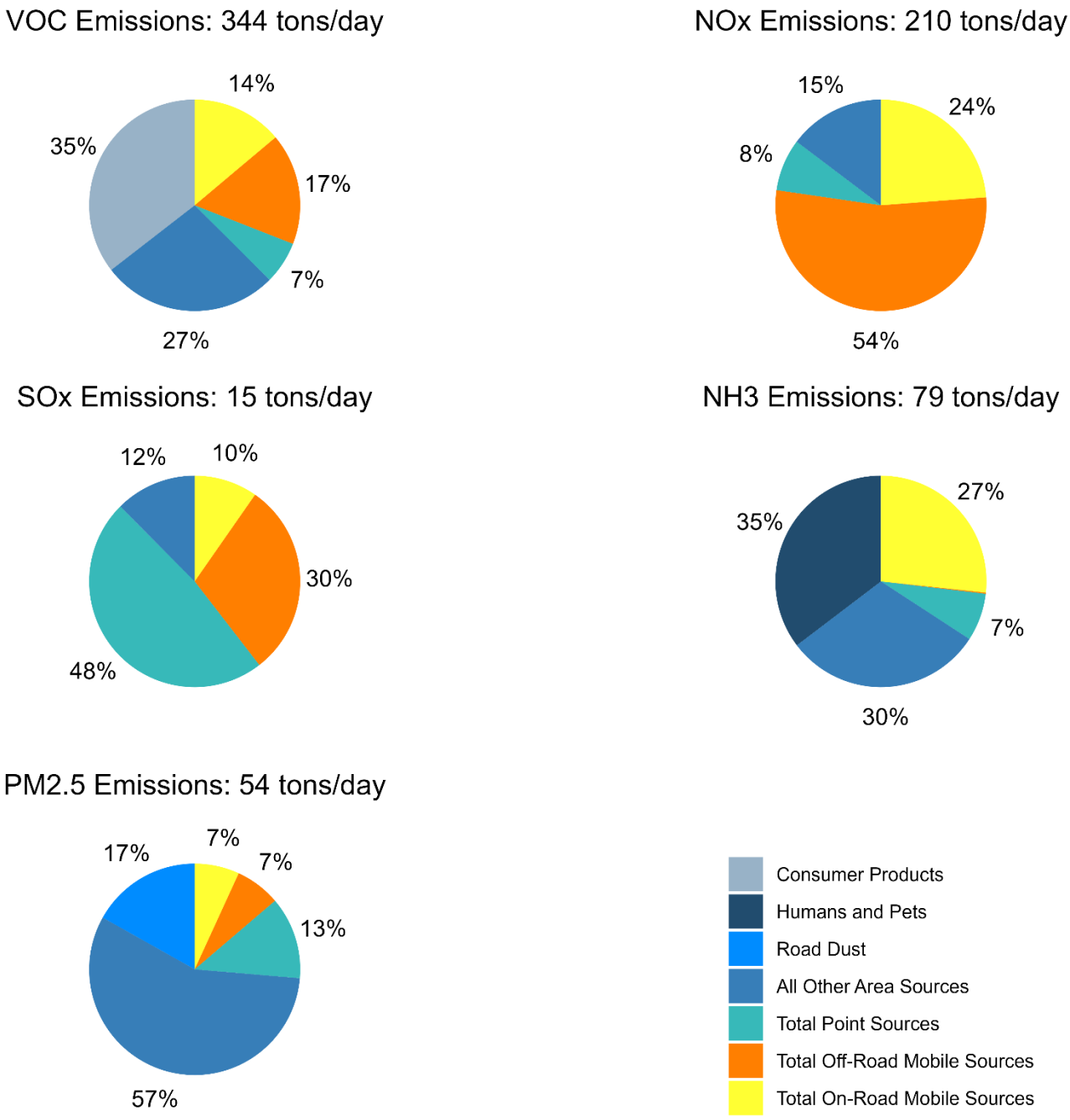

FIGURE I-2-8
RELATIVE CONTRIBUTION BY SOURCE CATEGORY TO 2030 EMISSION INVENTORY
(Annual Average)

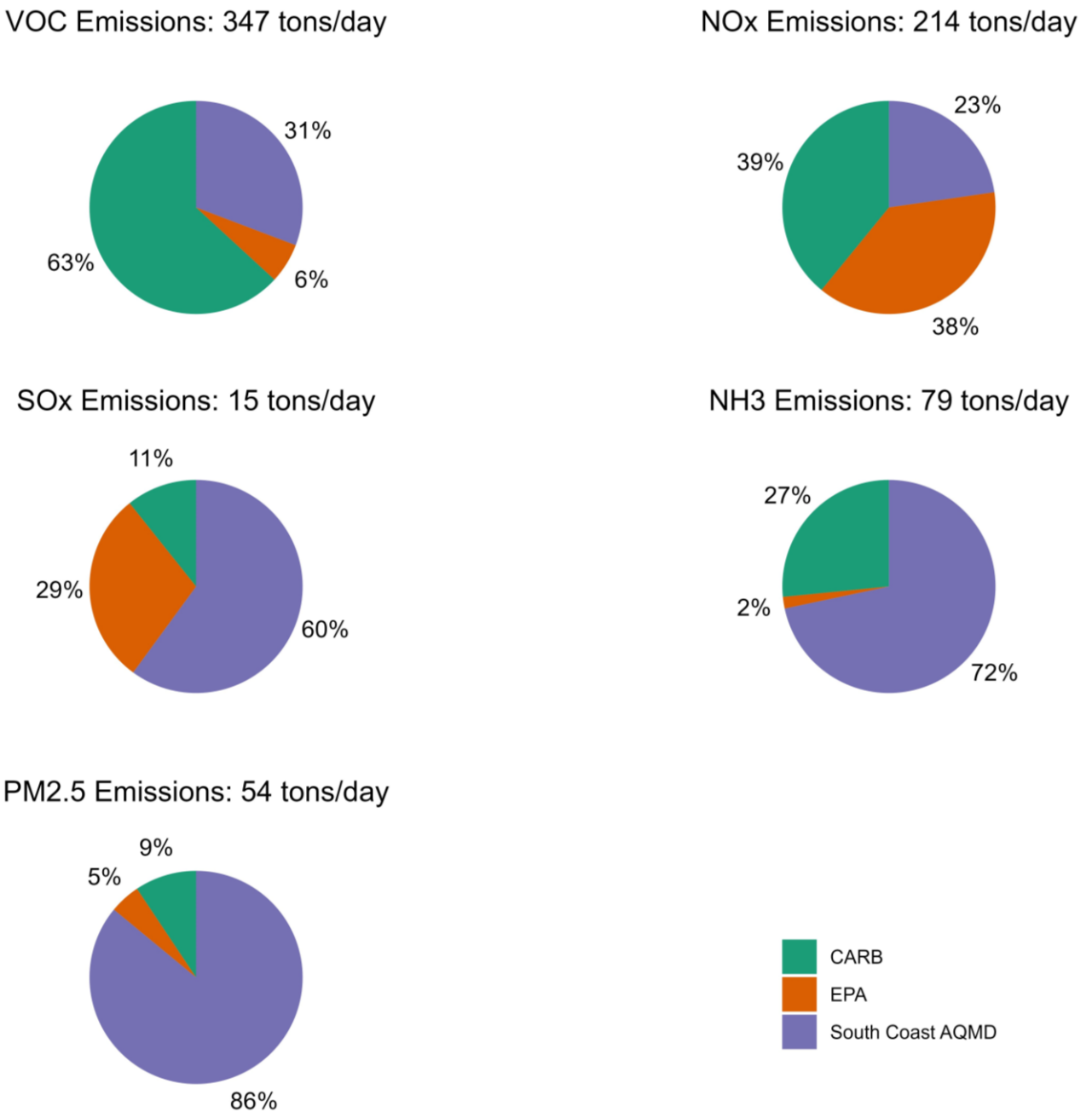

FIGURE I-2-9
2030 EMISSION INVENTORY AGENCY RESPONSIBILITY
(Annual Average)

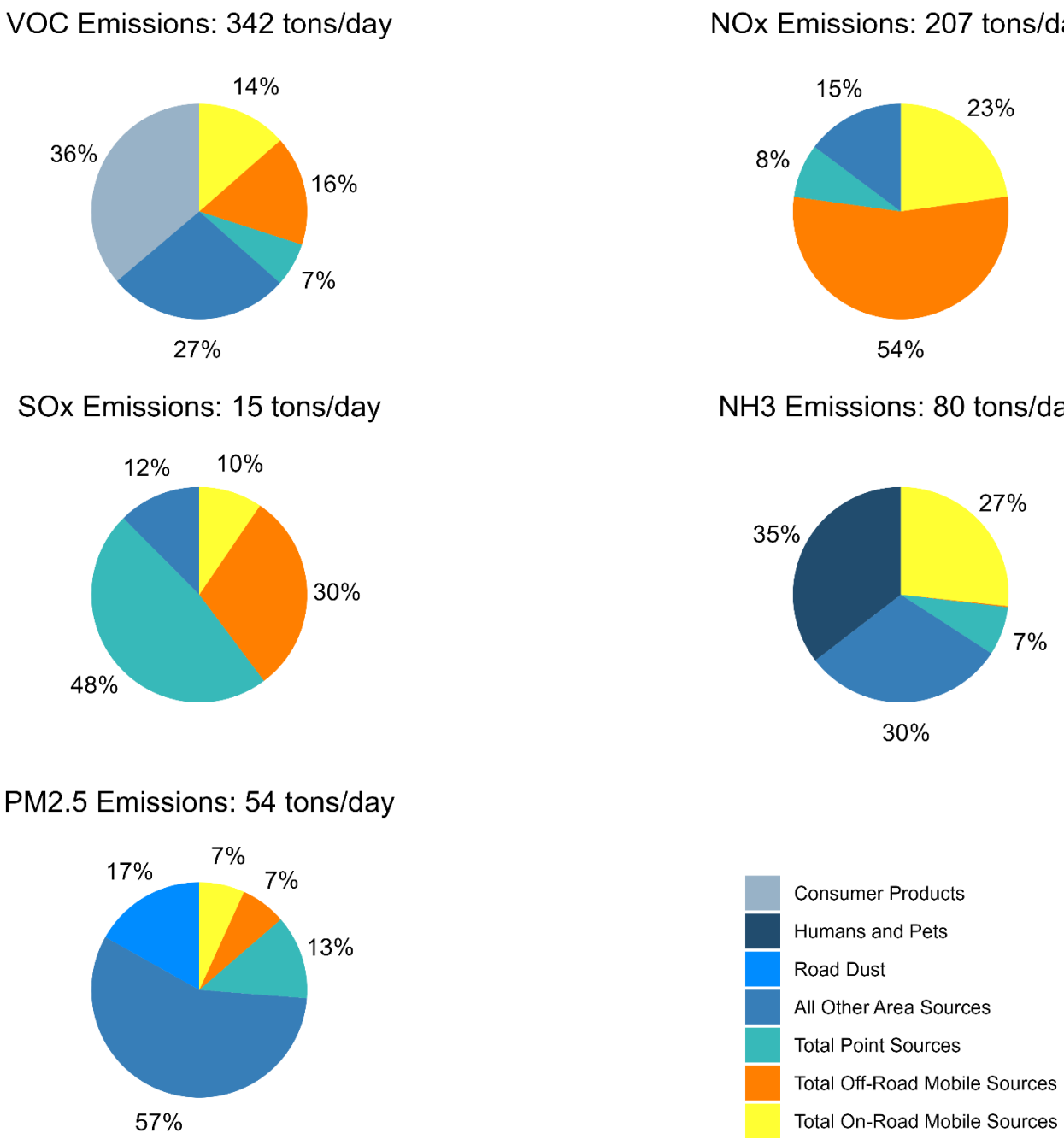

FIGURE I-2-10
RELATIVE CONTRIBUTION BY SOURCE CATEGORY TO 2031 EMISSION INVENTORY
(Annual Average)

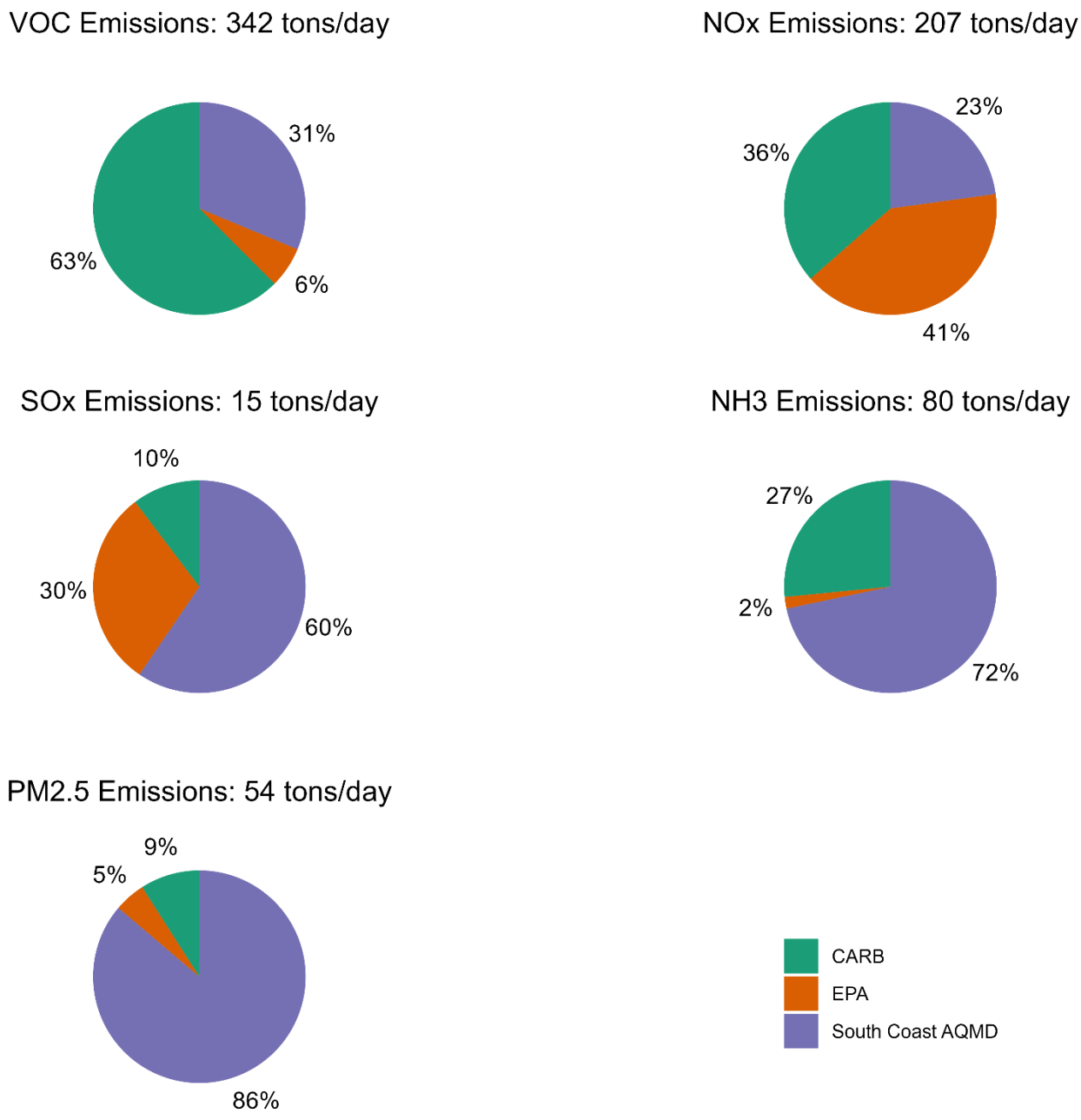

FIGURE I-2-11
2031 EMISSION INVENTORY AGENCY RESPONSIBILITY
(Annual Average)

Figures I-2-12 through I-2-16 illustrate the emission trends by pollutant (NOx, VOC, SOx, PM2.5, and NH3) for the same milestone years in the Draft 2024 PM2.5 plan: 2018, 2023, 2025, 2028, 2030, and 2031. Starting with Figure I-2-12 and Figure I-2-13, significant reductions in NOx and VOC emissions are evident, particularly for the mobile source categories. As seen in Figures I-2-14 and I-2-15, PM2.5 and SOx emissions experience little to no change from 2018 to 2031. NH3 emissions are expected to increase through 2031 as shown in Figure I-2-16.

NOx Emissions

Figure I-2-12 illustrates the NOx emissions trend by major source category. Mobile sources are the major contributor to total NOx emissions in the base year and future year inventories. NOx emissions are projected to decrease in all major source categories with on-road mobile, off-road mobile, point, and area sources drop by 135, 24, 7, and 6 tons per day, respectively, between 2018 and 2031. Reductions in NOx emissions primarily come from recently implemented regulations from CARB, such as Truck and Bus regulations, Advanced Clean Cars, Heavy Duty Low NOx Omnibus,[18] and Heavy-Duty Inspection and Maintenance[19] regulations. These regulations result in corresponding declines in on-road NOx emissions by 75 percent, respectively between 2018 and 2031, amidst overall respective reductions of 45 percent. Most of the anticipated on-road NOx emission reductions are expected between 2018 and 2023, when Truck and Bus regulations are expected to take effect. On the other hand, beyond 2025, reductions are expected from regulations such as Advanced Clean Cars, Heavy Duty Inspection and Maintenance, and NOx omnibus regulations. Off-road sources show a slight increase from 2025 to 2031 driven by an increase in aircraft emissions (from 19.6 to 25.7 tons per day) and OGV emissions (from 28.4 to 30.3 tons per day). Point and area sources decline by 30 and 15 percent, respectively from 2018 to 2031 due to regulation implementation from South Coast AQMD stationary sources rules such as R1109.1 for NOx reduction from refinery and R1111 for NOx reduction from residential natural gas heating furnaces.

[18] Heavy-Duty Engine and Vehicle Omnibus Regulations, https://ww2.arb.ca.gov/rulemaking/2020/hdomnibuslownox

[19] Heavy-Duty Inspection and Maintenance Program, https://ww2.arb.ca.gov/our-work/programs/heavy-duty-inspection-and-maintenance-program

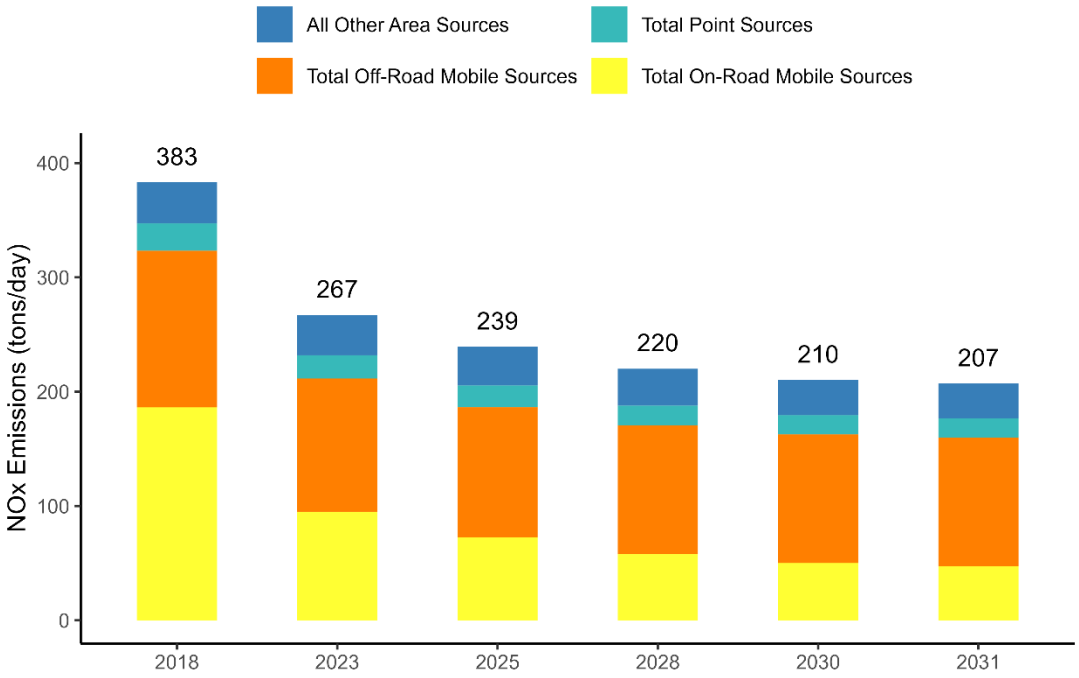

FIGURE I-2-12
NOX EMISSION TREND BY SOURCE CATEGORY – ANNUAL AVERAGE

VOC Emissions

As shown in Figure I-2-13, area sources are major contributors to base and future years' VOC emissions. VOC emissions from area sources increase over time from 198 to 203 tons per day between 2018 and 2023 and increase to 217 tons per day in 2031. Within area sources, the main source of VOC emissions is consumer products. In 2018, VOC emissions from consumer products accounted for 27% of the total VOC emissions baseline, and this is expected to increase to 35% by 2030. Following population growth, VOC emissions from consumer products are set to increase over time, from 107 tons per day in 2018 to 124 tons per day in 2031. Coatings and related processes are the second-largest contributor to VOC emissions among area sources. Emissions from on-road mobile sources are set to decrease over time, with the largest decreases occurring prior to 2025, from 93 tons per day in 2018 to 65 tons per day in 2023. On-road emissions are expected to fall from 65 tons per day to 46 tons per day from 2023 to 2031. Off-road emissions show a similar trend dropping from 89 to 82 tons per day between 2018 and 2023; the rate of reduction is much more modest over the years between 2023 and 2031 (82 down to 56 tons per day) compared to the sharp reduction from base year 2018 to 2023. The amount of reduction from 2018 to 2031 for VOC emissions from on-road and off-road sources is expected to be 47 tons per day (50 percent) and 33 tons per day (37 percent), respectively; total VOC emissions reduction is 60 tons per day (15 percent). Because of increased activity due to demographic and economic growth, both point and area sources are expected to increase from 21 and 198 tons per day in 2018 to 22 and 217 tons per day in 2031, respectively. The increase of consumer products-related VOC emissions contribute 85 percent of the increase from point and area VOC emissions from 2018 to 2031.

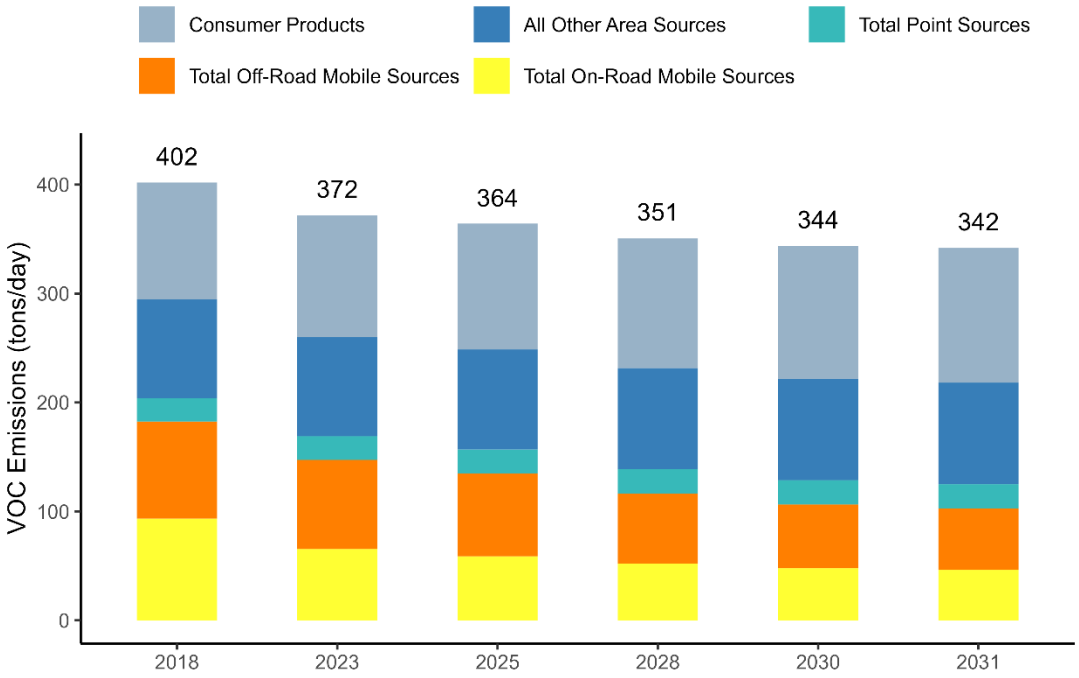

FIGURE I-2-13
VOC EMISSION TREND BY SOURCE CATEGORY – ANNUAL AVERAGE

SOx Emissions

Figure I-2-14 illustrates the SOx emissions trend. Total SOx emissions show a slight increase from 2018 to 2031 due to marginal growth in point and off-road categories. Among off-road sources, OGVs are the primary source of SOx emissions which are expected to grow in future due to the increased ports activities. SOx emissions from on-road mobile sources are expected to slightly decrease from 2018 to 2023 and plateau beyond 2023; area sources plateau for all years (2018 through 2031). The overall 3 percent increase for total SOx emissions from 2018 to 2031 is mainly driven by the increase of aircraft and OGVs in the future.

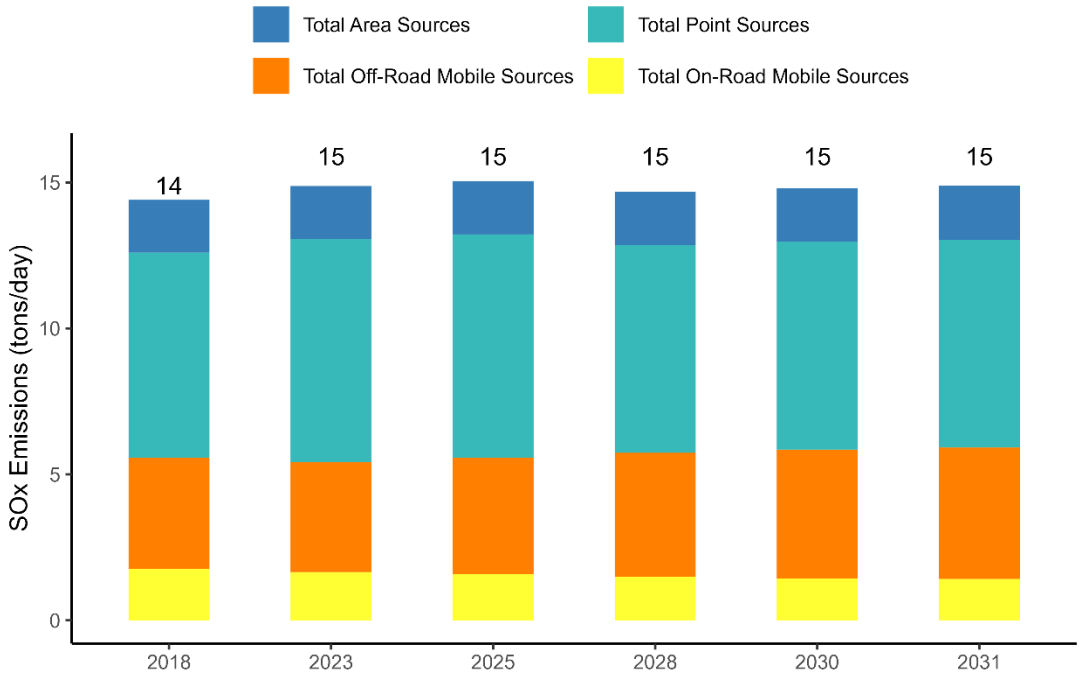

FIGURE I-2-14
SOX EMISSION TREND BY SOURCE CATEGORY – ANNUAL AVERAGE

PM2.5 Emissions

Figure I-2-15 shows the PM2.5 emissions trend. Area sources, including entrained road dust, are projected to remain the largest contributor to PM2.5 emissions. Point and area sources are projected to increase from 2018 to 2031 due to increased activity driven by growth, resulting in higher emissions from commercial cooking, paved road dust, wood and paper production, as well as construction and demolition. The increase in vehicle miles traveled is the main cause of the increasing trend in paved road dust, while PM2.5 emissions from on-road mobile tail pipe emissions decrease due to the fleet turnover to cleaner vehicles. Off-road emissions slightly drop from 5.2 to 3.7 tons per day between 2018 and 2031. Overall, PM2.5 emissions are projected to decline by 4 percent from 2018 (56 tons per day) to 2031 (54 tons per day).

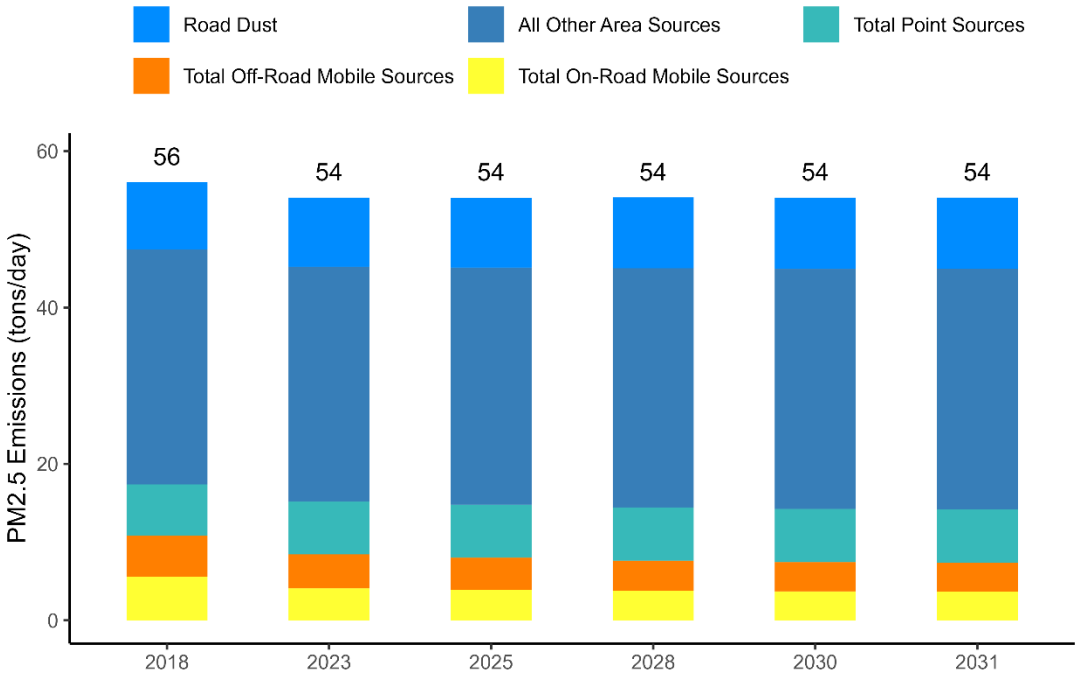

FIGURE I-2-15
PM2.5 EMISSION TREND BY SOURCE CATEGORY – ANNUAL AVERAGE

NH3 Emissions

Figure I-2-16 shows the NH3 emissions trend. Area sources are the largest contributor to NH3 emissions. Among area sources, emissions from human and pet perspiration are the largest source of NH3. Because this source is uncontrolled, emissions from this source are expected to increase over time as population increases. Another large contributor to NH3 is vehicle emissions. NH3 emissions from gasoline vehicles are a byproduct of the catalytic conversion of NOx in the three-way catalysts, whereas NH3 emissions from diesel vehicles are caused by the ammonia slip from SCR systems used in heavy-duty diesel vehicles. Because VMT in gasoline and diesel vehicles are expected to increase, NH3 emissions from vehicles is also projected to increase. Other NH3 sources in the basin include emissions from manufacturing, which are expected to remain relatively constant, and emissions from farming, which are projected to decline over time. Overall, NH3 emissions in the basin is projected to increase 7 percent from 75 tons per day in 2018 to 80 tons per day in 2031. NH3 emissions from human and pet perspiration alone contribute 44 percent of the total NH3 emission increase from 2018 to 2031.

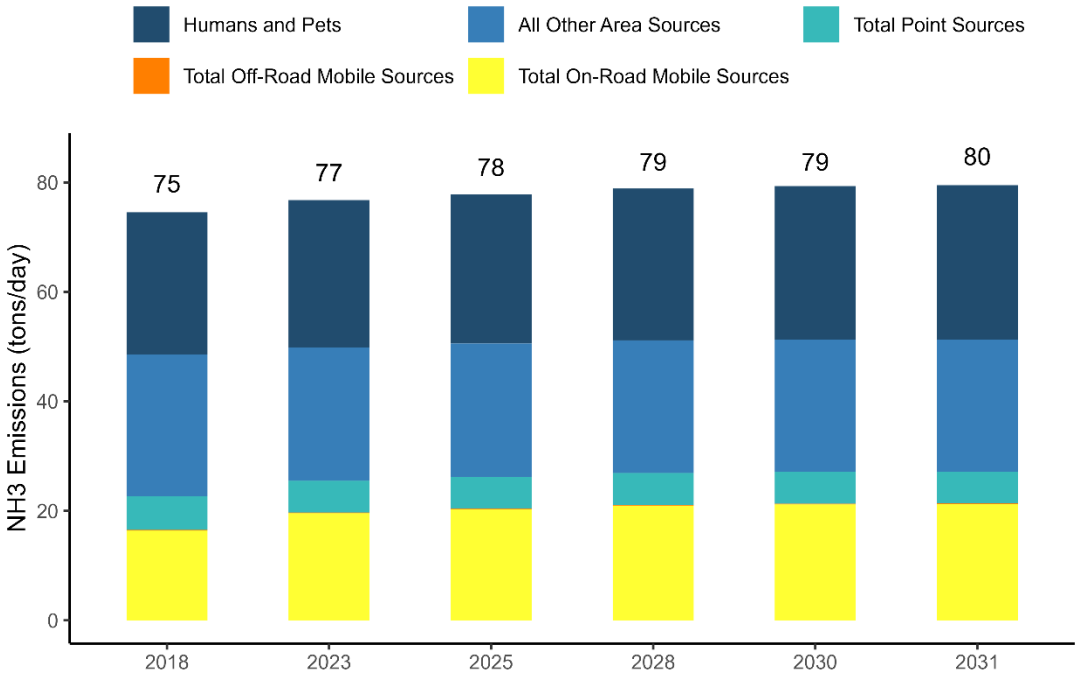

FIGURE I-2-16
NH3 EMISSION TREND BY SOURCE CATEGORY – ANNUAL AVERAGE

Condensable and Filterable PM2.5 Emissions

Per PM2.5 NAAQS final implementation rule,[20] the SIP emissions inventory is required to separately identify condensable and filterable portions of PM2.5 within primary PM2.5 emissions. Primary PM emissions consist of condensable and filterable portions. Condensable PM is the material that is in vapor phase in stack conditions. The U.S. EPA's Air Emissions Reporting Requirements (AERR) requires states to report annual emissions of filterable and condensable components of PM2.5 and PM10, "as applicable," for large sources for every inventory year and for all sources every third inventory year, beginning with 2011.[21] Subsequent emissions inventory guidance[22] from the U.S. EPA clarifies the meaning of the phrase "as applicable" by providing a list of source types "for which condensable PM is expected by the AERR." Filterable PM comprises "particles that are directly emitted by a source as a solid or liquid [aerosol] at stack or release conditions." Primary PM2.5 is the sum of condensable and filterable PM2.5 emissions. Category specific conversion factors

[20] 40 CFR 51.1008(a)(1)(iv).

[21] 40 CFR §51.15(a)(1) and §51.30(b)(1).

[22] USEPA. 2017. Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations. Available at: https://www.epa.gov/sites/production/files/2017- 7/documents/ei_guidance_may_2017_final_rev.pdf.

developed by CARB and used in the Imperial County 2018 SIP[23] were applied in the current analysis to estimate condensable PM and then filterable PM was calculated by subtracting the condensable from the total PM2.5 primary emissions. The baseline 2018, future attainment year 2030, and the RFP milestone years 2023, 2025, 2028, and 2031 are included in the analysis. Figure I-2-15 shows the annual average emissions of primary (or direct), condensable, and filterable PM2.5 emissions for those years.

As shown in Figure I-2-19, total primary PM2.5 emissions increase between the base and future years, rising from 45.2 tpd in 2018 to 46.6 tpd in 2030. This increase in total primary PM2.5 is due to both condensable and filterable portions, which experience respective increases of 0.8 and 0.6 tpd between 2018 and 2031. The condensable portion shows a sharper increase than the filterable portion in the initial interim years from 2018 through 2023, with a 0.4 tpd increase versus little to no change. These increases can be attributed to the growth in population and economic activities in the Basin.

Table I-2-17 presents the top five source categories for condensable PM2.5 in 2018 and future milestone years. Most condensable PM2.5 is emitted from cooking, which accounts for 75.1% and 76.8% of the total condensable PM2.5 in 2018 and 2030, respectively. The sum of the top five condensable PM2.5 categories represents 95.7% and 95.9% of the total condensable PM2.5 both in 2018 and 2030, respectively. Table I-2-18 shows the top five categories for filterable PM2.5. Paved road dust is the greatest source of filterable PM2.5. The top five filterable PM2.5 emissions categories account for approximately 70.7% (2018) and 72.9% (2030) of the total filterable PM2.5 emissions. This points to a marginally higher contribution of the top five filterable categories to total filterable PM2.5 emissions in future years.

List of Category Specific Conversion Factors (Developed by CARB and Used in the Imperial County 2018 SIP) to Estimate Condensable PM2.5 from Primary PM2.5 as well as detailed emissions by major source category for condensable and filterable PM2.5 are included in Appendix I Attachment E of this Plan.

[23] Imperial County 2018 Annual Particulate Matter less than 2.5 microns in Diameter State Implementation Plan, April 2018. Available at https://ww3.arb.ca.gov/planning/sip/planarea/imperial/final_2018_ic_pm25_sip.pdf.

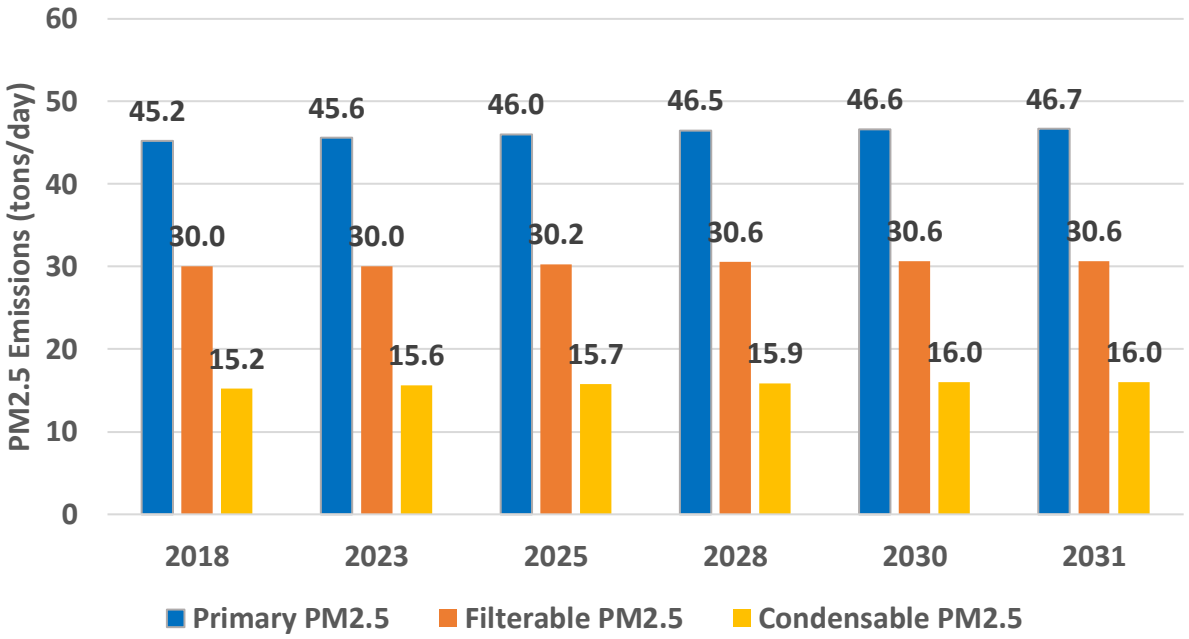

FIGURE I-2-17

ANNUAL AVERAGE PRIMARY, FILTERABLE AND CONDENSABLE PM2.5 EMISSIONS

TABLE I-2-17

TOP 5 CATEGORIES EMITTING CONDENSABLE PM2.5 (TONS PER DAY)

Category	2018	2023	2025	2028	2030	2031
Cooking	11.41	11.76	11.93	12.13	12.27	12.33
Petroleum Refining (Combustion)	1.00	1.00	1.00	1.00	1.00	1.00
Residential Fuel Combustion	0.79	0.82	0.81	0.78	0.77	0.77
Manufacturing and Industrial	0.75	0.73	0.74	0.73	0.72	0.71
Service and Commercial	0.61	0.61	0.60	0.58	0.57	0.57

TABLE I-2-18

TOP 5 CATEGORIES EMITTING FILTERABLE PM2.5 (TONS PER DAY)

Category	2018	2023	2025	2028	2030	2031
Paved Road Dust	8.59	8.83	8.91	9.08	9.11	9.11
Residential Fuel Combustion	5.98	5.95	5.92	5.86	5.82	5.82
Wood and Paper	2.7	2.95	3.06	3.2	3.23	3.23
Construction and Demolition	2.27	2.36	2.41	2.46	2.49	2.51
Unpaved Road Dust	1.67	1.67	1.67	1.67	1.67	1.67

Uncertainty in the Inventory

An effective PM Plan relies on a robust emission inventory. Over the years, significant improvements have been made to quantify emission sources for which control measures are developed. Increased use of continuous monitoring and source tests has contributed to the improvement in point source inventories. Technical assistance to facilities and auditing of reported emissions by South Coast AQMD also have improved the accuracy of the emissions inventory. CARB inventory staff collaborates with the South Coat AQMD to ensure the accuracy of these data. The locations of point sources, including stacks, are checked for validity. Area source inventories that rely on average emission factors and regional activities have inherent uncertainty. Area source emissions estimates are developed by both CARB and South Coast AQMD staff, and the methodologies are reviewed by both agencies before their inclusion in the emissions inventory. Industry-specific surveys and source-specific studies during rule development have provided much-needed refinement to the emissions estimates. Many sectors in area sources were revised extensively as well based on the best available emission factors and activity data. As described earlier, many improvements are included in the on-road mobile source model EMFAC2021 which estimates emissions from trucks, automobiles, and buses. Improvements and updates are included in the off-road models for locomotives, OGVs, commercial harbor craft, pleasure craft and off-road recreational vehicles, cargo handling equipment, and farm equipment. Mobile categories are verified with CARB mobile source staff for consistency with the on-road and off-road emission models.

CARB maintains and assembles base year emissions in the California Emission Inventory Development and Reporting System (CEIDARS), which is designed with automatic system checks to prevent errors, such as double counting of emission sources. At the final stage, California Emissions Projection Analysis Model (CEPAM), a tool designed and maintained by CARB to model emissions inventory for the 2022 State SIP Strategy is thoroughly reviewed by CARB staff as well as South Coast AQMD staff to validate the accuracy of growth and control application, and the output emissions are compared against prior approved versions of CEPAM to identify data anomalies.

Overall, the Draft PM2.5 Plan inventory is based on the most current information and estimation methodologies, resulting in the most accurate inventory available. However, there are still areas that could be improved if better data were available. Technology changes and improvements in the area of electric, hybrid, flexible fuel, and fuel cell vehicles, or the change in future gasoline prices, all add uncertainty to the future on-road emissions inventory.

Relative to future growth, there are many challenges involved with making accurate projections, such as where vehicle trips will occur, the distribution between various modes of transportation (such as trucks and trains), as well as estimates for population growth and changes to the number and type of jobs. Forecasts are made with the best information available; nevertheless, they contribute to the overall uncertainty in emission projections. Fortunately, AQMP updates are generally performed every three to five years; thereby allowing for frequent improvements and adjustments to the inventories.

Controlled Emission Inventories

This section describes the methodology used to estimate the controlled and remaining emissions after the proposed control measures in the Draft PM2.5 Plan are implemented for the year 2030. Emission reductions are derived by applying the control efficiency of a control measure to the projected baseline inventories.

The methodology used in this Draft PM2.5 Plan to calculate emission reductions from the implementation of the proposed control measures and remaining emissions is the same methodology used in the 2022 AQMP.[24] The in-house algorithm calculates remaining emissions as well as reductions for each control measure using the control factors specified at the Emission Inventory Codes (EIC) level for a given year and pollutant. It is not unusual to have more than one control factors targeting the same EIC when multiple rules exist. To avoid double counting of reductions, the composite control factor is used by multiplying the individual control factors for the same EIC. Details of the steps taken in the calculation are discussed in the "Emission Reduction Calculations" section of this document.

Emission Reductions from the Proposed Control Measures

To assess emission reduction potential and remaining emissions from proposed control measures, a control factor profile needs to be developed identifying the source category targeted by each measure, its control efficiency, and the implementation schedule.

Control Efficiency/Control Factor

One factor that determines the effectiveness of a control measure is its control efficiency (CE), expressed in percentage. Control efficiency is dependent on the specific control technologies proposed, and each control measure may have one or more technology options available. If there is only one feasible control technology in a control measure, its control efficiency is primarily based on an engineering evaluation of the proposed technology. However, if several control technologies are available to control an emission source, the average control efficiency is used. If multiple control technologies are proposed to reduce emissions from various steps of an operation, a weighted average control efficiency is developed to represent an overall control of the emission sources. Once the control efficiency of a control measure is determined, it is used to estimate emission reductions of the proposed measure. Control efficiencies for the proposed control measures are identified and discussed in detail in Appendix IV of the Draft PM2.5 Plan.

The control factor (CF) is used to estimate remaining emissions once a proposed control measure is implemented. A control factor equal to 0 indicates complete emission control or 100 percent efficiency. A control factor equal to 1 indicates no emission control or emissions remain unchanged. A high control factor

[24] 2022 AQMP Appendix III: Base and Future Year Emission Inventory http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/appendix-iii.pdf?sfvrsn=6

value indicates a low control efficiency. As the control efficiency goes up, the control factor value goes down. The equation to calculate a control factor follows:

$$\mathbf{CF = 1 - (CE/100)}$$

The remaining emissions can be calculated as:

$$\mathbf{REM = BE \times CF}$$

Where REM is Remaining Emissions, and BE is Baseline Emissions.

To assess the influence of control measures on future PM2.5 levels, control factors for 2030 were developed. The control factor profile for each measure is developed considering the following factors:

- proposed adoption date;
- implementation lead time; and
- phase-in period, if any.

The adoption date as proposed in the Draft PM2.5 Plan is the date South Coast AQMD or another agency is expected to adopt the control measure as a rule. The implementation lead time reflects the time allowed for the emission sources to install controls. When a rule is implemented, it is not unusual that it may have multiple interim implementation dates prior to full implementation. This is because the requirements in a rule may require two or three phases to include such as technology-forcing regulation to reach the final emission target. Sometime, a particular rule may regulate such a large population of equipment that it is impractical to implement it all at once, then, it becomes administratively necessary break down the implementation into different phases. In either case, a control profile would indicate an initial implementation date and an ending implementation date. The adoption and implementation schedule of the proposed control measures is presented in Chapter 4 of the Draft PM2.5 Plan.

Impact Factors

Each proposed control measure describes specific emission sources subject to potential controls. Based on the description of these sources, corresponding sources as tracked in the emission inventory are identified. In general, emission sources are grouped by major source category, which can be further subcategorized into point sources denoted by Source Classification Codes (SCC) and area sources denoted by Category Emission Source (CES) Codes. To track emission reductions more accurately, the control factors at the SCC/CES level become necessary.

An SCC, an 8-digit EPA code, is used to identify emissions from a point source at the equipment level. A CES, a 5-digit CARB code, is used to describe an area source for which emissions are distributed across the region with no specific locations.

For some measures, the controls apply not only to the type of equipment but also to the industries engaged in a particular activity. In those cases, control factors will be developed by pairing SCCs with Standard Industrial

Classification (SIC) Codes to clearly and specifically point out the emission sources in the inventory that the measure is designed to reduce. Such SCC/SIC pairs significantly enhance the ability to quantify emissions closely following the intent of a proposed control measure.

There are instances where an SCC or CES category is not fully impacted by a control measure. As a result, an impact factor (IF) is developed as a weighing factor for such an adjustment. The following equation illustrates how the impact factor (IF) is included in the CF calculation.

CF = 1 - ((CE /100) x IF)

Impact factors will accurately track the measure's baseline emissions and calculate more accurate reductions from the proposed control measures.

Emission reductions for the attainment year 2030 for South Coast Air Basin are estimated from the control measures provided in Chapter 4 and Appendix IV of this Draft PM2.5 Plan.

Emission Reduction Calculations

An in-house algorithm (in MATLAB programming language) is developed to calculate the emission reductions from controlled emission scenarios. A brief description of the steps taken in the algorithm is as follows:

I. Compile baseline emissions by EIC:
Compile the annual baseline emissions (BE) by EIC for each pollutant and year. Attachment A in Appendix I present the annual average emission summary tables for the South Coast Air Basin by major source categories.

Baseline Emissions by year, pollutant and EIC: $BE_{year,pol,EIC}$

II. Compile composite control factors for all measures by EIC:
The control factors by pollutant and year are provided by South Coast AQMD rule writers or CARB staff for each proposed control measure. The composite control factors by EIC and pollutant are obtained by multiplying all control factors applied to the same EIC to reflect the overall reduction resulting from the application of all control and incentive measures to the baseline emissions.

Example: Assume there are 2 control measures applying to 3 EIC codes

Control factors for measure 1 applies to EIC1 and EIC2:

$$CF1_{year,pol,EIC1} \text{ and } CF1_{year,pol,EIC2}$$

Control factors for measure 2 applies to EIC1 and EIC3:

$$CF2_{year,pol,EIC1} \text{ and } CF2_{year,pol,EIC3}$$

Composite control factors for the 3 EIC are:

$$CCF_{year,pol,EIC1} = CF1_{year,pol,EIC1} \times CF2_{year,pol,EIC1}$$

$$CCF_{year,pol,EIC2} = CF1_{year,pol,EIC2}$$

$$CCF_{year,pol,EIC3} = CF2_{year,pol,EIC3}$$

III. Calculate remaining Emissions:
Calculate the remaining emissions after multiplying the composite control factors by baseline emissions, by EIC, pollutant, and year. The result is the remaining emissions after applying all defined measures and South Coast AQMD incentive programs for mobile and stationary sources.

Example: Apply the control factors of measures 1 and 2 to baseline emissions of EIC1, EIC2 and EIC3 to calculate controlled emissions (*CE*)

$$CE_{year,pol,EIC1} = CCF_{year,pol,EIC1} \times BE_{year,pol,EIC1}$$

$$CE_{year,pol,EIC2} = CCF_{year,pol,EIC2} \times BE_{year,pol,EIC2}$$

$$CE_{year,pol,EIC3} = CCF_{year,pol,EIC3} \times BE_{year,pol,EIC3}$$

IV. Add back set-aside account emissions to remaining basin total for the controlled emissions scenario.

The result of emission reductions from the proposed control measures for 2025 and 2030 are presented in Appendix II of the Draft PM2.5 Plan.

CARB Emission Data Reports System

As mentioned in Chapter 1 of this Appendix, the entire emission inventories are compiled and maintained by CARB in its statewide emission related information databases, namely the California Emission Inventory Development and Reporting System (CEIDARS) and the California Emission Forecasting and Planning Inventory System (CEFIS).

In both systems, emissions are tracked by EIC codes. The EIC code is a 14-digit number arranged into four fields: major category, source category, material description, and emission sub-category. For example, EIC 210-200-3300-0000 is for dry cleaning using perchloroethylene. 210 indicates that this source is under the laundering group. 200 means the source category is dry cleaning. 3300 refers to the material perchloroethylene. 0000 implies there is no sub-category for this particular source. EIC codes separate emission sources into four major divisions: stationary, area, non-anthropogenic, and mobile source. This coding system allows flexibility in how sources are selected, sorted, and grouped to fit users' needs. EIC codes link area sources and point sources together to allow a computer program to automatically reconcile point and area source emissions. In the Draft PM2.5 Plan, all the emission summary reports are based on CARB's EIC codes. Because only anthropogenic sources are included in this document, all summary reports in the appendices include three major divisions: stationary, area, and mobile sources.

The California Emissions Projection Analysis Model (CEPAM)[25] was created to support SIP development, air quality modeling efforts, and SIP progress tracking. CEPAM starts with a base year, which is pulled from CEIDARS, and forecasts emissions for point and area sources using the most current growth and control data available at the time of the development of the model version. For mobile sources, CEPAM integrates the emission estimates from EMFAC and OFFROAD[26] mobile source emission models to provide a comprehensive anthropogenic emission inventory. CEPAM2022 projected from 2018 using control and growth factors employed for this PM plan will be released and hosted on CARB's website for public review.

[25] https://ww2.arb.ca.gov/criteria-pollutant-emission-inventory-data#:~:text=California%20Emissions%20Projection%20Analysis%20Model&text=CEPAM%20starts%20with%20a%20base,development%20of%20the%20model%20version.

[26] https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-road-documentation-0.

Attachment A:

Annual Average Emissions by Source Category in

South Coast Air Basin

Attachment A

2018 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Fuel Combustion										
10	Electric Utilities	2.72	0.32	0.64	4.31	0.23	0.54	0.53	0.53	0.69
20	Cogeneration	0.03	0.01	0.02	0.11	0.00	0.02	0.01	0.01	0.17
30	Oil and Gas Production (combustion)	1.01	0.12	0.58	0.57	0.01	0.09	0.09	0.09	0.17
40	Petroleum Refining (Combustion)	6.55	1.38	0.00	5.17	0.01	1.80	1.80	1.79	1.54
50	Manufacturing and Industrial	4.29	0.91	6.41	48.46	1.04	1.45	1.37	1.33	2.30
52	Food and Agricultural Processing	0.09	0.04	0.20	0.49	0.00	0.05	0.05	0.05	0.06
60	Service and Commercial	4.96	1.95	10.48	20.67	0.77	1.17	1.17	1.16	2.61
99	Other (Fuel Combustion)	0.74	0.61	2.77	1.27	0.01	0.42	0.39	0.37	0.25
	Total Fuel Combustion	**20.40**	**5.34**	**21.10**	**81.04**	**2.08**	**5.54**	**5.42**	**5.34**	**7.79**
Waste Disposal										
110	Sewage Treatment	0.39	0.28	0.00	0.00	0.00	0.02	0.00	0.00	0.21
120	Landfills	621.84	8.63	0.45	0.39	0.37	0.20	0.20	0.20	3.97
130	Incineration	0.19	0.04	0.98	0.25	0.07	0.12	0.06	0.05	0.23
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	71.22	5.72	0.01	0.01	0.00	0.00	0.00	0.00	1.33
	Total Waste Disposal	**693.64**	**14.67**	**1.44**	**0.65**	**0.44**	**0.34**	**0.26**	**0.25**	**5.74**
Cleaning and Surface Coatings										
210	Laundering	3.41	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	66.82	12.71	0.00	0.00	0.00	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	18.07	17.68	0.00	0.00	0.00	1.51	1.45	1.40	0.09
240	Printing	0.67	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.04
250	Adhesives and Sealants	5.79	5.12	0.00	0.00	0.00	0.02	0.02	0.02	0.00
299	Other (Cleaning and Surface Coatings)	0.63	0.62	0.01	0.11	0.00	0.01	0.00	0.00	0.00
	Total Cleaning and Surface Coatings	**95.39**	**36.93**	**0.01**	**0.11**	**0.00**	**1.56**	**1.50**	**1.44**	**0.14**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.10	2.34	0.01	0.02	0.06	0.04	0.03	0.02	0.00
320	Petroleum Refining	6.35	4.43	0.23	2.39	0.24	1.87	1.25	0.88	0.07
330	Petroleum Marketing	53.80	12.80	0.00	0.23	0.00	0.01	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	Total Petroleum Production and Marketing	**65.29**	**19.61**	**0.25**	**2.65**	**0.30**	**1.91**	**1.28**	**0.91**	**0.07**
Industrial Processes										
410	Chemical	4.25	4.14	0.03	0.12	0.05	0.46	0.40	0.38	0.01
420	Food and Agriculture	0.53	0.51	0.00	0.01	0.01	0.25	0.12	0.05	0.00
430	Mineral Processes	0.35	0.31	0.02	0.29	0.04	8.43	3.57	0.94	0.06
440	Metal Processes	0.11	0.09	0.05	0.25	0.03	0.35	0.27	0.21	0.00
450	Wood and Paper	0.23	0.23	0.00	0.00	0.00	6.43	4.50	2.70	0.01
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
470	Electronics	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
499	Other (Industrial Processes)	5.40	4.85	0.01	0.01	0.00	1.03	0.71	0.45	8.59
	Total Industrial Processes	**10.89**	**10.16**	**0.11**	**0.67**	**0.14**	**16.95**	**9.58**	**4.74**	**8.67**
Solvent Evaporation										
510	Consumer Products	135.77	107.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	10.62	10.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.09	1.09	0.00	0.00	0.00	0.00	0.00	0.00	1.23
540	Asphalt Paving/Roofing	1.06	0.98	0.00	0.00	0.00	0.03	0.02	0.02	0.00
	Total Solvent Evaporation	**148.53**	**120.06**	**0.00**	**0.00**	**0.00**	**0.03**	**0.02**	**0.02**	**1.23**

Attachment A

(Continued)

2018 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.57	8.88	19.10	47.62	0.33	7.32	6.96	6.77	0.11
620	Farming Operations	17.80	1.48	0.00	0.00	0.00	1.66	0.81	0.17	8.17
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	46.32	22.66	2.27	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	125.15	57.22	8.59	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	28.17	16.74	1.67	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.20	1.62	0.23	0.00
660	Fires	0.34	0.29	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	1.03	0.85	0.10	12.00	0.06	1.18	1.14	0.97	0.12
690	Cooking	2.73	1.08	0.00	0.00	0.00	11.44	11.44	11.44	0.00
699	Other (Miscellaneous Processes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.98
	RECLAIM	0	0	17.77	0	5.48	0	0	0	0
	Total Miscellaneous Processes	**41.47**	**12.59**	**37.04**	**62.65**	**5.87**	**224.89**	**119.04**	**32.52**	**34.39**
On-Road Motor Vehicles										
710	Passenger Cars (P)	42.05	38.58	28.22	394.54	0.73	4.38	4.33	1.61	6.98
722	Light Duty Trucks 1 (T1)	8.84	8.03	6.73	76.33	0.07	0.45	0.44	0.18	0.71
723	Light Duty Trucks 2 (T2)	18.52	16.75	20.54	190.38	0.34	1.70	1.68	0.63	2.65
724	Medium Duty Vehicles (T3)	17.28	15.51	20.13	163.73	0.29	1.21	1.19	0.45	1.85
725	Light Heavy Duty Trucks 1 (T4)	2.33	2.12	8.90	14.81	0.04	0.70	0.70	0.30	0.49
726	Light Heavy Duty Trucks 2 (T5)	0.42	0.38	2.50	2.24	0.01	0.19	0.19	0.08	0.15
727	Medium Heavy Duty Trucks (T6)	2.22	1.91	29.85	14.78	0.08	1.12	1.11	0.83	0.79
728	Heavy Heavy Duty Trucks (T7)	3.47	1.98	61.67	16.33	0.17	2.30	2.29	1.36	1.94
750	Motorcycles (MCY)	7.60	7.17	1.01	25.98	0.00	0.03	0.03	0.01	0.01
775	Buses	3.26	0.61	5.70	22.73	0.01	0.23	0.23	0.13	0.76
780	Motor Homes (MH)	0.41	0.38	0.78	1.97	0.01	0.04	0.04	0.03	0.03
	Total On-Road Motor Vehicles	**106.40**	**93.42**	**186.03**	**923.81**	**1.77**	**12.35**	**12.23**	**5.60**	**16.36**
Other Mobile Sources										
810	Aircraft	3.66	3.52	17.11	36.58	1.64	0.79	0.76	0.68	0.00
820	Trains	0.82	0.69	15.10	3.55	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	10.93	9.36	32.21	4.32	2.04	0.69	0.69	0.64	0.02
835	Commercial Harbor Crafts	0.39	0.33	5.86	1.25	0.00	0.25	0.25	0.23	0.00
840	Recreational Boats	17.12	15.92	3.00	51.77	0.00	1.00	0.90	0.68	0.01
850	Off-Road Recreational Vehicles	1.32	1.29	0.04	2.12	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	55.86	51.48	54.24	603.92	0.09	2.69	2.62	2.30	0.09
861	Off-Road Equipment (PERP)	0.90	0.76	8.83	4.80	0.01	0.34	0.34	0.31	0.01
870	Farm Equipment	0.34	0.31	0.67	4.18	0.00	0.05	0.05	0.04	0.00
890	Fuel Storage and Handling	5.48	5.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Other Mobile Sources	**96.83**	**89.15**	**137.05**	**712.49**	**3.81**	**6.17**	**5.97**	**5.21**	**0.15**
Natural Sources										
910	Biogenic Sources	135.14	132.07	5.28	0.00	0.00	0.00	0.00	0.00	0.00
920	Geogenic Sources	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.73
930	Wildfires	84.50	69.80	14.81	352.16	4.13	40.33	38.76	32.84	0.00
	Total Natural Sources Category	**219.64**	**201.87**	**20.09**	**352.16**	**4.13**	**40.33**	**38.76**	**32.84**	**1.73**
Total Stationary and Area Sources		1075.62	219.36	59.94	147.78	8.83	251.23	137.09	45.23	58.03
Total On-Road Vehicles		106.40	93.42	186.03	923.81	1.77	12.35	12.23	5.60	16.36
Total Other Mobile		96.83	89.15	137.05	712.49	3.81	6.17	5.97	5.21	0.15
Total Anthropogenic		**1278.86**	**401.93**	**383.02**	**1784.07**	**14.40**	**269.75**	**155.29**	**56.04**	**74.54**
Total Natural Sources		219.64	201.87	20.09	352.16	4.13	40.33	38.76	32.84	1.73
Grand Total		**1498.50**	**603.80**	**403.11**	**2136.24**	**18.53**	**310.08**	**194.05**	**88.87**	**76.27**

Attachment A

2023 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Fuel Combustion										
10	Electric Utilities	2.83	0.33	0.66	4.45	0.23	0.56	0.56	0.55	0.72
20	Cogeneration	0.04	0.01	0.02	0.12	0.00	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.22	0.14	0.67	0.66	0.01	0.10	0.10	0.10	0.21
40	Petroleum Refining (Combustion)	6.55	1.38	0.00	5.17	0.01	1.80	1.80	1.79	1.54
50	Manufacturing and Industrial	4.20	0.91	6.23	47.03	1.04	1.43	1.35	1.32	2.25
52	Food and Agricultural Processing	0.09	0.04	0.21	0.49	0.00	0.05	0.05	0.05	0.06
60	Service and Commercial	5.09	2.01	10.32	20.41	0.80	1.17	1.17	1.16	2.50
99	Other (Fuel Combustion)	0.73	0.60	2.38	1.17	0.01	0.43	0.40	0.38	0.27
	Total Fuel Combustion	**20.76**	**5.42**	**20.51**	**79.50**	**2.11**	**5.57**	**5.44**	**5.36**	**7.73**
Waste Disposal										
110	Sewage Treatment	0.40	0.28	0.00	0.01	0.00	0.02	0.00	0.00	0.21
120	Landfills	645.49	8.96	0.42	0.40	0.37	0.21	0.20	0.20	4.11
130	Incineration	0.20	0.04	0.99	0.26	0.07	0.12	0.06	0.05	0.23
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	72.70	5.84	0.01	0.01	0.00	0.00	0.00	0.00	1.47
	Total Waste Disposal	**718.80**	**15.12**	**1.41**	**0.67**	**0.45**	**0.34**	**0.27**	**0.25**	**6.02**
Cleaning and Surface Coatings										
210	Laundering	3.52	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	68.38	13.05	0.00	0.00	0.00	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	18.94	18.53	0.00	0.00	0.00	1.59	1.52	1.47	0.10
240	Printing	0.72	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.04
250	Adhesives and Sealants	5.15	4.55	0.00	0.00	0.00	0.02	0.02	0.02	0.00
299	Other (Cleaning and Surface Coatings)	0.64	0.64	0.01	0.11	0.00	0.01	0.01	0.00	0.00
	Total Cleaning and Surface Coatings	**97.36**	**37.64**	**0.01**	**0.12**	**0.00**	**1.64**	**1.57**	**1.51**	**0.15**
Petroleum Production and Marketing										
310	Oil and Gas Production	6.42	2.94	0.01	0.02	0.08	0.04	0.03	0.02	0.00
320	Petroleum Refining	6.35	4.43	0.22	2.39	0.24	1.87	1.25	0.88	0.07
330	Petroleum Marketing	52.97	11.61	0.00	0.21	0.00	0.01	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	Total Petroleum Production and Marketing	**65.78**	**19.01**	**0.24**	**2.63**	**0.31**	**1.92**	**1.28**	**0.91**	**0.07**
Industrial Processes										
410	Chemical	4.37	4.25	0.03	0.12	0.05	0.47	0.41	0.39	0.01
420	Food and Agriculture	0.55	0.53	0.00	0.01	0.01	0.25	0.12	0.06	0.00
430	Mineral Processes	0.37	0.33	0.02	0.30	0.05	8.54	3.63	0.96	0.06
440	Metal Processes	0.11	0.10	0.05	0.27	0.03	0.39	0.31	0.23	0.00
450	Wood and Paper	0.24	0.24	0.00	0.00	0.00	7.03	4.92	2.95	0.01
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
470	Electronics	0.02	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
499	Other (Industrial Processes)	5.49	4.94	0.01	0.01	0.00	1.07	0.73	0.47	8.59
	Total Industrial Processes	**11.15**	**10.41**	**0.11**	**0.71**	**0.14**	**17.75**	**10.12**	**5.07**	**8.68**
Solvent Evaporation										
510	Consumer Products	141.43	111.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	11.23	11.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.12	1.12	0.00	0.00	0.00	0.00	0.00	0.00	1.20
540	Asphalt Paving/Roofing	1.11	1.02	0.00	0.00	0.00	0.03	0.03	0.02	0.00
	Total Solvent Evaporation	**154.89**	**125.34**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.02**	**1.20**

Attachment A

(Continued)

2023 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.77	8.97	18.99	48.34	0.34	7.31	6.96	6.78	0.11
620	Farming Operations	13.55	1.13	0.00	0.00	0.00	1.46	0.71	0.15	6.19
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	48.22	23.59	2.36	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	128.76	58.87	8.83	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	28.16	16.74	1.67	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.07	1.56	0.22	0.00
660	Fires	0.34	0.29	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.24	0.21	0.09	2.85	0.03	0.33	0.32	0.28	0.03
690	Cooking	2.82	1.12	0.00	0.00	0.00	11.79	11.79	11.79	0.00
699	Other (Miscellaneous Processes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.90
	RECLAIM	0	0	14.28	0	6.08	0	0	0	0
	Total Miscellaneous Processes	**36.72**	**11.72**	**33.44**	**54.22**	**6.45**	**229.56**	**120.99**	**32.49**	**33.24**
On-Road Motor Vehicles										
710	Passenger Cars (P)	28.07	26.23	15.85	253.69	0.63	4.07	4.02	1.45	7.25
722	Light Duty Trucks 1 (T1)	6.12	5.62	4.23	48.48	0.06	0.38	0.37	0.15	0.65
723	Light Duty Trucks 2 (T2)	13.70	12.63	11.64	135.98	0.35	1.94	1.92	0.69	3.52
724	Medium Duty Vehicles (T3)	12.09	11.07	11.24	103.41	0.27	1.21	1.20	0.44	2.10
725	Light Heavy Duty Trucks 1 (T4)	1.57	1.44	5.10	9.92	0.04	0.59	0.59	0.24	0.54
726	Light Heavy Duty Trucks 2 (T5)	0.29	0.27	1.48	1.48	0.01	0.18	0.18	0.07	0.19
727	Medium Heavy Duty Trucks (T6)	0.87	0.70	11.40	8.00	0.09	0.51	0.51	0.22	1.46
728	Heavy Heavy Duty Trucks (T7)	2.04	0.68	30.61	14.33	0.19	1.75	1.74	0.74	3.03
750	Motorcycles (MCY)	7.07	6.68	0.90	22.81	0.00	0.03	0.03	0.01	0.01
775	Buses	2.48	0.21	2.15	28.88	0.01	0.17	0.17	0.07	0.84
780	Motor Homes (MH)	0.24	0.23	0.60	0.63	0.01	0.04	0.04	0.02	0.03
	Total On-Road Motor Vehicles	**74.54**	**65.75**	**95.20**	**627.62**	**1.66**	**10.86**	**10.77**	**4.09**	**19.63**
Other Mobile Sources										
810	Aircraft	3.51	3.35	17.77	34.15	1.54	0.76	0.73	0.65	0.00
820	Trains	0.83	0.69	16.13	3.90	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.07	9.47	31.12	4.42	2.08	0.70	0.70	0.65	0.03
835	Commercial Harbor Crafts	0.39	0.33	5.77	1.22	0.00	0.25	0.25	0.23	0.00
840	Recreational Boats	13.76	12.81	2.82	51.47	0.00	0.80	0.72	0.55	0.01
850	Off-Road Recreational Vehicles	1.14	1.12	0.04	2.25	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	52.72	48.64	37.22	656.46	0.09	2.08	2.01	1.74	0.07
861	Off-Road Equipment (PERP)	0.63	0.53	5.16	4.72	0.01	0.18	0.18	0.16	0.01
870	Farm Equipment	0.26	0.23	0.51	4.20	0.00	0.04	0.04	0.03	0.00
890	Fuel Storage and Handling	4.62	4.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Other Mobile Sources	**88.92**	**81.81**	**116.55**	**762.79**	**3.76**	**5.18**	**5.00**	**4.36**	**0.12**
Natural Sources										
910	Biogenic Sources	135.14	132.07	5.28	0.00	0.00	0.00	0.00	0.00	0.00
920	Geogenic Sources	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.73
930	Wildfires	58.09	47.98	6.55	245.39	2.12	26.10	25.08	21.25	2.45
	Total Natural Sources Category	**193.24**	**180.06**	**11.83**	**245.39**	**2.12**	**26.10**	**25.08**	**21.25**	**4.19**
Total Stationary and Area Sources		1105.46	224.67	55.71	137.84	9.47	256.80	139.69	45.63	57.08
Total On-Road Vehicles		74.54	65.75	95.20	627.62	1.66	10.86	10.77	4.09	19.63
Total Other Mobile		88.92	81.81	116.55	762.79	3.76	5.18	5.00	4.36	0.12
Total Anthropogenic		**1268.92**	**372.22**	**267.46**	**1528.26**	**14.88**	**272.83**	**155.46**	**54.08**	**76.83**
Total Natural Sources		193.24	180.06	11.83	245.39	2.12	26.10	25.08	21.25	4.19
Grand Total		**1462.15**	**552.28**	**279.29**	**1773.65**	**17.01**	**298.93**	**180.54**	**75.32**	**81.02**

Attachment A

2025 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Fuel Combustion										
10	Electric Utilities	2.64	0.31	0.57	4.18	0.22	0.52	0.52	0.52	0.66
20	Cogeneration	0.04	0.01	0.01	0.12	0.00	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.30	0.15	0.72	0.69	0.01	0.11	0.11	0.11	0.22
40	Petroleum Refining (Combustion)	6.55	1.38	0.00	5.17	0.01	1.80	1.80	1.79	1.54
50	Manufacturing and Industrial	4.23	0.92	6.25	47.21	1.04	1.44	1.36	1.33	2.27
52	Food and Agricultural Processing	0.09	0.04	0.21	0.50	0.00	0.05	0.05	0.05	0.06
60	Service and Commercial	5.11	2.02	10.25	19.93	0.81	1.16	1.16	1.15	2.41
99	Other (Fuel Combustion)	0.74	0.60	2.31	1.18	0.01	0.44	0.41	0.39	0.28
	Total Fuel Combustion	**20.71**	**5.44**	**20.32**	**78.99**	**2.12**	**5.54**	**5.42**	**5.34**	**7.61**
Waste Disposal										
110	Sewage Treatment	0.40	0.28	0.00	0.01	0.00	0.02	0.00	0.00	0.22
120	Landfills	655.04	9.09	0.38	0.40	0.38	0.21	0.20	0.20	4.16
130	Incineration	0.20	0.04	0.99	0.26	0.07	0.12	0.06	0.05	0.23
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	73.38	5.90	0.01	0.01	0.00	0.00	0.00	0.00	1.54
	Total Waste Disposal	**729.03**	**15.31**	**1.38**	**0.67**	**0.45**	**0.35**	**0.27**	**0.26**	**6.14**
Cleaning and Surface Coatings										
210	Laundering	3.58	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	69.16	13.22	0.00	0.00	0.00	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	19.38	18.96	0.00	0.00	0.00	1.62	1.56	1.50	0.10
240	Printing	0.74	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.04
250	Adhesives and Sealants	5.22	4.61	0.00	0.00	0.00	0.02	0.02	0.02	0.00
299	Other (Cleaning and Surface Coatings)	0.65	0.64	0.01	0.11	0.00	0.01	0.01	0.00	0.00
	Total Cleaning and Surface Coatings	**98.73**	**38.33**	**0.01**	**0.12**	**0.00**	**1.67**	**1.61**	**1.55**	**0.15**
Petroleum Production and Marketing										
310	Oil and Gas Production	7.00	3.21	0.01	0.03	0.08	0.04	0.03	0.02	0.00
320	Petroleum Refining	6.35	4.43	0.21	2.39	0.24	1.87	1.25	0.88	0.07
330	Petroleum Marketing	51.63	11.17	0.00	0.20	0.00	0.01	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	Total Petroleum Production and Marketing	**65.02**	**18.85**	**0.23**	**2.63**	**0.32**	**1.92**	**1.28**	**0.91**	**0.07**
Industrial Processes										
410	Chemical	4.42	4.30	0.03	0.12	0.05	0.48	0.42	0.39	0.01
420	Food and Agriculture	0.57	0.55	0.00	0.01	0.01	0.26	0.12	0.06	0.00
430	Mineral Processes	0.38	0.34	0.02	0.31	0.05	8.59	3.65	0.97	0.06
440	Metal Processes	0.12	0.10	0.06	0.29	0.03	0.41	0.32	0.24	0.00
450	Wood and Paper	0.24	0.24	0.00	0.00	0.00	7.29	5.10	3.06	0.01
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
470	Electronics	0.02	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00
499	Other (Industrial Processes)	5.53	4.98	0.01	0.01	0.00	1.07	0.74	0.47	8.59
	Total Industrial Processes	**11.28**	**10.52**	**0.11**	**0.73**	**0.15**	**18.10**	**10.35**	**5.21**	**8.68**
Solvent Evaporation										
510	Consumer Products	145.79	115.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	11.43	11.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.12	1.12	0.00	0.00	0.00	0.00	0.00	0.00	1.19
540	Asphalt Paving/Roofing	1.14	1.04	0.00	0.00	0.00	0.03	0.03	0.02	0.00
	Total Solvent Evaporation	**159.49**	**129.17**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.02**	**1.19**

Attachment A

(Continued)

2025 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.70	8.94	17.85	48.07	0.33	7.26	6.91	6.72	0.11
620	Farming Operations	13.42	1.12	0.00	0.00	0.00	1.46	0.70	0.14	6.19
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	49.19	24.07	2.41	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	129.93	59.41	8.91	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	28.16	16.74	1.67	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.02	1.54	0.22	0.00
660	Fires	0.34	0.29	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.24	0.21	0.09	2.85	0.03	0.33	0.32	0.28	0.03
690	Cooking	2.86	1.13	0.00	0.00	0.00	11.96	11.96	11.96	0.00
699	Other (Miscellaneous Processes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.25
	RECLAIM	0	0	0	0	6.08	0	0	0	0
	Total Miscellaneous Processes	**36.55**	**11.69**	**18.02**	**53.94**	**6.44**	**231.77**	**122.09**	**32.73**	**33.58**
On-Road Motor Vehicles										
710	Passenger Cars (P)	24.62	23.15	13.07	217.26	0.58	3.92	3.88	1.38	7.30
722	Light Duty Trucks 1 (T1)	5.04	4.65	3.36	39.31	0.06	0.35	0.35	0.13	0.63
723	Light Duty Trucks 2 (T2)	12.49	11.58	9.75	121.99	0.34	1.97	1.95	0.70	3.76
724	Medium Duty Vehicles (T3)	10.55	9.75	8.78	86.86	0.25	1.20	1.19	0.43	2.19
725	Light Heavy Duty Trucks 1 (T4)	1.30	1.20	4.02	8.74	0.03	0.57	0.57	0.22	0.56
726	Light Heavy Duty Trucks 2 (T5)	0.25	0.23	1.19	1.31	0.01	0.17	0.17	0.07	0.20
727	Medium Heavy Duty Trucks (T6)	0.77	0.61	9.00	6.92	0.09	0.50	0.50	0.19	1.53
728	Heavy Heavy Duty Trucks (T7)	2.03	0.71	19.97	14.74	0.19	1.71	1.71	0.67	3.20
750	Motorcycles (MCY)	6.99	6.60	0.86	21.95	0.00	0.03	0.03	0.01	0.01
775	Buses	2.61	0.21	1.83	29.42	0.01	0.16	0.16	0.06	0.83
780	Motor Homes (MH)	0.20	0.19	0.54	0.42	0.01	0.04	0.04	0.02	0.03
	Total On-Road Motor Vehicles	**66.84**	**58.87**	**72.38**	**548.91**	**1.58**	**10.63**	**10.55**	**3.89**	**20.24**
Other Mobile Sources										
810	Aircraft	3.65	3.49	19.69	35.30	1.65	0.77	0.75	0.67	0.00
820	Trains	0.81	0.68	16.43	4.05	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.14	9.54	31.09	4.50	2.19	0.72	0.72	0.66	0.03
835	Commercial Harbor Crafts	0.39	0.33	5.79	1.22	0.00	0.25	0.25	0.23	0.00
840	Recreational Boats	12.68	11.81	2.77	51.68	0.00	0.74	0.67	0.50	0.01
850	Off-Road Recreational Vehicles	1.07	1.05	0.05	2.32	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	47.80	44.10	33.41	625.72	0.09	1.87	1.80	1.56	0.07
861	Off-Road Equipment (PERP)	0.59	0.49	4.25	4.90	0.02	0.13	0.13	0.12	0.01
870	Farm Equipment	0.23	0.21	0.45	3.80	0.00	0.03	0.03	0.03	0.00
890	Fuel Storage and Handling	4.37	4.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Other Mobile Sources	**82.72**	**76.06**	**113.94**	**733.50**	**3.98**	**4.88**	**4.72**	**4.12**	**0.13**
Natural Sources										
910	Biogenic Sources	135.14	132.07	5.28	0.00	0.00	0.00	0.00	0.00	0.00
920	Geogenic Sources	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.73
930	Wildfires	58.09	47.98	6.55	245.39	2.12	26.10	25.08	21.25	2.45
	Total Natural Sources Category	**193.24**	**180.06**	**11.83**	**245.39**	**2.12**	**26.10**	**25.08**	**21.25**	**4.19**
Total Stationary and Area Sources		1120.81	229.30	53.08	137.08	9.48	259.37	141.03	46.01	57.43
Total On-Road Vehicles		66.84	58.87	72.38	548.91	1.58	10.63	10.55	3.89	20.24
Total Other Mobile		82.72	76.06	113.94	733.50	3.98	4.88	4.72	4.12	0.13
Total Anthropogenic		**1270.37**	**364.24**	**239.40**	**1419.48**	**15.05**	**274.89**	**156.30**	**54.01**	**77.79**
Total Natural Sources		193.24	180.06	11.83	245.39	2.12	26.10	25.08	21.25	4.19
Grand Total		**1463.61**	**544.30**	**251.23**	**1664.87**	**17.17**	**300.99**	**181.39**	**75.26**	**81.98**

Attachment A

2028 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Fuel Combustion										
10	Electric Utilities	2.36	0.27	2.70	3.81	0.22	0.46	0.46	0.46	0.58
20	Cogeneration	0.04	0.01	0.02	0.12	0.00	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.44	0.17	0.92	0.75	0.01	0.11	0.11	0.11	0.24
40	Petroleum Refining (Combustion)	6.55	1.38	4.76	5.17	3.14	1.80	1.80	1.79	1.54
50	Manufacturing and Industrial	4.17	0.92	7.73	46.16	1.82	1.43	1.35	1.31	2.24
52	Food and Agricultural Processing	0.09	0.04	0.39	0.50	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.14	2.04	11.30	19.21	0.83	1.14	1.13	1.13	2.28
99	Other (Fuel Combustion)	0.76	0.62	2.40	1.19	0.02	0.45	0.43	0.40	0.28
	Total Fuel Combustion	**20.55**	**5.45**	**30.22**	**76.91**	**6.06**	**5.46**	**5.34**	**5.26**	**7.39**
Waste Disposal										
110	Sewage Treatment	0.41	0.29	0.00	0.01	0.00	0.02	0.00	0.00	0.22
120	Landfills	667.80	9.26	0.38	0.41	0.38	0.21	0.21	0.20	4.22
130	Incineration	0.21	0.04	1.17	0.26	0.08	0.12	0.06	0.05	0.24
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	74.19	5.96	0.01	0.01	0.00	0.00	0.00	0.00	1.61
	Total Waste Disposal	**742.60**	**15.55**	**1.57**	**0.68**	**0.46**	**0.35**	**0.27**	**0.26**	**6.29**
Cleaning and Surface Coatings										
210	Laundering	3.64	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	70.05	13.42	0.00	0.00	0.00	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	19.84	19.42	0.00	0.00	0.00	1.66	1.59	1.53	0.10
240	Printing	0.77	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.04
250	Adhesives and Sealants	5.29	4.67	0.00	0.00	0.00	0.02	0.02	0.02	0.00
299	Other (Cleaning and Surface Coatings)	0.66	0.65	0.04	0.11	0.01	0.01	0.01	0.00	0.00
	Total Cleaning and Surface Coatings	**100.25**	**39.08**	**0.04**	**0.12**	**0.01**	**1.71**	**1.64**	**1.58**	**0.16**
Petroleum Production and Marketing										
310	Oil and Gas Production	7.96	3.65	0.01	0.03	0.10	0.04	0.03	0.02	0.00
320	Petroleum Refining	6.35	4.43	0.63	2.39	1.43	1.87	1.25	0.88	0.07
330	Petroleum Marketing	49.31	10.63	0.02	0.19	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	Total Petroleum Production and Marketing	**63.67**	**18.75**	**0.67**	**2.62**	**1.52**	**1.92**	**1.28**	**0.91**	**0.07**
Industrial Processes										
410	Chemical	4.47	4.35	0.07	0.12	0.09	0.48	0.42	0.40	0.01
420	Food and Agriculture	0.58	0.56	0.03	0.01	0.01	0.26	0.13	0.06	0.00
430	Mineral Processes	0.39	0.34	0.38	0.31	0.21	8.64	3.68	0.98	0.07
440	Metal Processes	0.12	0.11	0.28	0.30	0.23	0.43	0.34	0.26	0.00
450	Wood and Paper	0.24	0.24	0.00	0.00	0.00	7.62	5.33	3.20	0.01
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
470	Electronics	0.02	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00
499	Other (Industrial Processes)	5.58	5.03	0.02	0.01	0.00	1.08	0.74	0.47	8.59
	Total Industrial Processes	**11.41**	**10.65**	**0.79**	**0.75**	**0.54**	**18.53**	**10.64**	**5.38**	**8.68**
Solvent Evaporation										
510	Consumer Products	150.08	119.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	11.70	11.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.13	1.13	0.00	0.00	0.00	0.00	0.00	0.00	1.17
540	Asphalt Paving/Roofing	1.16	1.07	0.00	0.00	0.00	0.03	0.03	0.03	0.00
	Total Solvent Evaporation	**164.07**	**132.98**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.17**

Attachment A

(Continued)

2028 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.58	8.89	16.20	47.64	0.33	7.18	6.83	6.64	0.11
620	Farming Operations	13.22	1.10	0.00	0.00	0.00	1.44	0.69	0.14	6.16
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	50.23	24.58	2.46	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	132.29	60.48	9.08	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	28.16	16.73	1.67	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.96	1.52	0.21	0.00
660	Fires	0.34	0.29	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.24	0.21	0.09	2.85	0.03	0.33	0.32	0.28	0.03
690	Cooking	2.91	1.15	0.00	0.00	0.00	12.17	12.17	12.17	0.00
699	Other (Miscellaneous Processes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.73
	Total Miscellaneous Processes	**36.29**	**11.64**	**16.36**	**53.51**	**0.36**	**235.22**	**123.77**	**33.06**	**34.04**
On-Road Motor Vehicles										
710	Passenger Cars (P)	21.34	20.22	10.61	182.59	0.53	3.77	3.73	1.29	7.45
722	Light Duty Trucks 1 (T1)	3.96	3.69	2.43	29.74	0.05	0.33	0.32	0.12	0.61
723	Light Duty Trucks 2 (T2)	11.30	10.55	8.13	110.59	0.34	2.04	2.02	0.71	4.08
724	Medium Duty Vehicles (T3)	8.86	8.27	6.48	73.27	0.24	1.21	1.19	0.42	2.31
725	Light Heavy Duty Trucks 1 (T4)	1.02	0.95	2.82	7.44	0.03	0.53	0.53	0.21	0.56
726	Light Heavy Duty Trucks 2 (T5)	0.21	0.19	0.88	1.10	0.01	0.16	0.16	0.07	0.21
727	Medium Heavy Duty Trucks (T6)	0.65	0.50	6.90	5.74	0.09	0.49	0.49	0.18	1.57
728	Heavy Heavy Duty Trucks (T7)	1.94	0.72	16.14	14.83	0.19	1.80	1.80	0.69	3.35
750	Motorcycles (MCY)	7.02	6.63	0.83	21.27	0.00	0.03	0.03	0.01	0.01
775	Buses	2.73	0.20	1.47	29.28	0.01	0.16	0.16	0.06	0.80
780	Motor Homes (MH)	0.15	0.15	0.47	0.23	0.01	0.03	0.03	0.02	0.03
	Total On-Road Motor Vehicles	**59.20**	**52.07**	**57.17**	**476.07**	**1.49**	**10.55**	**10.48**	**3.78**	**20.98**
Other Mobile Sources										
810	Aircraft	3.85	3.69	22.56	37.01	1.83	0.80	0.78	0.69	0.00
820	Trains	0.84	0.71	17.23	4.29	0.03	0.38	0.38	0.35	0.01
833	Ocean Going Vessels	11.31	9.68	31.91	4.70	2.28	0.75	0.75	0.69	0.03
835	Commercial Harbor Crafts	0.38	0.32	5.75	1.20	0.00	0.24	0.24	0.23	0.00
840	Recreational Boats	11.28	10.52	2.70	52.35	0.00	0.66	0.60	0.45	0.01
850	Off-Road Recreational Vehicles	0.93	0.91	0.05	2.38	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	36.91	34.00	28.24	551.85	0.08	1.59	1.53	1.32	0.06
861	Off-Road Equipment (PERP)	0.57	0.48	3.64	5.20	0.02	0.10	0.10	0.09	0.01
870	Farm Equipment	0.19	0.17	0.38	3.14	0.00	0.03	0.03	0.03	0.00
890	Fuel Storage and Handling	4.09	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Other Mobile Sources	**70.35**	**64.56**	**112.47**	**662.11**	**4.24**	**4.56**	**4.41**	**3.85**	**0.12**
Natural Sources										
910	Biogenic Sources	135.14	132.07	5.28	0.00	0.00	0.00	0.00	0.00	0.00
920	Geogenic Sources	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.73
930	Wildfires	58.09	47.98	6.55	245.39	2.12	26.10	25.08	21.25	2.45
	Total Natural Sources Category	**193.24**	**180.06**	**11.83**	**245.39**	**2.12**	**26.10**	**25.08**	**21.25**	**4.19**
Total Stationary and Area Sources		1138.84	234.10	49.65	134.60	8.95	263.21	142.97	46.48	57.81
Total On-Road Vehicles		59.20	52.07	57.17	476.07	1.49	10.55	10.48	3.78	20.98
Total Other Mobile		70.35	64.56	112.47	662.11	4.24	4.56	4.41	3.85	0.12
Total Anthropogenic		**1268.40**	**350.73**	**219.29**	**1272.78**	**14.68**	**278.32**	**157.85**	**54.11**	**78.91**
Total Natural Sources		193.24	180.06	11.83	245.39	2.12	26.10	25.08	21.25	4.19
Grand Total		**1461.63**	**530.78**	**231.12**	**1518.17**	**16.81**	**304.42**	**182.94**	**75.36**	**83.10**

Attachment A

2030 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Fuel Combustion										
10	Electric Utilities	2.19	0.25	2.49	3.59	0.21	0.43	0.43	0.43	0.53
20	Cogeneration	0.04	0.01	0.02	0.12	0.00	0.02	0.01	0.01	0.17
30	Oil and Gas Production (combustion)	1.49	0.17	0.93	0.77	0.01	0.11	0.11	0.11	0.25
40	Petroleum Refining (Combustion)	6.55	1.38	4.27	5.17	3.14	1.80	1.80	1.79	1.54
50	Manufacturing and Industrial	4.09	0.91	7.62	45.13	1.82	1.41	1.33	1.29	2.20
52	Food and Agricultural Processing	0.09	0.04	0.39	0.50	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.16	2.04	11.27	18.84	0.84	1.12	1.12	1.12	2.21
99	Other (Fuel Combustion)	0.76	0.62	2.40	1.19	0.02	0.46	0.43	0.40	0.28
	Total Fuel Combustion	**20.38**	**5.43**	**29.39**	**75.31**	**6.06**	**5.40**	**5.28**	**5.20**	**7.25**
Waste Disposal										
110	Sewage Treatment	0.41	0.29	0.00	0.01	0.00	0.02	0.00	0.00	0.22
120	Landfills	675.98	9.38	0.39	0.41	0.38	0.21	0.21	0.21	4.26
130	Incineration	0.21	0.04	1.18	0.27	0.08	0.12	0.06	0.05	0.24
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	74.73	6.01	0.01	0.01	0.00	0.00	0.00	0.00	1.67
	Total Waste Disposal	**751.34**	**15.71**	**1.58**	**0.69**	**0.46**	**0.35**	**0.27**	**0.26**	**6.39**
Cleaning and Surface Coatings										
210	Laundering	3.68	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	69.91	13.41	0.00	0.00	0.00	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	20.01	19.57	0.00	0.00	0.00	1.66	1.60	1.54	0.10
240	Printing	0.78	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.04
250	Adhesives and Sealants	5.28	4.67	0.00	0.00	0.00	0.02	0.02	0.02	0.00
299	Other (Cleaning and Surface Coatings)	0.66	0.65	0.04	0.11	0.01	0.01	0.01	0.00	0.00
	Total Cleaning and Surface Coatings	**100.31**	**39.23**	**0.04**	**0.12**	**0.01**	**1.72**	**1.65**	**1.59**	**0.16**
Petroleum Production and Marketing										
310	Oil and Gas Production	8.37	3.83	0.01	0.03	0.10	0.04	0.03	0.02	0.00
320	Petroleum Refining	6.35	4.43	0.59	2.39	1.43	1.87	1.25	0.88	0.07
330	Petroleum Marketing	47.90	10.39	0.02	0.18	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	Total Petroleum Production and Marketing	**62.66**	**18.68**	**0.63**	**2.61**	**1.53**	**1.92**	**1.28**	**0.91**	**0.07**
Industrial Processes										
410	Chemical	4.46	4.34	0.07	0.12	0.09	0.48	0.42	0.40	0.01
420	Food and Agriculture	0.58	0.56	0.03	0.01	0.01	0.26	0.13	0.06	0.00
430	Mineral Processes	0.39	0.35	0.38	0.31	0.21	8.65	3.68	0.99	0.07
440	Metal Processes	0.12	0.11	0.29	0.31	0.24	0.44	0.35	0.26	0.00
450	Wood and Paper	0.25	0.25	0.00	0.00	0.00	7.69	5.38	3.23	0.01
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
470	Electronics	0.02	0.02	0.00	0.00	0.00	0.01	0.01	0.00	0.00
499	Other (Industrial Processes)	5.61	5.06	0.02	0.01	0.00	1.08	0.74	0.47	8.59
	Total Industrial Processes	**11.44**	**10.67**	**0.79**	**0.76**	**0.55**	**18.61**	**10.70**	**5.42**	**8.68**
Solvent Evaporation										
510	Consumer Products	153.55	121.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	11.87	11.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.14	1.14	0.00	0.00	0.00	0.00	0.00	0.00	1.17
540	Asphalt Paving/Roofing	1.18	1.08	0.00	0.00	0.00	0.03	0.03	0.03	0.00
	Total Solvent Evaporation	**167.74**	**136.03**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.17**

Attachment A

(Continued)

2030 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.51	8.86	15.17	47.37	0.32	7.13	6.78	6.59	0.11
620	Farming Operations	13.08	1.08	0.00	0.00	0.00	1.44	0.69	0.13	6.13
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	50.91	24.91	2.49	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	132.87	60.75	9.11	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	28.16	16.73	1.67	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.93	1.50	0.21	0.00
660	Fires	0.34	0.29	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.24	0.21	0.09	2.85	0.03	0.33	0.32	0.28	0.03
690	Cooking	2.94	1.16	0.00	0.00	0.00	12.30	12.30	12.30	0.00
699	Other (Miscellaneous Processes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.03
	Total Miscellaneous Processes	**36.10**	**11.61**	**15.33**	**53.24**	**0.35**	**236.51**	**124.42**	**33.21**	**34.31**
On-Road Motor Vehicles										
710	Passenger Cars (P)	19.34	18.37	9.52	165.82	0.50	3.66	3.63	1.24	7.49
722	Light Duty Trucks 1 (T1)	3.36	3.14	1.93	24.71	0.05	0.31	0.31	0.11	0.60
723	Light Duty Trucks 2 (T2)	10.53	9.84	7.41	105.71	0.33	2.06	2.04	0.71	4.23
724	Medium Duty Vehicles (T3)	7.87	7.37	5.51	67.26	0.23	1.20	1.19	0.41	2.37
725	Light Heavy Duty Trucks 1 (T4)	0.83	0.77	2.24	6.50	0.03	0.51	0.51	0.19	0.54
726	Light Heavy Duty Trucks 2 (T5)	0.18	0.16	0.73	0.99	0.01	0.16	0.16	0.06	0.20
727	Medium Heavy Duty Trucks (T6)	0.58	0.44	5.73	5.08	0.09	0.49	0.48	0.18	1.55
728	Heavy Heavy Duty Trucks (T7)	1.87	0.73	14.47	14.69	0.19	1.86	1.86	0.71	3.41
750	Motorcycles (MCY)	7.00	6.61	0.82	20.87	0.00	0.03	0.03	0.01	0.01
775	Buses	2.64	0.20	1.18	26.68	0.01	0.15	0.15	0.05	0.71
780	Motor Homes (MH)	0.12	0.12	0.43	0.13	0.01	0.03	0.03	0.02	0.04
	Total On-Road Motor Vehicles	**54.33**	**47.76**	**49.98**	**438.45**	**1.44**	**10.46**	**10.40**	**3.70**	**21.15**
Other Mobile Sources										
810	Aircraft	3.98	3.82	24.48	38.16	1.95	0.82	0.79	0.71	0.00
820	Trains	0.86	0.72	17.66	4.45	0.03	0.38	0.38	0.35	0.01
833	Ocean Going Vessels	11.38	9.74	32.57	4.83	2.34	0.77	0.77	0.71	0.03
835	Commercial Harbor Crafts	0.37	0.31	5.70	1.18	0.00	0.24	0.24	0.23	0.00
840	Recreational Boats	10.48	9.77	2.66	52.96	0.00	0.62	0.56	0.42	0.01
850	Off-Road Recreational Vehicles	0.84	0.83	0.05	2.43	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	31.40	28.82	25.56	483.55	0.08	1.46	1.40	1.21	0.07
861	Off-Road Equipment (PERP)	0.58	0.49	3.55	5.41	0.02	0.09	0.09	0.08	0.01
870	Farm Equipment	0.16	0.15	0.34	2.73	0.00	0.03	0.03	0.02	0.00
890	Fuel Storage and Handling	3.96	3.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Other Mobile Sources	**64.02**	**58.61**	**112.57**	**595.70**	**4.41**	**4.41**	**4.27**	**3.74**	**0.14**
Natural Sources										
910	Biogenic Sources	135.14	132.07	5.28	0.00	0.00	0.00	0.00	0.00	0.00
920	Geogenic Sources	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.73
930	Wildfires	58.09	47.98	6.55	245.39	2.12	26.10	25.08	21.25	2.45
	Total Natural Sources Category	**193.24**	**180.06**	**11.83**	**245.39**	**2.12**	**26.10**	**25.08**	**21.25**	**4.19**
Total Stationary and Area Sources		1149.96	237.37	47.76	132.74	8.96	264.54	143.63	46.61	58.02
Total On-Road Vehicles		54.33	47.76	49.98	438.45	1.44	10.46	10.40	3.70	21.15
Total Other Mobile		64.02	58.61	112.57	595.70	4.41	4.41	4.27	3.74	0.14
Total Anthropogenic		**1268.31**	**343.74**	**210.31**	**1166.89**	**14.81**	**279.41**	**158.30**	**54.05**	**79.31**
Total Natural Sources		193.24	180.06	11.83	245.39	2.12	26.10	25.08	21.25	4.19
Grand Total		**1461.54**	**523.80**	**222.14**	**1412.28**	**16.93**	**305.51**	**183.38**	**75.30**	**83.50**

Attachment A

2031 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Fuel Combustion										
10	Electric Utilities	2.19	0.25	2.48	3.58	0.21	0.43	0.43	0.43	0.53
20	Cogeneration	0.04	0.01	0.02	0.12	0.00	0.02	0.01	0.01	0.17
30	Oil and Gas Production (combustion)	1.52	0.17	0.95	0.78	0.01	0.11	0.11	0.11	0.25
40	Petroleum Refining (Combustion)	6.55	1.38	4.18	5.17	3.14	1.80	1.80	1.79	1.54
50	Manufacturing and Industrial	4.07	0.91	7.59	44.82	1.82	1.40	1.32	1.28	2.19
52	Food and Agricultural Processing	0.09	0.04	0.39	0.50	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.17	2.05	11.27	18.71	0.84	1.12	1.12	1.11	2.18
99	Other (Fuel Combustion)	0.76	0.62	2.40	1.19	0.02	0.46	0.43	0.40	0.28
	Total Fuel Combustion	**20.39**	**5.44**	**29.27**	**74.88**	**6.06**	**5.39**	**5.27**	**5.19**	**7.21**
Waste Disposal										
110	Sewage Treatment	0.41	0.30	0.00	0.01	0.00	0.02	0.00	0.00	0.22
120	Landfills	679.57	9.42	0.39	0.41	0.38	0.21	0.21	0.21	4.29
130	Incineration	0.21	0.04	1.19	0.27	0.08	0.12	0.06	0.05	0.24
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	74.86	6.02	0.01	0.01	0.00	0.00	0.00	0.00	1.68
	Total Waste Disposal	**755.05**	**15.78**	**1.58**	**0.69**	**0.46**	**0.36**	**0.27**	**0.26**	**6.42**
Cleaning and Surface Coatings										
210	Laundering	3.70	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	69.79	13.39	0.00	0.00	0.00	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	20.07	19.63	0.00	0.00	0.00	1.67	1.60	1.54	0.10
240	Printing	0.78	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.04
250	Adhesives and Sealants	5.28	4.66	0.00	0.00	0.00	0.02	0.02	0.02	0.00
299	Other (Cleaning and Surface Coatings)	0.65	0.65	0.04	0.11	0.01	0.01	0.01	0.00	0.00
	Total Cleaning and Surface Coatings	**100.28**	**39.27**	**0.04**	**0.12**	**0.01**	**1.72**	**1.65**	**1.59**	**0.16**
Petroleum Production and Marketing										
310	Oil and Gas Production	8.55	3.91	0.01	0.03	0.10	0.04	0.03	0.02	0.00
320	Petroleum Refining	6.35	4.43	0.58	2.39	1.43	1.87	1.25	0.88	0.07
330	Petroleum Marketing	47.59	10.30	0.02	0.18	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	Total Petroleum Production and Marketing	**62.54**	**18.68**	**0.62**	**2.61**	**1.53**	**1.92**	**1.28**	**0.91**	**0.07**
Industrial Processes										
410	Chemical	4.45	4.33	0.07	0.12	0.09	0.48	0.42	0.40	0.01
420	Food and Agriculture	0.59	0.57	0.03	0.01	0.01	0.26	0.13	0.06	0.00
430	Mineral Processes	0.39	0.35	0.38	0.31	0.21	8.65	3.68	0.99	0.07
440	Metal Processes	0.12	0.11	0.29	0.31	0.24	0.44	0.35	0.27	0.00
450	Wood and Paper	0.25	0.25	0.00	0.00	0.00	7.71	5.40	3.24	0.01
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
470	Electronics	0.02	0.02	0.00	0.00	0.00	0.01	0.01	0.00	0.00
499	Other (Industrial Processes)	5.63	5.07	0.02	0.01	0.00	1.09	0.74	0.48	8.59
	Total Industrial Processes	**11.45**	**10.68**	**0.79**	**0.76**	**0.55**	**18.64**	**10.72**	**5.43**	**8.68**
Solvent Evaporation										
510	Consumer Products	155.69	123.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	11.96	11.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.14	1.14	0.00	0.00	0.00	0.00	0.00	0.00	1.16
540	Asphalt Paving/Roofing	1.19	1.09	0.00	0.00	0.00	0.03	0.03	0.03	0.00
	Total Solvent Evaporation	**169.98**	**137.90**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.16**

Attachment A

(Continued)

2031 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.51	8.86	14.85	47.36	0.32	7.12	6.77	6.59	0.11
620	Farming Operations	13.02	1.08	0.00	0.00	0.00	1.43	0.69	0.13	6.12
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	51.26	25.08	2.51	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	132.82	60.72	9.11	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	28.16	16.73	1.67	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.91	1.49	0.21	0.00
660	Fires	0.34	0.29	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.24	0.21	0.09	2.85	0.03	0.33	0.32	0.28	0.03
690	Cooking	2.95	1.17	0.00	0.00	0.00	12.37	12.37	12.37	0.00
699	Other (Miscellaneous Processes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.18
	Total Miscellaneous Processes	**36.06**	**11.61**	**15.01**	**53.23**	**0.35**	**236.85**	**124.62**	**33.28**	**34.44**
On-Road Motor Vehicles										
710	Passenger Cars (P)	18.58	17.68	9.14	159.87	0.49	3.63	3.61	1.22	7.54
722	Light Duty Trucks 1 (T1)	3.09	2.90	1.70	22.59	0.05	0.31	0.30	0.11	0.60
723	Light Duty Trucks 2 (T2)	10.32	9.67	7.16	104.31	0.33	2.08	2.06	0.71	4.31
724	Medium Duty Vehicles (T3)	7.56	7.09	5.18	65.49	0.23	1.21	1.20	0.41	2.41
725	Light Heavy Duty Trucks 1 (T4)	0.77	0.71	2.02	6.10	0.03	0.50	0.50	0.19	0.53
726	Light Heavy Duty Trucks 2 (T5)	0.17	0.15	0.67	0.95	0.01	0.16	0.16	0.06	0.20
727	Medium Heavy Duty Trucks (T6)	0.55	0.41	5.22	4.79	0.08	0.48	0.48	0.18	1.52
728	Heavy Heavy Duty Trucks (T7)	1.82	0.73	13.81	14.51	0.19	1.89	1.89	0.72	3.43
750	Motorcycles (MCY)	7.02	6.63	0.81	20.82	0.00	0.03	0.03	0.01	0.01
775	Buses	2.41	0.19	1.00	22.73	0.01	0.15	0.15	0.05	0.60
780	Motor Homes (MH)	0.11	0.11	0.42	0.12	0.01	0.03	0.03	0.02	0.04
	Total On-Road Motor Vehicles	**52.41**	**46.26**	**47.13**	**422.27**	**1.42**	**10.46**	**10.40**	**3.68**	**21.19**
Other Mobile Sources										
810	Aircraft	4.05	3.89	25.44	38.73	2.01	0.83	0.80	0.72	0.00
820	Trains	0.85	0.72	17.78	4.54	0.03	0.38	0.38	0.35	0.01
833	Ocean Going Vessels	11.41	9.76	32.84	4.90	2.37	0.78	0.78	0.72	0.03
835	Commercial Harbor Crafts	0.37	0.31	5.67	1.17	0.00	0.24	0.24	0.23	0.00
840	Recreational Boats	10.10	9.42	2.65	53.28	0.00	0.60	0.54	0.41	0.01
850	Off-Road Recreational Vehicles	0.81	0.79	0.05	2.46	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	29.29	26.85	24.46	451.80	0.08	1.41	1.36	1.17	0.07
861	Off-Road Equipment (PERP)	0.59	0.49	3.51	5.52	0.02	0.09	0.09	0.08	0.02
870	Farm Equipment	0.15	0.14	0.32	2.54	0.00	0.03	0.03	0.02	0.00
890	Fuel Storage and Handling	3.91	3.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Other Mobile Sources	**61.53**	**56.28**	**112.73**	**564.93**	**4.50**	**4.35**	**4.21**	**3.69**	**0.13**
Natural Sources										
910	Biogenic Sources	135.14	132.07	5.28	0.00	0.00	0.00	0.00	0.00	0.00
920	Geogenic Sources	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.73
930	Wildfires	58.09	47.98	6.55	245.39	2.12	26.10	25.08	21.25	2.45
	Total Natural Sources Category	**193.24**	**180.06**	**11.83**	**245.39**	**2.12**	**26.10**	**25.08**	**21.25**	**4.19**
Total Stationary and Area Sources		1155.74	239.36	47.31	132.29	8.97	264.90	143.84	46.69	58.15
Total On-Road Vehicles		52.41	46.26	47.13	422.27	1.42	10.46	10.40	3.68	21.19
Total Other Mobile		61.53	56.28	112.73	564.93	4.50	4.35	4.21	3.69	0.13
Total Anthropogenic		**1269.68**	**341.90**	**207.17**	**1119.49**	**14.89**	**279.71**	**158.46**	**54.06**	**79.48**
Total Natural Sources		193.24	180.06	11.83	245.39	2.12	26.10	25.08	21.25	4.19
Grand Total		**1462.92**	**521.96**	**219.01**	**1364.88**	**17.01**	**305.82**	**183.54**	**75.31**	**83.66**

Attachment B:

Annual Average

On-Road Mobile Source Emissions in South Coast Air Basin

Attachment B

Table B-1

2018 Annual Average On-Road Mobile Source Emissions (tons per day) in the South Coast Air Basin

		Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		
		Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Grand Total
	Vehicles	9,713,377	38,622	134,357	75,709	28,310	119,072	5,701	74,910	6,807	3,634	5,855	106	5,180	3,943	38,401	10,996	9,937,988	326,992	10,264,981
	VMT	360,796,926	1,432,071	4,858,047	2,866,683	1,412,856	4,802,967	414,379	9,134,357	294,022	237,321	655,319	11,408	173,752	81,563	335,222	107,773	368,940,523	18,674,143	387,614,668
Reactive Organic Gas Emissions																				
	Run Exhaust	14.33	0.06	0.27	0.46	0.22	1.00	0.05	1.50	0.03	0.12	0.22	0.00	0.07	0.02	0.06	0.01	15.25	3.17	18.41
	Idle Exhaust	0.00	0.00	0.07	0.01	0.03	0.08	0.00	0.41	0.01	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.14	0.51	0.66
	Start Exhaust	27.92	0.00	0.46	0.00	0.23	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	28.65	0.00	28.65
	Total Exhaust	42.25	0.06	0.80	0.47	0.47	1.08	0.06	1.92	0.07	0.13	0.23	0.00	0.11	0.02	0.06	0.01	44.04	3.68	47.72
	Diurnal	20.25	0.00	0.46	0.00	0.11	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.24	0.00	21.08	0.00	21.08
	Hot Soak	7.56	0.00	0.14	0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.08	0.00	7.81	0.00	7.81
	Running	15.92	0.00	0.64	0.00	0.21	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	16.81	0.00	16.81
	Total	85.98	0.06	2.04	0.47	0.82	1.08	0.06	1.92	0.11	0.13	0.23	0.00	0.13	0.02	0.37	0.01	89.74	3.68	93.42
Carbon Monoxide Emissions																				
	Run Exhaust	609.60	0.55	8.23	1.46	5.97	3.35	5.81	5.69	0.81	0.38	17.76	0.02	2.55	0.04	1.91	0.04	652.63	11.53	664.17
	Idle Exhaust	0.00	0.00	0.56	0.07	0.45	1.04	0.41	4.40	0.04	0.07	0.00	0.00	0.29	0.01	0.00	0.00	1.76	5.60	7.36
	Start Exhaust	240.80	0.00	6.72	0.00	3.97	0.00	0.01	0.00	0.60	0.00	0.03	0.00	0.13	0.00	0.02	0.00	252.28	0.00	252.28
	Total Exhaust	850.40	0.55	15.51	1.54	10.39	4.39	6.23	10.10	1.45	0.45	17.79	0.02	2.98	0.05	1.92	0.04	906.68	17.13	923.81
Oxides of Nitrogen Emissions																				
	Run Exhaust	54.52	0.36	1.53	8.08	1.35	23.22	0.86	53.06	0.22	1.75	1.95	0.23	0.19	0.94	0.25	0.53	60.88	88.16	149.04
	Idle Exhaust	0.00	0.00	0.01	0.20	0.01	3.80	0.07	5.85	0.00	0.13	0.00	0.00	0.02	0.15	0.00	0.00	0.11	10.14	10.25
	Start Exhaust	21.75	0.00	1.59	0.00	0.29	1.18	0.00	1.82	0.06	0.04	0.00	0.00	0.01	0.01	0.00	0.00	23.70	3.04	26.75
	Total Exhaust	76.27	0.36	3.13	8.28	1.64	28.21	0.94	60.73	0.28	1.92	1.95	0.23	0.22	1.10	0.26	0.53	84.69	101.34	186.03
PM2.5 Emissions																				
	Run Exhaust	0.68	0.03	0.01	0.11	0.00	0.68	0.00	0.92	0.00	0.06	0.00	0.00	0.00	0.01	0.00	0.02	0.69	1.83	2.52
	Idle Exhaust	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04
	Start Exhaust	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.12
	Total Exhaust	0.80	0.03	0.01	0.11	0.00	0.70	0.00	0.94	0.00	0.06	0.00	0.00	0.00	0.01	0.00	0.02	0.82	1.87	2.69
	Tire Wear	0.79	0.00	0.01	0.01	0.00	0.02	0.00	0.09	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.82	0.12	0.94
	Brake Wear	1.24	0.00	0.15	0.09	0.02	0.08	0.02	0.31	0.00	0.01	0.03	0.00	0.00	0.00	0.01	0.00	1.48	0.49	1.97
	Total	2.84	0.04	0.17	0.21	0.03	0.79	0.03	1.33	0.01	0.07	0.03	0.00	0.00	0.01	0.01	0.02	3.12	2.48	5.60
NH3 Emissions																				
	Total Exhaust	12.21	0.00	0.25	0.39	0.12	0.67	0.37	1.57	0.04	0.03	0.61	0.00	0.08	0.01	0.02	0.01	13.68	2.68	16.36
Fuel Consumption (1000 gallons) and SO2																				
	Fuel	15267.93	50.03	417.18	155.24	284.08	550.14	77.55	1590.94	59.14	34.36	195.08	2.32	28.69	11.33	69.13	10.66	16398.80	2405.03	18803.83
	SOx	1.43	0.01	0.04	0.02	0.03	0.06	0.00	0.17	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.51	0.25	1.77

Attachment B

Table B-2

2023 Annual Average On-Road Mobile Source Emissions (tons per day) in the South Coast Air Basin

		Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		
		Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Grand Total
	Vehicles	9,187,356	38,078	101,979	70,591	29,655	128,764	8,906	82,918	5,924	2,949	5,910	15	5,688	3,377	30,469	11,533	9,375,887	338,225	9,714,245
	VMT	364,057,423	1,429,040	3,923,726	2,936,059	1,574,008	5,520,250	582,895	10,611,348	248,836	233,227	693,093	1,749	193,919	69,272	287,688	114,142	371,561,586	20,915,087	392,482,215
Reactive Organic Gas Emissions																				
	Run Exhaust	7.78	0.04	0.13	0.32	0.10	0.12	0.03	0.16	0.01	0.02	0.03	0.00	0.02	0.01	0.02	0.01	8.11	0.68	8.79
	Idle Exhaust	0.00	0.00	0.05	0.01	0.03	0.03	0.00	0.48	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.12	0.53	0.65
	Start Exhaust	17.97	0.00	0.29	0.00	0.15	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.44	0.00	18.44
	Total Exhaust	25.75	0.04	0.47	0.32	0.28	0.16	0.04	0.64	0.04	0.02	0.03	0.00	0.05	0.01	0.02	0.01	26.68	1.20	27.88
	Diurnal	17.07	0.00	0.35	0.00	0.09	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.16	0.00	17.69	0.00	17.69
	Hot Soak	6.12	0.00	0.09	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	6.27	0.00	6.27
	Running	13.25	0.00	0.47	0.00	0.16	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.90	0.00	13.90
	Total	62.18	0.04	1.38	0.32	0.55	0.16	0.04	0.64	0.08	0.02	0.03	0.00	0.06	0.01	0.22	0.01	64.54	1.20	65.75
Carbon Monoxide Emissions																				
	Run Exhaust	402.77	0.48	4.79	0.90	2.66	0.50	5.79	0.93	0.46	0.06	25.80	0.00	1.51	0.03	0.58	0.04	444.35	2.92	447.27
	Idle Exhaust	0.00	0.00	0.44	0.07	0.50	1.06	0.63	6.98	0.04	0.06	0.00	0.00	0.32	0.01	0.00	0.00	1.92	8.18	10.10
	Start Exhaust	161.13	0.00	5.21	0.00	3.28	0.00	0.01	0.00	0.46	0.00	0.03	0.00	0.11	0.00	0.01	0.00	170.24	0.00	170.24
	Total Exhaust	563.90	0.48	10.44	0.97	6.44	1.56	6.42	7.91	0.96	0.11	25.83	0.00	1.94	0.04	0.59	0.04	616.52	11.10	627.62
Oxides of Nitrogen Emissions																				
	Run Exhaust	29.37	0.23	0.81	4.50	0.73	5.91	0.66	20.62	0.12	0.45	0.43	0.00	0.14	0.68	0.13	0.47	32.40	32.86	65.26
	Idle Exhaust	0.00	0.00	0.00	0.15	0.01	1.77	0.09	5.61	0.00	0.05	0.00	0.00	0.02	0.12	0.00	0.00	0.13	7.69	7.82
	Start Exhaust	14.25	0.00	1.11	0.00	0.26	2.72	0.00	3.63	0.05	0.06	0.00	0.00	0.01	0.01	0.00	0.00	15.69	6.43	22.12
	Total Exhaust	43.63	0.23	1.92	4.65	1.00	10.40	0.75	29.86	0.17	0.56	0.44	0.00	0.17	0.81	0.13	0.47	48.22	46.99	95.20
PM2.5 Emissions																				
	Run Exhaust	0.56	0.02	0.00	0.07	0.00	0.07	0.00	0.27	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.57	0.46	1.03
	Idle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
	Start Exhaust	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.10
	Total Exhaust	0.66	0.02	0.01	0.07	0.00	0.07	0.00	0.28	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.67	0.47	1.14
	Tire Wear	0.80	0.00	0.01	0.01	0.01	0.02	0.01	0.10	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.83	0.14	0.97
	Brake Wear	1.24	0.01	0.13	0.09	0.03	0.09	0.03	0.32	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	1.47	0.51	1.99
	Total	2.71	0.03	0.14	0.17	0.03	0.18	0.04	0.70	0.01	0.02	0.04	0.00	0.00	0.01	0.01	0.01	2.97	1.12	4.09
NH3 Emissions																				
	Total Exhaust	13.53	0.00	0.20	0.54	0.17	1.29	0.50	2.53	0.04	0.05	0.64	0.00	0.09	0.01	0.01	0.02	15.19	4.44	19.63
Fuel Consumption (1000 gallons) and SO2																				
	Fuel	13913.63	50.17	303.41	155.17	301.49	620.26	99.24	1778.61	48.08	32.86	204.45	0.26	31.76	9.53	59.25	11.34	14961.31	2658.22	17619.53
	SOx	1.31	0.01	0.03	0.02	0.03	0.07	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.38	0.28	1.66

Attachment B

Table B-3

2025 Annual Average On-Road Mobile Source Emissions (tons per day) in the South Coast Air Basin

		Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		
		Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Grand Total
	Vehicles	9,173,598	36,641	94,465	71,733	29,381	137,312	9,890	90,110	5,636	3,079	5,937	11	6,023	3,182	28,223	11,854	9,353,153	353,921	9,710,077
	VMT	364,335,570	1,363,418	3,676,629	2,981,538	1,542,077	5,772,183	633,665	11,137,852	229,573	233,905	696,210	1,417	202,584	64,277	271,714	116,909	371,588,023	21,671,498	393,469,640
Reactive Organic Gas Emissions																				
	Run Exhaust	6.33	0.03	0.09	0.27	0.07	0.10	0.03	0.16	0.01	0.01	0.03	0.00	0.01	0.01	0.01	0.01	6.58	0.60	7.18
	Idle Exhaust	0.00	0.00	0.04	0.01	0.03	0.03	0.00	0.52	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.12	0.56	0.68
	Start Exhaust	15.33	0.00	0.24	0.00	0.14	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	15.74	0.00	15.74
	Total Exhaust	21.66	0.03	0.38	0.28	0.24	0.13	0.03	0.68	0.04	0.02	0.03	0.00	0.05	0.01	0.01	0.01	22.44	1.16	23.60
	Diurnal	15.90	0.00	0.30	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.13	0.00	16.43	0.00	16.43
	Hot Soak	5.74	0.00	0.07	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	5.87	0.00	5.87
	Running	12.41	0.00	0.40	0.00	0.14	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.97	0.00	12.97
	Total	55.70	0.03	1.15	0.28	0.47	0.13	0.03	0.68	0.08	0.02	0.03	0.00	0.07	0.01	0.18	0.01	57.71	1.16	58.87
Carbon Monoxide Emissions																				
	Run Exhaust	346.29	0.42	3.89	0.73	1.90	0.44	5.64	0.86	0.37	0.06	26.45	0.00	1.51	0.03	0.38	0.03	386.42	2.56	388.98
	Idle Exhaust	0.00	0.00	0.41	0.07	0.51	1.12	0.69	7.54	0.04	0.06	0.00	0.00	0.34	0.01	0.00	0.00	1.98	8.80	10.78
	Start Exhaust	140.66	0.00	4.94	0.00	2.96	0.00	0.01	0.00	0.43	0.00	0.03	0.00	0.11	0.00	0.01	0.00	149.15	0.00	149.15
	Total Exhaust	486.95	0.42	9.24	0.80	5.36	1.56	6.34	8.40	0.83	0.12	26.48	0.00	1.97	0.04	0.39	0.03	537.55	11.36	548.91
Oxides of Nitrogen Emissions																				
	Run Exhaust	23.26	0.17	0.59	3.51	0.53	4.40	0.58	13.26	0.10	0.35	0.38	0.00	0.14	0.57	0.10	0.44	25.68	22.71	48.39
	Idle Exhaust	0.00	0.00	0.00	0.13	0.02	1.45	0.09	3.50	0.00	0.03	0.00	0.00	0.02	0.11	0.00	0.00	0.14	5.24	5.37
	Start Exhaust	12.39	0.00	0.97	0.00	0.24	2.36	0.00	2.53	0.04	0.05	0.00	0.00	0.01	0.01	0.00	0.00	13.65	4.96	18.62
	Total Exhaust	35.65	0.17	1.56	3.65	0.79	8.21	0.67	19.30	0.14	0.44	0.38	0.00	0.17	0.70	0.10	0.44	39.47	32.91	72.38
PM2.5 Emissions																				
	Run Exhaust	0.51	0.02	0.00	0.06	0.00	0.04	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.52	0.32	0.84
	Idle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
	Start Exhaust	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.09
	Total Exhaust	0.60	0.02	0.00	0.06	0.00	0.05	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.61	0.33	0.93
	Tire Wear	0.80	0.00	0.01	0.01	0.01	0.02	0.01	0.11	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.83	0.14	0.97
	Brake Wear	1.23	0.00	0.12	0.09	0.03	0.10	0.04	0.33	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	1.45	0.53	1.98
	Total	2.63	0.02	0.13	0.16	0.03	0.16	0.05	0.62	0.00	0.01	0.03	0.00	0.00	0.00	0.01	0.01	2.89	1.00	3.88
NH3 Emissions																				
	Total Exhaust	13.88	0.00	0.19	0.57	0.17	1.36	0.54	2.65	0.04	0.05	0.63	0.00	0.10	0.01	0.01	0.02	15.57	4.67	20.24
Fuel Consumption (1000 gallons) and SO2																				
	Fuel	13161.45	46.83	270.70	155.48	288.74	643.36	104.27	1819.73	43.32	33.40	198.79	0.21	32.95	8.81	55.99	11.63	14156.21	2719.44	16875.65
	SOx	1.23	0.00	0.03	0.02	0.03	0.07	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.30	0.29	1.58

Attachment B

Table B-4

2028 Annual Average On-Road Mobile Source Emissions (tons per day) in the South Coast Air Basin

		Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		
		Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Grand Total
	Vehicles	9,325,858	27,576	41,188	41,652	7,856	76,164	5,394	72,076	2,333	3,350	12,251	0	3,189	916	21,515	12,141	9,419,585	233,874	9,810,464
	VMT	367,575,705	1,066,953	1,595,334	1,697,756	396,269	3,193,573	578,197	10,043,085	98,759	247,726	1,168,543	0	99,471	18,300	215,851	121,052	371,728,129	16,388,445	397,599,316
Reactive Organic Gas Emissions																				
	Run Exhaust	5.02	0.02	0.05	0.22	0.04	0.07	0.02	0.15	0.01	0.01	0.03	0.00	0.01	0.01	0.01	0.01	5.19	0.50	5.69
	Idle Exhaust	0.00	0.00	0.04	0.01	0.03	0.03	0.00	0.54	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.11	0.59	0.70
	Start Exhaust	12.64	0.00	0.19	0.00	0.12	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	12.98	0.00	12.98
	Total Exhaust	17.66	0.02	0.28	0.23	0.19	0.10	0.02	0.70	0.03	0.02	0.03	0.00	0.05	0.01	0.01	0.01	18.28	1.09	19.36
	Diurnal	14.70	0.00	0.24	0.00	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.11	0.00	15.14	0.00	15.14
	Hot Soak	5.31	0.00	0.06	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	5.41	0.00	5.41
	Running	11.67	0.00	0.33	0.00	0.12	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	12.15	0.00	12.15
	Total	49.33	0.02	0.91	0.23	0.40	0.10	0.03	0.70	0.07	0.02	0.03	0.00	0.07	0.01	0.14	0.01	50.98	1.09	52.07
Carbon Monoxide Emissions																				
	Run Exhaust	296.14	0.34	2.96	0.55	1.19	0.35	5.30	0.78	0.28	0.05	26.44	0.00	1.50	0.02	0.19	0.03	334.00	2.13	336.12
	Idle Exhaust	0.00	0.00	0.37	0.07	0.50	1.17	0.75	7.99	0.03	0.07	0.00	0.00	0.36	0.01	0.00	0.00	2.02	9.31	11.33
	Start Exhaust	120.98	0.00	4.59	0.00	2.51	0.00	0.00	0.00	0.37	0.00	0.03	0.00	0.11	0.00	0.01	0.00	128.62	0.00	128.62
	Total Exhaust	417.12	0.34	7.92	0.62	4.21	1.53	6.06	8.77	0.68	0.12	26.47	0.00	1.98	0.03	0.20	0.03	464.63	11.43	476.07
Oxides of Nitrogen Emissions																				
	Run Exhaust	17.71	0.10	0.37	2.42	0.34	3.04	0.46	10.49	0.07	0.30	0.29	0.00	0.13	0.42	0.06	0.41	19.43	17.17	36.60
	Idle Exhaust	0.00	0.00	0.00	0.12	0.02	1.17	0.10	2.87	0.00	0.03	0.00	0.00	0.02	0.09	0.00	0.00	0.14	4.28	4.42
	Start Exhaust	10.68	0.00	0.79	0.00	0.21	2.12	0.00	2.24	0.04	0.05	0.00	0.00	0.01	0.01	0.00	0.00	11.73	4.42	16.15
	Total Exhaust	28.38	0.10	1.17	2.53	0.56	6.34	0.56	15.59	0.11	0.38	0.29	0.00	0.16	0.53	0.07	0.41	31.30	25.87	57.17
PM2.5 Emissions																				
	Run Exhaust	0.43	0.01	0.00	0.05	0.00	0.03	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.44	0.28	0.72
	Idle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	Start Exhaust	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.08
	Total Exhaust	0.51	0.01	0.00	0.05	0.00	0.03	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.52	0.28	0.80
	Tire Wear	0.80	0.00	0.01	0.01	0.01	0.02	0.01	0.11	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.84	0.14	0.98
	Brake Wear	1.22	0.00	0.11	0.09	0.03	0.10	0.04	0.35	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	1.45	0.55	1.99
	Total	2.54	0.02	0.12	0.15	0.03	0.15	0.06	0.64	0.00	0.01	0.03	0.00	0.01	0.00	0.01	0.01	2.80	0.97	3.77
NH3 Emissions																				
	Total Exhaust	14.46	0.00	0.17	0.59	0.18	1.39	0.58	2.77	0.05	0.05	0.59	0.00	0.10	0.01	0.01	0.02	16.14	4.84	20.98
Fuel Consumption (1000 gallons) and SO2																				
	Fuel	12052.96	36.49	110.95	87.55	69.85	348.97	57.26	1535.60	15.80	34.21	14.07	0.00	16.96	2.47	44.37	12.09	12382.22	2057.37	14439.59
	SOx	1.15	0.00	0.02	0.01	0.02	0.07	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21	0.28	1.49

Table B-5

2030 Annual Average On-Road Mobile Source Emissions (tons per day) in the South Coast Air Basin

		Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		
		Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Non-Diesel	Diesel	Grand Total
	Vehicles	9,336,249	32,083	79,033	70,640	26,667	144,514	11,084	96,360	4,956	3,347	6,005	4	6,659	2,508	24,254	12,405	9,494,908	361,862	9,885,730
	VMT	364,906,675	1,207,516	3,026,814	2,793,391	1,322,422	5,731,859	709,120	11,749,647	186,359	236,851	704,281	368	214,539	50,230	244,095	120,500	371,314,304	21,890,360	395,049,835
Reactive Organic Gas Emissions																				
	Run Exhaust	4.42	0.02	0.03	0.19	0.03	0.06	0.02	0.15	0.01	0.01	0.03	0.00	0.01	0.01	0.00	0.01	4.55	0.44	4.99
	Idle Exhaust	0.00	0.00	0.03	0.01	0.03	0.03	0.00	0.56	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.60	0.70
	Start Exhaust	11.27	0.00	0.16	0.00	0.11	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	11.56	0.00	11.56
	Total Exhaust	15.68	0.02	0.23	0.20	0.17	0.09	0.02	0.71	0.03	0.02	0.03	0.00	0.05	0.01	0.00	0.01	16.22	1.04	17.26
	Diurnal	13.68	0.00	0.20	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.09	0.00	14.05	0.00	14.05
	Hot Soak	5.00	0.00	0.05	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	5.08	0.00	5.08
	Running	10.96	0.00	0.27	0.00	0.11	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	11.36	0.00	11.36
	Total	45.32	0.02	0.74	0.20	0.35	0.09	0.02	0.71	0.07	0.02	0.03	0.00	0.07	0.01	0.11	0.01	46.72	1.04	47.76
Carbon Monoxide Emissions																				
	Run Exhaust	272.92	0.29	2.34	0.46	0.88	0.31	5.02	0.73	0.23	0.05	23.96	0.00	1.47	0.02	0.09	0.03	306.91	1.89	308.80
	Idle Exhaust	0.00	0.00	0.34	0.07	0.49	1.18	0.78	8.16	0.03	0.07	0.00	0.00	0.37	0.01	0.00	0.00	2.01	9.48	11.49
	Start Exhaust	111.16	0.00	4.28	0.00	2.23	0.00	0.00	0.00	0.34	0.00	0.03	0.00	0.11	0.00	0.01	0.00	118.16	0.00	118.16
	Total Exhaust	384.08	0.29	6.97	0.53	3.60	1.49	5.80	8.89	0.60	0.12	23.98	0.00	1.95	0.03	0.10	0.03	427.08	11.37	438.45
Oxides of Nitrogen Emissions																				
	Run Exhaust	15.22	0.07	0.26	1.91	0.24	2.38	0.39	9.29	0.05	0.28	0.17	0.00	0.12	0.32	0.05	0.38	16.52	14.62	31.14
	Idle Exhaust	0.00	0.00	0.00	0.10	0.02	1.01	0.10	2.63	0.00	0.03	0.00	0.00	0.02	0.08	0.00	0.00	0.14	3.85	3.99
	Start Exhaust	9.90	0.00	0.69	0.00	0.18	1.90	0.00	2.07	0.04	0.05	0.00	0.00	0.01	0.01	0.00	0.00	10.83	4.02	14.85
	Total Exhaust	25.12	0.07	0.96	2.01	0.45	5.28	0.49	13.98	0.09	0.35	0.17	0.00	0.16	0.41	0.05	0.38	27.49	22.49	49.98
PM2.5 Emissions																				
	Run Exhaust	0.38	0.01	0.00	0.04	0.00	0.03	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.39	0.26	0.65
	Idle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Start Exhaust	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.07
	Total Exhaust	0.45	0.01	0.00	0.05	0.00	0.03	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.46	0.27	0.73
	Tire Wear	0.80	0.00	0.01	0.01	0.01	0.02	0.01	0.11	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.84	0.15	0.98
	Brake Wear	1.22	0.00	0.11	0.08	0.03	0.09	0.05	0.36	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	1.44	0.55	1.99
	Total	2.47	0.01	0.12	0.14	0.04	0.14	0.06	0.65	0.00	0.01	0.03	0.00	0.01	0.00	0.01	0.01	2.73	0.96	3.70
NH3 Emissions																				
	Total Exhaust	14.70	0.00	0.16	0.58	0.18	1.37	0.59	2.82	0.05	0.06	0.49	0.00	0.11	0.01	0.01	0.02	16.29	4.87	21.15
Fuel Consumption (1000 gallons) and SO2																				
	Fuel	11800.04	39.12	205.03	143.07	235.78	624.72	107.28	1784.08	32.34	31.98	151.50	0.04	34.25	6.72	50.27	12.00	12616.48	2641.72	15258.20
	SOx	1.11	0.00	0.02	0.01	0.02	0.07	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16	0.28	1.44

Table B-6

2031 Annual Average On-Road Mobile Source Emissions (tons per day) in the South Coast Air Basin

		Light and Medium		Light Heavy		Medium Heavy		Heavy Heavy		Other Buses		Urban Buses		School Buses		Motor Homes		All Vehicles		
		Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Non-Disel	Diesel	Grand Total
	Vehicles	9,407,492	31,662	76,615	70,218	25,717	143,032	11,049	96,009	4,811	3,361	6,020	1	6,720	2,347	23,703	12,498	9,562,128	359,128	9,959,958
	VMT	366,561,998	1,188,907	2,911,087	2,737,729	1,255,556	5,623,098	714,118	11,816,876	177,708	237,636	706,001	53	214,396	47,165	240,259	120,974	372,781,124	21,772,438	396,979,568
Reactive Organic Gas Emissions																				
	Run Exhaust	4.21	0.02	0.02	0.18	0.02	0.05	0.02	0.15	0.01	0.01	0.03	0.00	0.01	0.01	0.00	0.01	4.32	0.42	4.74
	Idle Exhaust	0.00	0.00	0.03	0.01	0.03	0.03	0.00	0.56	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.60	0.70
	Start Exhaust	10.73	0.00	0.15	0.00	0.10	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	11.01	0.00	11.01
	Total Exhaust	14.94	0.02	0.21	0.19	0.16	0.08	0.02	0.70	0.02	0.02	0.03	0.00	0.05	0.01	0.00	0.01	15.43	1.02	16.45
	Diurnal	13.37	0.00	0.18	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.08	0.00	13.72	0.00	13.72
	Hot Soak	4.88	0.00	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	4.95	0.00	4.95
	Running	10.77	0.00	0.25	0.00	0.10	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	11.15	0.00	11.15
	Total	43.95	0.02	0.68	0.19	0.33	0.08	0.02	0.70	0.06	0.02	0.03	0.00	0.07	0.01	0.10	0.01	45.24	1.02	46.26
Carbon Monoxide Emissions																				
	Run Exhaust	265.26	0.28	2.06	0.43	0.77	0.29	4.84	0.71	0.21	0.04	20.08	0.00	1.44	0.02	0.08	0.03	294.73	1.80	296.53
	Idle Exhaust	0.00	0.00	0.33	0.07	0.47	1.17	0.78	8.18	0.03	0.07	0.00	0.00	0.38	0.01	0.00	0.00	1.99	9.49	11.48
	Start Exhaust	107.55	0.00	4.16	0.00	2.09	0.00	0.00	0.00	0.32	0.00	0.03	0.00	0.11	0.00	0.01	0.00	114.26	0.00	114.26
	Total Exhaust	372.80	0.28	6.55	0.50	3.33	1.46	5.62	8.89	0.56	0.11	20.10	0.00	1.93	0.03	0.09	0.03	410.98	11.29	422.27
Oxides of Nitrogen Emissions																				
	Run Exhaust	14.30	0.06	0.22	1.71	0.21	2.10	0.36	8.83	0.05	0.26	0.07	0.00	0.12	0.27	0.04	0.37	15.37	13.61	28.98
	Idle Exhaust	0.00	0.00	0.00	0.10	0.02	0.94	0.09	2.53	0.00	0.03	0.00	0.00	0.02	0.07	0.00	0.00	0.14	3.66	3.80
	Start Exhaust	9.64	0.00	0.66	0.00	0.17	1.78	0.00	1.99	0.03	0.05	0.00	0.00	0.01	0.01	0.00	0.00	10.52	3.84	14.35
	Total Exhaust	23.94	0.06	0.88	1.81	0.40	4.82	0.46	13.35	0.08	0.34	0.07	0.00	0.15	0.35	0.05	0.37	26.03	21.11	47.13
PM2.5 Emissions																				
	Run Exhaust	0.36	0.01	0.00	0.04	0.00	0.03	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.37	0.26	0.62
	Idle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Start Exhaust	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.07
	Total Exhaust	0.43	0.01	0.00	0.04	0.00	0.03	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.43	0.26	0.70
	Tire Wear	0.81	0.00	0.01	0.01	0.01	0.02	0.01	0.11	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.84	0.15	0.99
	Brake Wear	1.22	0.00	0.11	0.08	0.03	0.09	0.05	0.36	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	1.44	0.55	1.99
	Total	2.45	0.01	0.12	0.13	0.04	0.14	0.07	0.65	0.00	0.01	0.03	0.00	0.01	0.00	0.01	0.01	2.72	0.96	3.68
NH3 Emissions																				
	Total Exhaust	14.87	0.00	0.15	0.58	0.17	1.35	0.59	2.84	0.05	0.06	0.38	0.00	0.11	0.01	0.01	0.02	16.34	4.86	21.19
Fuel Consumption (1000 gallons) and SO2																				
	Fuel	11657.72	38.14	195.07	139.94	222.05	609.77	105.97	1768.51	30.97	32.02	116.94	0.01	34.48	6.30	49.53	12.08	12412.73	2606.77	15019.50
	SOx	1.09	0.00	0.02	0.01	0.02	0.06	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.28	1.42

Attachment C:

Diesel Emissions in South Coast Air Basin

Attachment C

TABLE C-1
2018 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average								
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
10	Electric Utilities	0	0	0.17	0.01	0	0.01	0.01	0.01	0
30	Oil and Gas Production (combustion)	0	0	0.03	0.01	0	0	0	0	0
40	Petroleum Refining (Combustion)	0	0	0	0	0	0	0	0	0
50	Manufacturing and Industrial	0.15	0.16	0.57	2.85	0.01	0.02	0.02	0.02	0.05
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0	0.01	0.01	0.01	0
60	Service and Commercial	0.1	0.08	0.93	0.24	0	0.07	0.07	0.07	0
99	Other (Fuel Combustion)	0.8	0.61	2.84	1.21	0.07	0.4	0.38	0.37	0.25
430	Mineral Processes	0.1	0.08	0.06	0.07	0.02	0.74	0.08	0.06	0.04
710	Light Duty Passenger (LDA)	0.04	0.03	0.24	0.31	0.00	0.03	0.03	0.03	0.00
722	Light Duty Trucks - 1 (LDA1)	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00
723	Light Duty Trucks - 2 (LDA2)	0.01	0.01	0.03	0.05	0.00	0.01	0.01	0.00	0.00
724	Medium Duty Vehicles (MDV)	0.01	0.01	0.07	0.17	0.00	0.02	0.02	0.01	0.00
725	Light Heavy Duty Trucks - 1 (LHDT1)	0.36	0.32	5.79	1.07	0.01	0.26	0.26	0.14	0.26
726	Light Heavy Duty Trucks - 2 (LHDT2)	0.19	0.16	2.76	0.51	0.01	0.16	0.16	0.08	0.15
727	Medium Heavy Duty Trucks (MHDT)	1.23	1.08	28.21	4.39	0.06	1.03	1.02	0.79	0.67
728	Heavy Heavy Duty Trucks (HHDT)	2.18	1.92	60.73	10.10	0.17	2.21	2.21	1.33	1.57
775	Buses	0.18	0.15	3.25	0.52	0.01	0.10	0.10	0.08	0.04
780	Motor Homes (MH)	0.01	0.01	0.53	0.04	0.00	0.02	0.02	0.02	0.01
820	Trains	0.82	0.69	15.1	3.55	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	1.71	1.44	30.62	4.16	1.57	0.53	0.53	0.49	0.02
835	Commercial Habor Crafts	0.39	0.33	5.86	1.25	0	0.25	0.25	0.23	0
840	Recreational Boats	0.21	0.17	0.59	0.26	0	0.01	0.01	0.01	0
860	Off-Road Equipment	5.42	4.51	37.91	24.45	0.05	1.79	1.79	1.64	0.05
861	Off-Road Equipment (PERP)	0.9	0.76	8.83	4.8	0.01	0.34	0.34	0.31	0.01
870	Farm Equipment	0.12	0.1	0.61	0.43	0	0.04	0.04	0.03	0
Total		**14.94**	**12.65**	**205.82**	**60.50**	**2.01**	**8.43**	**7.73**	**6.07**	**3.13**

TABLE C-2

2023 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average								
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
10	Electric Utilities	0	0	0.14	0.01	0	0.01	0.01	0.01	0
30	Oil and Gas Production (combustion)	0	0	0.02	0.01	0	0	0	0	0
40	Petroleum Refining (Combustion)	0	0	0.01	0	0	0	0	0	0
50	Manufacturing and Industrial	0.15	0.16	0.55	2.9	0.01	0.02	0.02	0.02	0.05
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0	0.01	0.01	0.01	0
60	Service and Commercial	0.1	0.09	1.07	0.26	0	0.08	0.08	0.07	0
99	Other (Fuel Combustion)	0.78	0.6	2.38	1.11	0.17	0.4	0.39	0.37	0.27
430	Mineral Processes	0.11	0.08	0.17	0.07	0.1	0.74	0.08	0.06	0.04
710	Light Duty Passenger (LDA)	0.02	0.02	0.11	0.19	0.00	0.02	0.02	0.01	0.00
722	Light Duty Trucks - 1 (LDA1)	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00
723	Light Duty Trucks - 2 (LDA2)	0.01	0.01	0.02	0.05	0.00	0.01	0.01	0.00	0.00
724	Medium Duty Vehicles (MDV)	0.02	0.01	0.10	0.22	0.00	0.02	0.02	0.01	0.00
725	Light Heavy Duty Trucks - 1 (LHDT1)	0.24	0.21	3.13	0.64	0.01	0.23	0.23	0.11	0.33
726	Light Heavy Duty Trucks - 2 (LHDT2)	0.15	0.13	1.65	0.35	0.01	0.16	0.16	0.07	0.23
727	Medium Heavy Duty Trucks (MHDT)	0.18	0.15	10.36	1.54	0.07	0.41	0.41	0.18	1.29
728	Heavy Heavy Duty Trucks (HHDT)	0.73	0.64	29.75	7.87	0.19	1.61	1.61	0.70	2.52
775	Buses	0.04	0.03	1.39	0.16	0.00	0.04	0.04	0.02	0.06
780	Motor Homes (MH)	0.01	0.01	0.47	0.04	0.00	0.02	0.02	0.01	0.02
820	Trains	0.83	0.69	16.13	3.9	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	1.72	1.45	29.47	4.25	1.6	0.54	0.54	0.49	0.02
835	Commercial Habor Crafts	0.39	0.33	5.77	1.22	0	0.25	0.25	0.23	0
840	Recreational Boats	0.2	0.17	0.57	0.25	0	0.01	0.01	0.01	0
860	Off-Road Equipment	3.75	3.12	22.11	16.34	0.04	1.06	1.06	0.97	0.02
861	Off-Road Equipment (PERP)	0.63	0.53	5.16	4.72	0.01	0.18	0.18	0.16	0.01
870	Farm Equipment	0.09	0.08	0.45	0.39	0	0.03	0.03	0.03	0
Total		**10.14**	**8.52**	**131.05**	**46.52**	**2.24**	**6.22**	**5.54**	**3.89**	**4.87**

TABLE C-3
2025 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average								
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
10	Electric Utilities	0	0	0.14	0.01	0	0.01	0.01	0.01	0
30	Oil and Gas Production (combustion)	0	0	0.02	0.01	0	0	0	0	0
40	Petroleum Refining (Combustion)	0	0	0.01	0	0	0	0	0	0
50	Manufacturing and Industrial	0.16	0.16	0.57	2.93	0.01	0.02	0.02	0.02	0.05
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0	0.01	0.01	0.01	0
60	Service and Commercial	0.1	0.09	1.13	0.26	0	0.08	0.08	0.07	0
99	Other (Fuel Combustion)	0.79	0.61	2.39	1.13	0.17	0.42	0.4	0.39	0.28
430	Mineral Processes	0.11	0.08	0.21	0.07	0.1	0.74	0.08	0.06	0.04
710	Light Duty Passenger (LDA)	0.01	0.01	0.07	0.15	0.00	0.01	0.01	0.01	0.00
722	Light Duty Trucks - 1 (LDA1)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
723	Light Duty Trucks - 2 (LDA2)	0.01	0.01	0.01	0.05	0.00	0.01	0.01	0.00	0.00
724	Medium Duty Vehicles (MDV)	0.01	0.01	0.08	0.21	0.00	0.02	0.02	0.01	0.00
725	Light Heavy Duty Trucks - 1 (LHDT1)	0.20	0.18	2.41	0.52	0.01	0.22	0.22	0.10	0.35
726	Light Heavy Duty Trucks - 2 (LHDT2)	0.14	0.12	1.37	0.31	0.01	0.17	0.17	0.07	0.26
727	Medium Heavy Duty Trucks (MHDT)	0.15	0.13	8.21	1.56	0.07	0.40	0.40	0.16	1.36
728	Heavy Heavy Duty Trucks (HHDT)	0.77	0.68	19.30	8.40	0.19	1.58	1.57	0.62	2.65
775	Buses	0.04	0.03	1.15	0.16	0.00	0.03	0.03	0.01	0.06
780	Motor Homes (MH)	0.01	0.01	0.45	0.04	0.00	0.01	0.01	0.01	0.02
820	Trains	0.81	0.68	16.43	4.05	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	1.74	1.47	29.39	4.33	1.69	0.54	0.54	0.5	0.02
835	Commercial Habor Crafts	0.39	0.33	5.79	1.22	0	0.25	0.25	0.23	0
840	Recreational Boats	0.2	0.17	0.56	0.25	0	0.01	0.01	0.01	0
860	Off-Road Equipment	3.43	2.85	19.85	15.97	0.04	0.92	0.92	0.84	0.02
861	Off-Road Equipment (PERP)	0.59	0.49	4.25	4.9	0.02	0.13	0.13	0.12	0.01
870	Farm Equipment	0.08	0.07	0.4	0.37	0	0.02	0.02	0.02	0
Total		**9.75**	**8.19**	**114.27**	**46.92**	**2.34**	**5.97**	**5.28**	**3.63**	**5.14**

TABLE C-4

2028 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average								
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
10	Electric Utilities	0.00	0.00	0.12	0.01	0.00	0.01	0.01	0.01	0.00
30	Oil and Gas Production (combustion)	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
50	Manufacturing and Industrial	0.16	0.17	0.57	2.96	0.01	0.02	0.02	0.02	0.05
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00
60	Service and Commercial	0.11	0.09	1.18	0.27	0.00	0.08	0.08	0.08	0.00
99	Other (Fuel Combustion)	0.81	0.62	2.40	1.14	0.08	0.43	0.41	0.40	0.28
430	Mineral Processes	0.11	0.09	0.22	0.07	0.02	0.74	0.08	0.06	0.04
710	Light Duty Passenger (LDA)	0.01	0.01	0.03	0.10	0.00	0.01	0.01	0.00	0.00
722	Light Duty Trucks - 1 (LDA1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
723	Light Duty Trucks - 2 (LDA2)	0.01	0.01	0.01	0.06	0.00	0.01	0.01	0.00	0.00
724	Medium Duty Vehicles (MDV)	0.01	0.01	0.05	0.18	0.00	0.02	0.02	0.01	0.00
725	Light Heavy Duty Trucks - 1 (LHDT1)	0.16	0.14	1.60	0.38	0.01	0.20	0.20	0.09	0.36
726	Light Heavy Duty Trucks - 2 (LHDT2)	0.12	0.10	1.03	0.26	0.01	0.16	0.16	0.07	0.27
727	Medium Heavy Duty Trucks (MHDT)	0.12	0.10	6.31	1.52	0.07	0.39	0.39	0.15	1.39
728	Heavy Heavy Duty Trucks (HHDT)	0.79	0.70	15.58	8.76	0.19	1.63	1.63	0.64	2.77
775	Buses	0.03	0.03	0.90	0.15	0.00	0.03	0.03	0.01	0.06
780	Motor Homes (MH)	0.01	0.01	0.41	0.03	0.00	0.01	0.01	0.01	0.02
820	Trains	0.84	0.71	17.23	4.29	0.03	0.38	0.38	0.35	0.01
833	Ocean Going Vessels	1.82	1.53	30.14	4.52	1.76	0.57	0.57	0.52	0.02
835	Commercial Habor Crafts	0.38	0.32	5.75	1.20	0.00	0.24	0.24	0.23	0.00
840	Recreational Boats	0.20	0.17	0.56	0.25	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	3.20	2.66	17.09	15.70	0.05	0.76	0.75	0.69	0.02
861	Off-Road Equipment (PERP)	0.57	0.48	3.64	5.20	0.02	0.10	0.10	0.09	0.01
870	Farm Equipment	0.07	0.06	0.34	0.35	0.00	0.02	0.02	0.02	0.00
Total		**9.53**	**8.00**	**105.29**	**47.43**	**2.23**	**5.83**	**5.15**	**3.46**	**5.32**

TABLE C-5
2030 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average								
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
10	Electric Utilities	0	0	0.11	0.01	0	0	0	0	0
30	Oil and Gas Production (combustion)	0	0	0.02	0.01	0	0	0	0	0
40	Petroleum Refining (Combustion)	0	0	0.01	0	0	0	0	0	0
50	Manufacturing and Industrial	0.16	0.17	0.57	2.95	0.01	0.02	0.02	0.02	0.05
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0	0.01	0.01	0.01	0
60	Service and Commercial	0.11	0.09	1.2	0.27	0	0.08	0.08	0.08	0
99	Other (Fuel Combustion)	0.81	0.63	2.4	1.14	0.08	0.43	0.42	0.4	0.28
430	Mineral Processes	0.11	0.09	0.22	0.07	0.02	0.74	0.08	0.06	0.04
710	Light Duty Passenger (LDA)	0.00	0.00	0.02	0.07	0.00	0.01	0.01	0.00	0.00
722	Light Duty Trucks - 1 (LDA1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
723	Light Duty Trucks - 2 (LDA2)	0.01	0.01	0.01	0.06	0.00	0.01	0.01	0.00	0.00
724	Medium Duty Vehicles (MDV)	0.01	0.01	0.04	0.16	0.00	0.02	0.02	0.01	0.00
725	Light Heavy Duty Trucks - 1 (LHDT1)	0.14	0.12	1.24	0.32	0.01	0.19	0.19	0.08	0.35
726	Light Heavy Duty Trucks - 2 (LHDT2)	0.11	0.10	0.88	0.24	0.01	0.16	0.16	0.07	0.27
727	Medium Heavy Duty Trucks (MHDT)	0.10	0.09	5.28	1.49	0.07	0.38	0.38	0.14	1.37
728	Heavy Heavy Duty Trucks (HHDT)	0.80	0.71	13.98	8.89	0.19	1.67	1.67	0.65	2.82
775	Buses	0.03	0.02	0.77	0.14	0.00	0.03	0.03	0.01	0.06
780	Motor Homes (MH)	0.01	0.01	0.39	0.03	0.00	0.01	0.01	0.01	0.02
820	Trains	0.86	0.72	17.66	4.45	0.03	0.38	0.38	0.35	0.01
833	Ocean Going Vessels	1.87	1.57	30.75	4.65	1.8	0.58	0.58	0.54	0.02
835	Commercial Habor Crafts	0.37	0.31	5.7	1.18	0	0.24	0.24	0.23	0
840	Recreational Boats	0.2	0.16	0.55	0.25	0	0.01	0.01	0.01	0
860	Off-Road Equipment	3.13	2.57	15.76	15.65	0.05	0.67	0.67	0.61	0.04
861	Off-Road Equipment (PERP)	0.58	0.49	3.55	5.41	0.02	0.09	0.09	0.08	0.01
870	Farm Equipment	0.07	0.06	0.3	0.34	0	0.02	0.02	0.02	0
Total		**9.48**	**7.92**	**101.49**	**47.80**	**2.29**	**5.74**	**5.06**	**3.38**	**5.35**

TABLE C-6
2031 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average								
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
10	Electric Utilities	0	0	0.11	0.01	0	0	0	0	0
30	Oil and Gas Production (combustion)	0	0	0.03	0.01	0	0.01	0.01	0	0
40	Petroleum Refining (Combustion)	0	0	0.01	0	0	0	0	0	0
50	Manufacturing and Industrial	0.16	0.17	0.57	2.95	0.01	0.02	0.02	0.02	0.05
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0	0.01	0.01	0.01	0
60	Service and Commercial	0.11	0.09	1.21	0.28	0	0.08	0.08	0.08	0
99	Other (Fuel Combustion)	0.82	0.63	2.4	1.14	0.08	0.44	0.42	0.4	0.28
430	Mineral Processes	0.11	0.09	0.22	0.07	0.02	0.74	0.08	0.06	0.04
710	Light Duty Passenger (LDA)	0.00	0.00	0.01	0.06	0.00	0.00	0.00	0.00	0.00
722	Light Duty Trucks - 1 (LDA1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
723	Light Duty Trucks - 2 (LDA2)	0.01	0.01	0.01	0.06	0.00	0.01	0.01	0.00	0.00
724	Medium Duty Vehicles (MDV)	0.01	0.01	0.03	0.16	0.00	0.02	0.02	0.01	0.00
725	Light Heavy Duty Trucks - 1 (LHDT1)	0.13	0.11	1.10	0.30	0.01	0.18	0.18	0.08	0.34
726	Light Heavy Duty Trucks - 2 (LHDT2)	0.10	0.09	0.82	0.23	0.01	0.16	0.16	0.07	0.27
727	Medium Heavy Duty Trucks (MHDT)	0.09	0.08	4.82	1.46	0.06	0.37	0.37	0.14	1.35
728	Heavy Heavy Duty Trucks (HHDT)	0.80	0.70	13.35	8.89	0.19	1.68	1.68	0.65	2.84
775	Buses	0.03	0.02	0.70	0.14	0.00	0.03	0.03	0.01	0.06
780	Motor Homes (MH)	0.01	0.01	0.38	0.03	0.00	0.01	0.01	0.01	0.02
820	Trains	0.85	0.72	17.78	4.54	0.03	0.38	0.38	0.35	0.01
833	Ocean Going Vessels	1.89	1.59	30.99	4.72	1.82	0.59	0.59	0.54	0.02
835	Commercial Habor Crafts	0.37	0.31	5.67	1.17	0	0.24	0.24	0.23	0
840	Recreational Boats	0.2	0.16	0.55	0.25	0	0.01	0.01	0.01	0
860	Off-Road Equipment	3.10	2.55	15.32	15.60	0.05	0.64	0.64	0.58	0.04
861	Off-Road Equipment (PERP)	0.59	0.49	3.51	5.52	0.02	0.09	0.09	0.08	0.02
870	Farm Equipment	0.06	0.05	0.29	0.34	0	0.02	0.02	0.02	0
Total		**9.45**	**7.89**	**99.97**	**47.95**	**2.30**	**5.73**	**5.05**	**3.35**	**5.35**

Attachment D:

Road Construction Dust Emissions in South Coast Air Basin

Table D-1

Emissions of Road Construction Dust (Tons/Day) in South Coast Air Basin

(Annual Average Inventory)

Years	PM	PM10	PM25
2018	4.96	2.43	0.24
2022	5.12	2.50	0.25
2024	5.23	2.56	0.26
2023	5.18	2.53	0.25
2025	5.29	2.59	0.26
2026	5.33	2.61	0.26
2027	5.36	2.62	0.26
2028	5.40	2.64	0.26
2029	5.44	2.66	0.27
2030	5.48	2.68	0.27
2031	5.51	2.70	0.27

Attachment E:

Table E-A

List of Category Specific Conversion Factors (Developed by CARB and Used in the Imperial County 2018 SIP) to Estimate Condensable PM2.5 from Primary PM2.5

Tables E-B

Primary, Condensable and Filterable $PM_{2.5}$ emissions by Major Source Category (Tons per Day)

1. 2018 Annual Average Emissions
2. 2023 Annual Average Emissions
3. 2025 Annual Average Emissions
4. 2028 Annual Average Emissions
5. 2030 Annual Average Emissions
6. 2031 Annual Average Emissions

Table E-A. List of Category Specific Conversion Factors (Developed by CARB and Used in the Imperial County 2018 SIP) to Estimate Condensable PM2.5 from Primary PM2.5

SCC	SCC_LEVEL_ONE	SCC_LEVEL_TWO	SCC_LEVEL_THREE	SCC_LEVEL_FOUR	Conversion Factor
20100101	Internal Combustion Engines	Electric Generation	Distillate Oil (Diesel)	Turbine	0.070272896
20100102	Internal Combustion Engines	Electric Generation	Distillate Oil (Diesel)	Reciprocating	0.070272896
20100105	Internal Combustion Engines	Electric Generation	Distillate Oil (Diesel)	Reciprocating: Crankcase Blowby	0.07063197
20100106	Internal Combustion Engines	Electric Generation	Distillate Oil (Diesel)	Reciprocating: Evaporative Losses (Fuel Storage and Delivery System)	0
20100107	Internal Combustion Engines	Electric Generation	Distillate Oil (Diesel)	Reciprocating: Exhaust	0.07063197
20100109	Internal Combustion Engines	Electric Generation	Distillate Oil (Diesel)	Turbine: Exhaust	0.07063197
20100201	Internal Combustion Engines	Electric Generation	Natural Gas	Turbine	0.450549451
20100202	Internal Combustion Engines	Electric Generation	Natural Gas	Reciprocating	0.450549451
20100205	Internal Combustion Engines	Electric Generation	Natural Gas	Reciprocating: Crankcase Blowby	0.450549451
20100206	Internal Combustion Engines	Electric Generation	Natural Gas	Reciprocating: Evaporative Losses (Fuel Delivery System)	0.450549451
20100207	Internal Combustion Engines	Electric Generation	Natural Gas	Reciprocating: Exhaust	0.450549451
20100209	Internal Combustion Engines	Electric Generation	Natural Gas	Turbine: Exhaust	0.450549451
20100301	Internal Combustion Engines	Electric Generation	Gasified Coal	Turbine	0.450549451
20100702	Internal Combustion Engines	Electric Generation	Process Gas	Reciprocating	0.450549451
20100707	Internal Combustion Engines	Electric Generation	Process Gas	Reciprocating: Exhaust	0.450549451
20100801	Internal Combustion Engines	Electric Generation	Landfill Gas	Turbine	0.450549451
20100802	Internal Combustion Engines	Electric Generation	Landfill Gas	Reciprocating	0.450549451
20100805	Internal Combustion Engines	Electric Generation	Landfill Gas	Reciprocating: Crankcase Blowby	0.450549451
20100807	Internal Combustion Engines	Electric Generation	Landfill Gas	Reciprocating: Exhaust	0.450549451
20100809	Internal Combustion Engines	Electric Generation	Landfill Gas	Turbine: Exhaust	0.450549451
20100901	Internal Combustion Engines	Electric Generation	Kerosene/Naphtha (Jet Fuel)	Turbine	0.056603774
20100902	Internal Combustion Engines	Electric Generation	Kerosene/Naphtha (Jet Fuel)	Reciprocating	0.058789987
20100907	Internal Combustion Engines	Electric Generation	Kerosene/Naphtha (Jet Fuel)	Reciprocating: Exhaust	0.056603774
20100909	Internal Combustion Engines	Electric Generation	Kerosene/Naphtha (Jet Fuel)	Turbine: Exhaust	0.056603774
20101001	Internal Combustion Engines	Electric Generation	Geysers/Geothermal	Steam Turbine	0.450549451
20101020	Internal Combustion Engines	Electric Generation	Geysers/Geothermal	Well Pad Fugitives: Blowdown	0
20101302	Internal Combustion Engines	Electric Generation	Liquid Waste	Waste Oil - Turbine	0.07063197
20182599	Internal Combustion Engines	Electric Generation	Wastewater, Points of Generation	Specify Point of Generation	0
20200101	Internal Combustion Engines	Industrial	Distillate Oil (Diesel)	Turbine	0.022698613
20200102	Internal Combustion Engines	Industrial	Distillate Oil (Diesel)	Reciprocating	0.022698613
20200103	Internal Combustion Engines	Industrial	Distillate Oil (Diesel)	Turbine: Cogeneration	0.022698613
20200104	Internal Combustion Engines	Industrial	Distillate Oil (Diesel)	Reciprocating: Cogeneration	0.022698613
20200105	Internal Combustion Engines	Industrial	Distillate Oil (Diesel)	Reciprocating: Crankcase Blowby	0.022698613
20200106	Internal Combustion Engines	Industrial	Distillate Oil (Diesel)	Reciprocating: Evaporative Losses (Fuel Storage and Delivery System)	0
20200107	Internal Combustion Engines	Industrial	Distillate Oil (Diesel)	Reciprocating: Exhaust	0.022698613
20200109	Internal Combustion Engines	Industrial	Distillate Oil (Diesel)	Turbine: Exhaust	0.022698613
20200201	Internal Combustion Engines	Industrial	Natural Gas	Turbine	0.450549451
20200202	Internal Combustion Engines	Industrial	Natural Gas	Reciprocating	0.450549451
20200203	Internal Combustion Engines	Industrial	Natural Gas	Turbine: Cogeneration	0.450549451
20200204	Internal Combustion Engines	Industrial	Natural Gas	Reciprocating: Cogeneration	0.450549451
20200205	Internal Combustion Engines	Industrial	Natural Gas	Reciprocating: Crankcase Blowby	0.450549451
20200207	Internal Combustion Engines	Industrial	Natural Gas	Reciprocating: Exhaust	0.450549451
20200209	Internal Combustion Engines	Industrial	Natural Gas	Turbine: Exhaust	0.450549451
20200252	Internal Combustion Engines	Industrial	Natural Gas	2-cycle Lean Burn	0.450549451
20200253	Internal Combustion Engines	Industrial	Natural Gas	4-cycle Rich Burn	0.450549451
20200254	Internal Combustion Engines	Industrial	Natural Gas	4-cycle Lean Burn	0.450549451
20200255	Internal Combustion Engines	Industrial	Natural Gas	2-cycle Clean Burn	0.450549451
20200256	Internal Combustion Engines	Industrial	Natural Gas	4-cycle Clean Burn	0.450549451
20200401	Internal Combustion Engines	Industrial	Large Bore Engine	Diesel	0.134380454
20200402	Internal Combustion Engines	Industrial	Large Bore Engine	Dual Fuel (Oil/Gas)	0.134380454
20200403	Internal Combustion Engines	Industrial	Large Bore Engine	Cogeneration: Dual Fuel	0.134380454
20200406	Internal Combustion Engines	Industrial	Large Bore Engine	Evaporative Losses (Fuel Storage and Delivery System)	0
20200407	Internal Combustion Engines	Industrial	Large Bore Engine	Exhaust	0.134199134
20200501	Internal Combustion Engines	Industrial	Residual/Crude Oil	Reciprocating	0.08296754
20200701	Internal Combustion Engines	Industrial	Process Gas	Turbine	0.450549451

(Continued)

Table E-A. List of Category Specific Conversion Factors (Developed by CARB and Used in the Imperial County 2018 SIP) to Estimate Condensable PM2.5 from Primary PM2.5

SCC	SCC_LEVEL_ONE	SCC_LEVEL_TWO	SCC_LEVEL_THREE	SCC_LEVEL_FOUR	Conversion Factor
20200702	Internal Combustion Engines	Industrial	Process Gas	Reciprocating Engine	0.450549451
20200705	Internal Combustion Engines	Industrial	Process Gas	Refinery Gas: Turbine	0.450549451
20200706	Internal Combustion Engines	Industrial	Process Gas	Refinery Gas: Reciprocating Engine	0.450549451
20200711	Internal Combustion Engines	Industrial	Process Gas	Reciprocating: Evaporative Losses (Fuel Delivery System)	0.450549451
20200712	Internal Combustion Engines	Industrial	Process Gas	Reciprocating: Exhaust	0.450549451
20200714	Internal Combustion Engines	Industrial	Process Gas	Turbine: Exhaust	0.450549451
20200901	Internal Combustion Engines	Industrial	Kerosene/Naphtha (Jet Fuel)	Turbine	0.022698613
20200902	Internal Combustion Engines	Industrial	Kerosene/Naphtha (Jet Fuel)	Reciprocating	0.022698613
20200909	Internal Combustion Engines	Industrial	Kerosene/Naphtha (Jet Fuel)	Turbine: Exhaust	0.022698613
20201001	Internal Combustion Engines	Industrial	Liquified Petroleum Gas (LPG)	Propane: Reciprocating	0.450549451
20201002	Internal Combustion Engines	Industrial	Liquified Petroleum Gas (LPG)	Butane: Reciprocating	0.450549451
20201005	Internal Combustion Engines	Industrial	Liquified Petroleum Gas (LPG)	Reciprocating: Crankcase Blowby	0.450549451
20201012	Internal Combustion Engines	Industrial	Liquified Petroleum Gas (LPG)	Reciprocating Engine	0.450549451
20201013	Internal Combustion Engines	Industrial	Liquified Petroleum Gas (LPG)	Turbine: Cogeneration	0.450549451
20201602	Internal Combustion Engines	Industrial	Methanol	Reciprocating Engine	0.450549451
20201607	Internal Combustion Engines	Industrial	Methanol	Reciprocating: Exhaust	0.450549451
20201609	Internal Combustion Engines	Industrial	Methanol	Turbine: Exhaust	0.450549451
20201701	Internal Combustion Engines	Industrial	Gasoline	Turbine	0.450549451
20201702	Internal Combustion Engines	Industrial	Gasoline	Reciprocating Engine	0.450549451
20201707	Internal Combustion Engines	Industrial	Gasoline	Reciprocating: Exhaust	0.450549451
20280001	Internal Combustion Engines	Industrial	Equipment Leaks	Equipment Leaks	0.450549451
20282599	Internal Combustion Engines	Industrial	Wastewater, Points of Generation	Specify Point of Generation	0
20300101	Internal Combustion Engines	Commercial/Institutional	Distillate Oil (Diesel)	Reciprocating	0.022698613
20300102	Internal Combustion Engines	Commercial/Institutional	Distillate Oil (Diesel)	Turbine	0.022698613
20300105	Internal Combustion Engines	Commercial/Institutional	Distillate Oil (Diesel)	Reciprocating: Crankcase Blowby	0.022698613
20300106	Internal Combustion Engines	Commercial/Institutional	Distillate Oil (Diesel)	Reciprocating: Evaporative Losses (Fuel Storage and Delivery System)	0
20300107	Internal Combustion Engines	Commercial/Institutional	Distillate Oil (Diesel)	Reciprocating: Exhaust	0.022698613
20300108	Internal Combustion Engines	Commercial/Institutional	Distillate Oil (Diesel)	Turbine: Evaporative Losses (Fuel Storage and Delivery System)	0
20300109	Internal Combustion Engines	Commercial/Institutional	Distillate Oil (Diesel)	Turbine: Exhaust	0.022698613
20300201	Internal Combustion Engines	Commercial/Institutional	Natural Gas	Reciprocating	0.450549451
20300202	Internal Combustion Engines	Commercial/Institutional	Natural Gas	Turbine	0.450549451
20300203	Internal Combustion Engines	Commercial/Institutional	Natural Gas	Turbine: Cogeneration	0.450549451
20300204	Internal Combustion Engines	Commercial/Institutional	Natural Gas	Reciprocating: Cogeneration	0.450549451
20300207	Internal Combustion Engines	Commercial/Institutional	Natural Gas	Reciprocating: Exhaust	0.450549451
20300301	Internal Combustion Engines	Commercial/Institutional	Gasoline	Reciprocating	0.067164179
20300307	Internal Combustion Engines	Commercial/Institutional	Gasoline	Reciprocating: Exhaust	0.067164179
20300701	Internal Combustion Engines	Commercial/Institutional	Digester Gas	Turbine	0.375
20300702	Internal Combustion Engines	Commercial/Institutional	Digester Gas	Reciprocating: POTW Digester Gas	0.450549451
20300706	Internal Combustion Engines	Commercial/Institutional	Digester Gas	Reciprocating: Evaporative Losses (Fuel Storage and Delivery System)	0
20300707	Internal Combustion Engines	Commercial/Institutional	Digester Gas	Reciprocating: Exhaust	0.450549451
20300801	Internal Combustion Engines	Commercial/Institutional	Landfill Gas	Turbine	0.450549451
20300802	Internal Combustion Engines	Commercial/Institutional	Landfill Gas	Reciprocating	0.450549451
20300805	Internal Combustion Engines	Commercial/Institutional	Landfill Gas	Reciprocating: Crankcase Blowby	0.450549451
20300809	Internal Combustion Engines	Commercial/Institutional	Landfill Gas	Turbine: Exhaust	0.450549451
20300901	Internal Combustion Engines	Commercial/Institutional	Kerosene/Naphtha (Jet Fuel)	Turbine: JP-4	0.450549451
20301001	Internal Combustion Engines	Commercial/Institutional	Liquified Petroleum Gas (LPG)	Propane: Reciprocating	0.450549451

(Continued)

Table E-A. List of Category Specific Conversion Factors (Developed by CARB and Used in the Imperial County 2018 SIP) to Estimate Condensable PM2.5 from Primary PM2.5

SCC	SCC_LEVEL_ONE	SCC_LEVEL_TWO	SCC_LEVEL_THREE	SCC_LEVEL_FOUR	Conversion Factor
20301002	Internal Combustion Engines	Commercial/Institutional	Liquified Petroleum Gas (LPG)	Butane: Reciprocating	0.450549451
20301007	Internal Combustion Engines	Commercial/Institutional	Liquified Petroleum Gas (LPG)	Reciprocating: Exhaust	0.450549451
20400101	Internal Combustion Engines	Engine Testing	Aircraft Engine Testing	Turbojet	0.071204135
20400102	Internal Combustion Engines	Engine Testing	Aircraft Engine Testing	Turboshaft	0.450549451
20400111	Internal Combustion Engines	Engine Testing	Aircraft Engine Testing	JP-5 Fuel	0.450549451
20400112	Internal Combustion Engines	Engine Testing	Aircraft Engine Testing	JP-4 Fuel	0.071204135
20400199	Internal Combustion Engines	Engine Testing	Aircraft Engine Testing	Other Not Classified	0
20400201	Internal Combustion Engines	Engine Testing	Rocket Engine Testing	Rocket Motor: Solid Propellant	0.450549451
20400202	Internal Combustion Engines	Engine Testing	Rocket Engine Testing	Liquid Propellant	0.450549451
20400299	Internal Combustion Engines	Engine Testing	Rocket Engine Testing	Other Not Classified	0
20400301	Internal Combustion Engines	Engine Testing	Turbine	Natural Gas	0.450549451
20400302	Internal Combustion Engines	Engine Testing	Turbine	Diesel/Kerosene	0.071204135
20400303	Internal Combustion Engines	Engine Testing	Turbine	Distillate Oil	0.071204135
20400305	Internal Combustion Engines	Engine Testing	Turbine	Kerosene/Naphtha	0.071204135
20400399	Internal Combustion Engines	Engine Testing	Turbine	Other Not Classified	0
20400401	Internal Combustion Engines	Engine Testing	Reciprocating Engine	Gasoline	0.071204135
20400402	Internal Combustion Engines	Engine Testing	Reciprocating Engine	Diesel/Kerosene	0.071204135
20400403	Internal Combustion Engines	Engine Testing	Reciprocating Engine	Distillate Oil	0.071204135
20400404	Internal Combustion Engines	Engine Testing	Reciprocating Engine	Process Gas	0.450549451
20400406	Internal Combustion Engines	Engine Testing	Reciprocating Engine	Kerosene/Naphtha (Jet Fuel)	0.071204135
20400407	Internal Combustion Engines	Engine Testing	Reciprocating Engine	Dual Fuel (Gas/Oil)	0.071204135
20400408	Internal Combustion Engines	Engine Testing	Reciprocating Engine	Residual Oil/Crude Oil	0.071204135
20400409	Internal Combustion Engines	Engine Testing	Reciprocating Engine	Liquified Petroleum Gas (LPG)	0.450549451
20400499	Internal Combustion Engines	Engine Testing	Reciprocating Engine	Other Not Classified	0
26000320	Internal Combustion Engines	Off-highway 2-stroke Gasoline Engines	Industrial Equipment	Industrial Fork Lift: Gasoline Engine (2-stroke)	0.071204135
26500320	Internal Combustion Engines	Off-highway 4-stroke Gasoline Engines	Industrial Equipment	Industrial Fork Lift: Gasoline Engine (4-stroke)	0.071204135
27000320	Internal Combustion Engines	Off-highway Diesel Engines	Industrial Equipment	Industrial Fork Lift: Diesel	0.071204135
27300320	Internal Combustion Engines	Off-highway LPG-fueled Engines	Industrial Equipment	Industrial Fork Lift: Liquified Petroleum Gas (LPG)	0.450549451
28500201	Internal Combustion Engines	Railroad Equipment	Diesel	Yard Locomotives	0.071204135
28888801	Internal Combustion Engines	Fugitive Emissions	Other Not Classified	Specify in Comments	0

Table E-B-1. 2018 Primary, Condensable and Filterable PM2.5 Emissions by Major Source Category (Tons per Day)

CODE	Source Category	PM2.5 Total	PM2.5 Condensable	PM2.5 Filterable
Fuel Combustion				
10	Electric Utilities	0.53	0.24	0.3
20	Cogeneration	0.01	0	0.01
30	Oil and Gas Production (Combustion)	0.09	0.03	0.06
40	Petroleum Refining (Combustion)	1.79	1	0.79
50	Manufacturing and Industrial	1.33	0.75	0.58
52	Food and Agricultural Processing	0.05	0.03	0.02
60	Service and Commercial	1.15	0.61	0.54
99	Other (Fuel Combustion)	0.38	0.01	0.38
Total Fuel Combustion		**5.34**	**2.66**	**2.68**
Waste Disposal				
110	Sewage Treatment	0	0	0
120	Landfills	0.2	0.02	0.18
130	Incineration	0.05	0.02	0.03
140	Soil Remediation	0	0	0
199	Other (Water Disposal)	0	0	0
Total Waste Disposal		**0.25**	**0.04**	**0.21**
Cleaning and Surface Coatings				
210	Laundering	0	0	0
220	Degreasing	0.02	0	0.02
230	Coatings and Related Processes	1.4	0	1.4
240	Printing	0	0	0
250	Adhesives and Sealants	0.02	0	0.02
299	Other (Cleaning and Surface Coatings)	0	0	0
Total Cleaning and Surface Coatings		**1.44**	**0**	**1.44**
Petroleum Production and Marketing				
310	Oil and Gas Production	0.02	0	0.02
320	Petroleum Refining	0.88	0.14	0.74
330	Petroleum Marketing	0	0	0
399	Other (Petroleum Production and Marketing)	0	0	0
Total Petroleum Production and Marketing		**0.91**	**0.91**	**0.14**
Industrial Processes				
410	Chemical	0.37	0.01	0.37
420	Food and Agriculture	0.05	0.01	0.04
430	Mineral Processes	0.94	0.03	0.91
440	Metal Processes	0.2	0.09	0.11
450	Wood and Paper	2.7	0	2.7
460	Glass and Related Products	0	0	0
470	Electronics	0	0	0
499	Other (Industrial Processes)	0.46	0.02	0.44
Total Industrial Processes		**4.72**	**0.16**	**4.56**
Solvent Evaporation				
510	Consumer Products	0	0	0
520	Architectural Coatings and Related Solvent	0	0	0
530	Pesticides/Fertilizers	0	0	0
540	Asphalt Paving/Roofing	0.02	0	0.02
Total Solvent Evaporation		**0.02**	**0**	**0.02**

(Continued)

Table E-B-1. 2018 Primary, Condensable and Filterable PM2.5 Emissions by Major Source Category (Tons per Day)

CODE	Source Category	PM2.5 Total	PM2.5 Condensable	PM2.5 Filterable
Miscellaneous Processes				
610	Residential Fuel Combustion	6.77	0.79	5.98
620	Farming Operations	0.17	0	0.17
630	Construction and Demolition	2.27	0	2.27
640	Paved Road Dust	8.59	0	8.59
645	Unpaved Road Dust	1.67	0	1.67
650	Fugitive Windblown Dust	0.23	0	0.23
660	Fires	0.41	0	0.41
670	Waste Burning and Disposal	0.97	0	0.97
690	Cooking	11.44	11.41	0.03
699	Other (Miscellaneous Processes)	0	0	0
Total Miscellaneous Processes		**32.52**	**12.2**	**20.32**
Total Stationary and Area Sources		**45.2**	**15.2**	**30.0**

Table E-B-2. 2023 Primary, Condensable and Filterable PM2.5 Emissions by Major Source Category (Tons per Day)

CODE	Source Category	PM2.5 Total	PM2.5 Condensable	PM2.5 Filterable
Fuel Combustion				
10	Electric Utilities	0.55	0.25	0.31
20	Cogeneration	0.01	0	0.01
30	Oil and Gas Production (Combustion)	0.1	0.04	0.06
40	Petroleum Refining (Combustion)	1.79	1	0.79
50	Manufacturing and Industrial	1.31	0.73	0.58
52	Food and Agricultural Processing	0.05	0.03	0.02
60	Service and Commercial	1.15	0.61	0.55
99	Other (Fuel Combustion)	0.39	0.01	0.38
Total Fuel Combustion		**5.36**	**2.66**	**2.7**
Waste Disposal				
110	Sewage Treatment	0	0	0
120	Landfills	0.2	0.02	0.18
130	Incineration	0.05	0.02	0.03
140	Soil Remediation	0	0	0
199	Other (Water Disposal)	0	0	0
Total Waste Disposal		**0.25**	**0.04**	**0.21**
Cleaning and Surface Coatings				
210	Laundering	0	0	0
220	Degreasing	0.02	0	0.02
230	Coatings and Related Processes	1.47	0	1.47
240	Printing	0	0	0
250	Adhesives and Sealants	0.02	0	0.02
299	Other (Cleaning and Surface Coatings)	0	0	0
Total Cleaning and Surface Coatings		**1.51**	**0**	**1.51**
Petroleum Production and Marketing				
310	Oil and Gas Production	0.02	0	0.02
320	Petroleum Refining	0.88	0.14	0.74
330	Petroleum Marketing	0	0	0
399	Other (Petroleum Production and Marketing)	0	0	0
Total Petroleum Production and Marketing		**0.91**	**0.14**	**0.77**
Industrial Processes				
410	Chemical	0.38	0.01	0.38
420	Food and Agriculture	0.05	0.01	0.04
430	Mineral Processes	0.96	0.03	0.93
440	Metal Processes	0.22	0.1	0.12
450	Wood and Paper	2.95	0	2.95
460	Glass and Related Products	0	0	0
470	Electronics	0	0	0
499	Other (Industrial Processes)	0.48	0.02	0.46
Total Industrial Processes		**5.05**	**0.18**	**4.87**
Solvent Evaporation				
510	Consumer Products	0	0	0
520	Architectural Coatings and Related Solvent	0	0	0
530	Pesticides/Fertilizers	0	0	0
540	Asphalt Paving/Roofing	0.02	0	0.02
Total Solvent Evaporation		**0.02**	**0**	**0.02**

(Continued)

Table E-B-2. 2023 Primary, Condensable and Filterable PM2.5 Emissions by Major Source Category (Tons per Day)

CODE	Source Category	PM2.5 Total	PM2.5 Condensable	PM2.5 Filterable
Miscellaneous Processes				
610	Residential Fuel Combustion	6.78	0.82	5.95
620	Farming Operations	0.15	0	0.15
630	Construction and Demolition	2.36	0	2.36
640	Paved Road Dust	8.83	0	8.83
645	Unpaved Road Dust	1.67	0	1.67
650	Fugitive Windblown Dust	0.22	0	0.22
660	Fires	0.41	0	0.41
670	Waste Burning and Disposal	0.28	0	0.28
690	Cooking	11.79	11.76	0.04
699	Other (Miscellaneous Processes)	0	0	0
Total Miscellaneous Processes		**32.49**	**12.58**	**19.91**
Total Stationary and Area Sources		**45.6**	**15.6**	**30.0**

Table E-B-3. 2025 Primary, Condensable and Filterable PM2.5 Emissions by Major Source Category (Tons per Day)

CODE	Source Category	PM2.5 Total	PM2.5 Condensable	PM2.5 Filterable
Fuel Combustion				
10	Electric Utilities	0.52	0.23	0.29
20	Cogeneration	0.01	0	0.01
30	Oil and Gas Production (Combustion)	0.1	0.04	0.07
40	Petroleum Refining (Combustion)	1.79	1	0.79
50	Manufacturing and Industrial	1.33	0.74	0.59
52	Food and Agricultural Processing	0.05	0.03	0.02
60	Service and Commercial	1.14	0.6	0.54
99	Other (Fuel Combustion)	0.4	0.01	0.39
Total Fuel Combustion		**5.34**	**2.64**	**2.7**
Waste Disposal				
110	Sewage Treatment	0	0	0
120	Landfills	0.2	0.02	0.18
130	Incineration	0.05	0.02	0.03
140	Soil Remediation	0	0	0
199	Other (Water Disposal)	0	0	0
Total Waste Disposal		**0.26**	**0.04**	**0.21**
Cleaning and Surface Coatings				
210	Laundering	0	0	0
220	Degreasing	0.02	0	0.02
230	Coatings and Related Processes	1.5	0	1.5
240	Printing	0	0	0
250	Adhesives and Sealants	0.02	0	0.02
299	Other (Cleaning and Surface Coatings)	0	0	0
Total Cleaning and Surface Coatings		**1.55**	**0**	**1.54**
Petroleum Production and Marketing				
310	Oil and Gas Production	0.02	0	0.02
320	Petroleum Refining	0.88	0.14	0.74
330	Petroleum Marketing	0	0	0
399	Other (Petroleum Production and Marketing)	0	0	0
Total Petroleum Production and Marketing		**0.91**	**0.14**	**0.77**
Industrial Processes				
410	Chemical	0.39	0.01	0.38
420	Food and Agriculture	0.05	0.01	0.04
430	Mineral Processes	0.97	0.03	0.94
440	Metal Processes	0.23	0.11	0.12
450	Wood and Paper	3.06	0	3.06
460	Glass and Related Products	0	0	0
470	Electronics	0	0	0
499	Other (Industrial Processes)	0.48	0.02	0.46
Total Industrial Processes		**5.19**	**0.18**	**5**
Solvent Evaporation				
510	Consumer Products	0	0	0
520	Architectural Coatings and Related Solvent	0	0	0
530	Pesticides/Fertilizers	0	0	0
540	Asphalt Paving/Roofing	0.02	0	0.02
Total Solvent Evaporation		**0.02**	**0**	**0.02**

(Continued)

Table E-B-3. 2025 Primary, Condensable and Filterable PM2.5 Emissions by Major Source Category (Tons per Day)

CODE	Source Category	PM2.5 Total	PM2.5 Condensable	PM2.5 Filterable
Miscellaneous Processes				
610	Residential Fuel Combustion	6.72	0.81	5.92
620	Farming Operations	0.14	0	0.14
630	Construction and Demolition	2.41	0	2.41
640	Paved Road Dust	8.91	0	8.91
645	Unpaved Road Dust	1.67	0	1.67
650	Fugitive Windblown Dust	0.22	0	0.22
660	Fires	0.41	0	0.41
670	Waste Burning and Disposal	0.28	0	0.28
690	Cooking	11.96	11.93	0.04
699	Other (Miscellaneous Processes)	0	0	0
Total Miscellaneous Processes		**32.73**	**12.73**	**19.99**
Total Stationary and Area Sources		**45.99**	**15.74**	**30.25**

Table E-B-4. 2028 Primary, Condensable and Filterable PM2.5 Emissions by Major Source Category (Tons per Day)

CODE	Source Category	PM2.5 Total	PM2.5 Condensable	PM2.5 Filterable
Fuel Combustion				
10	Electric Utilities	0.46	0.21	0.25
20	Cogeneration	0.01	0	0.01
30	Oil and Gas Production (Combustion)	0.11	0.04	0.07
40	Petroleum Refining (Combustion)	1.79	1	0.79
50	Manufacturing and Industrial	1.31	0.73	0.58
52	Food and Agricultural Processing	0.05	0.03	0.02
60	Service and Commercial	1.12	0.58	0.54
99	Other (Fuel Combustion)	0.41	0.01	0.41
Total Fuel Combustion		**5.26**	**2.59**	**2.67**
Waste Disposal				
110	Sewage Treatment	0	0	0
120	Landfills	0.2	0.02	0.19
130	Incineration	0.05	0.02	0.03
140	Soil Remediation	0	0	0
199	Other (Water Disposal)	0	0	0
Total Waste Disposal		**0.26**	**0.04**	**0.22**
Cleaning and Surface Coatings				
210	Laundering	0	0	0
220	Degreasing	0.02	0	0.02
230	Coatings and Related Processes	1.53	0	1.53
240	Printing	0	0	0
250	Adhesives and Sealants	0.02	0	0.02
299	Other (Cleaning and Surface Coatings)	0	0	0
Total Cleaning and Surface Coatings		**1.58**	**0**	**1.58**
Petroleum Production and Marketing				
310	Oil and Gas Production	0.02	0	0.02
320	Petroleum Refining	0.88	0.14	0.74
330	Petroleum Marketing	0	0	0
399	Other (Petroleum Production and Marketing)	0	0	0
Total Petroleum Production and Marketing		**0.91**	**0.14**	**0.77**
Industrial Processes				
410	Chemical	0.39	0.01	0.39
420	Food and Agriculture	0.06	0.01	0.05
430	Mineral Processes	0.98	0.03	0.95
440	Metal Processes	0.24	0.12	0.13
450	Wood and Paper	3.2	0	3.2
460	Glass and Related Products	0	0	0
470	Electronics	0	0	0
499	Other (Industrial Processes)	0.49	0.03	0.46
Total Industrial Processes		**5.36**	**0.19**	**5.17**
Solvent Evaporation				
510	Consumer Products	0	0	0
520	Architectural Coatings and Related Solvent	0	0	0
530	Pesticides/Fertilizers	0	0	0
540	Asphalt Paving/Roofing	0.03	0	0.03
Total Solvent Evaporation		**0.03**	**0**	**0.03**

(Continued)

Table E-B-4. 2028 Primary, Condensable and Filterable PM2.5 Emissions by Major Source Category (Tons per Day)

CODE	Source Category	PM2.5 Total	PM2.5 Condensable	PM2.5 Filterable
Miscellaneous Processes				
610	Residential Fuel Combustion	6.64	0.78	5.86
620	Farming Operations	0.14	0	0.14
630	Construction and Demolition	2.46	0	2.46
640	Paved Road Dust	9.08	0	9.08
645	Unpaved Road Dust	1.67	0	1.67
650	Fugitive Windblown Dust	0.21	0	0.21
660	Fires	0.41	0	0.41
670	Waste Burning and Disposal	0.28	0	0.28
690	Cooking	12.17	12.13	0.04
699	Other (Miscellaneous Processes)	0	0	0
Total Miscellaneous Processes		**33.06**	**12.92**	**20.14**
Total Stationary and Area Sources		**46.46**	**15.89**	**30.57**

Table E-B-5. 2030 Primary, Condensable and Filterable PM2.5 Emissions by Major Source Category (Tons per Day)

CODE	Source Category	PM2.5 Total	PM2.5 Condensable	PM2.5 Filterable
Fuel Combustion				
10	Electric Utilities	0.43	0.19	0.24
20	Cogeneration	0.01	0	0.01
30	Oil and Gas Production (Combustion)	0.11	0.04	0.07
40	Petroleum Refining (Combustion)	1.79	1	0.79
50	Manufacturing and Industrial	1.29	0.72	0.57
52	Food and Agricultural Processing	0.05	0.03	0.02
60	Service and Commercial	1.1	0.57	0.53
99	Other (Fuel Combustion)	0.42	0.01	0.41
Total Fuel Combustion		**5.2**	**2.56**	**2.64**
Waste Disposal				
110	Sewage Treatment	0	0	0
120	Landfills	0.21	0.02	0.19
130	Incineration	0.05	0.02	0.03
140	Soil Remediation	0	0	0
199	Other (Water Disposal)	0	0	0
Total Waste Disposal		**0.26**	**0.04**	**0.22**
Cleaning and Surface Coatings				
210	Laundering	0	0	0
220	Degreasing	0.02	0	0.02
230	Coatings and Related Processes	1.54	0	1.54
240	Printing	0	0	0
250	Adhesives and Sealants	0.02	0	0.02
299	Other (Cleaning and Surface Coatings)	0	0	0
Total Cleaning and Surface Coatings		**1.59**	**0**	**1.59**
Petroleum Production and Marketing				
310	Oil and Gas Production	0.02	0	0.02
320	Petroleum Refining	0.88	0.14	0.74
330	Petroleum Marketing	0	0	0
399	Other (Petroleum Production and Marketing)	0	0	0
Total Petroleum Production and Marketing		**0.91**	**0.14**	**0.77**
Industrial Processes				
410	Chemical	0.39	0.01	0.38
420	Food and Agriculture	0.06	0.01	0.05
430	Mineral Processes	0.98	0.03	0.95
440	Metal Processes	0.25	0.12	0.13
450	Wood and Paper	3.23	0	3.23
460	Glass and Related Products	0	0	0
470	Electronics	0	0	0
499	Other (Industrial Processes)	0.49	0.03	0.46
Total Industrial Processes		**5.4**	**0.2**	**5.2**
Solvent Evaporation				
510	Consumer Products	0	0	0
520	Architectural Coatings and Related Solvent	0	0	0
530	Pesticides/Fertilizers	0	0	0
540	Asphalt Paving/Roofing	0.03	0	0.03
Total Solvent Evaporation		**0.03**	**0**	**0.03**

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Table E-B-5. 2030 Primary, Condensable and Filterable PM2.5 Emissions by Major Source Category (Tons per Day)

CODE	Source Category	PM2.5 Total	PM2.5 Condensable	PM2.5 Filterable
Miscellaneous Processes				
610	Residential Fuel Combustion	6.59	0.77	5.82
620	Farming Operations	0.13	0	0.13
630	Construction and Demolition	2.49	0	2.49
640	Paved Road Dust	9.11	0	9.11
645	Unpaved Road Dust	1.67	0	1.67
650	Fugitive Windblown Dust	0.21	0	0.21
660	Fires	0.41	0	0.41
670	Waste Burning and Disposal	0.28	0	0.28
690	Cooking	12.3	12.27	0.04
699	Other (Miscellaneous Processes)	0	0	0
Total Miscellaneous Processes		33.21	13.03	20.17
Total Stationary and Area Sources		**45.59**	**15.97**	**30.62**

Table E-B-6. 2031 Primary, Condensable and Filterable PM2.5 Emissions by Major Source Category (Tons per Day)

CODE	Source Category	PM2.5 Total	PM2.5 Condensable	PM2.5 Filterable
Fuel Combustion				
10	Electric Utilities	0.43	0.19	0.24
20	Cogeneration	0.01	0	0.01
30	Oil and Gas Production (Combustion)	0.11	0.04	0.07
40	Petroleum Refining (Combustion)	1.79	1	0.79
50	Manufacturing and Industrial	1.28	0.71	0.57
52	Food and Agricultural Processing	0.05	0.03	0.02
60	Service and Commercial	1.1	0.57	0.53
99	Other (Fuel Combustion)	0.42	0.01	0.41
Total Fuel Combustion		**5.19**	**2.55**	**2.64**
Waste Disposal				
110	Sewage Treatment	0	0	0
120	Landfills	0.21	0.02	0.19
130	Incineration	0.05	0.02	0.03
140	Soil Remediation	0	0	0
199	Other (Water Disposal)	0	0	0
Total Waste Disposal		**0.26**	**0.04**	**0.22**
Cleaning and Surface Coatings				
210	Laundering	0	0	0
220	Degreasing	0.02	0	0.02
230	Coatings and Related Processes	1.54	0	1.54
240	Printing	0	0	0
250	Adhesives and Sealants	0.02	0	0.02
299	Other (Cleaning and Surface Coatings)	0	0	0
Total Cleaning and Surface Coatings		**1.59**	**0**	**1.59**
Petroleum Production and Marketing				
310	Oil and Gas Production	0.02	0	0.02
320	Petroleum Refining	0.88	0.14	0.74
330	Petroleum Marketing	0	0	0
399	Other (Petroleum Production and Marketing)	0	0	0
Total Petroleum Production and Marketing		**0.91**	**0.14**	**0.77**
Industrial Processes				
410	Chemical	0.39	0.01	0.38
420	Food and Agriculture	0.06	0.01	0.05
430	Mineral Processes	0.98	0.03	0.95
440	Metal Processes	0.25	0.12	0.13
450	Wood and Paper	3.24	0	3.23
460	Glass and Related Products	0	0	0
470	Electronics	0	0	0
499	Other (Industrial Processes)	0.49	0.03	0.46
Total Industrial Processes		**5.41**	**0.2**	**5.21**
Solvent Evaporation				
510	Consumer Products	0	0	0
520	Architectural Coatings and Related Solvent	0	0	0
530	Pesticides/Fertilizers	0	0	0
540	Asphalt Paving/Roofing	0.03	0	0.03
Total Solvent Evaporation		**0.03**	**0**	**0.03**

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Table E-B-6. 2031 Primary, Condensable and Filterable PM2.5 Emissions by Major Source Category (Tons per Day)

CODE	Source Category	PM2.5 Total	PM2.5 Condensable	PM2.5 Filterable
Miscellaneous Processes				
610	Residential Fuel Combustion	6.59	0.77	5.82
620	Farming Operations	0.13	0	0.13
630	Construction and Demolition	2.51	0	2.51
640	Paved Road Dust	9.11	0	9.11
645	Unpaved Road Dust	1.67	0	1.67
650	Fugitive Windblown Dust	0.21	0	0.21
660	Fires	0.41	0	0.41
670	Waste Burning and Disposal	0.28	0	0.28
690	Cooking	12.37	12.33	0.04
699	Other (Miscellaneous Processes)	0	0	0
Total Miscellaneous Processes		**33.28**	**13.1**	**20.18**
Total Stationary and Area Sources		**46.66**	**16.03**	**30.64**