



REVISED DRAFT
2022
AIR QUALITY
MANAGEMENT PLAN

Appendix III

Base and Future Year Emission Inventory



REVISED DRAFT 2022 AQMP
APPENDIX III

BASE AND FUTURE YEAR EMISSION INVENTORY

SEPTEMBER 2022

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Table of Contents

- **Chapter 1: Inventory Development**

Background	III-1-1
Air Contaminants	III-1-2
Inventory Source Categories	III-1-54
Stationary Sources	III-1-54
Mobile Sources	III-1-262
Inventory Type	III-1-437
Annual Average Day Inventory	III-1-437
Planning Inventory	III-1-437

- **Chapter 2: Summary of Emissions**

Baseline Emission Inventories	III-2-1
Base Year Emissions	III-2-1
Future Year Emissions	III-2-5
Emission Trend and Agency Responsibilities	III-2-51
Impact of Growth– Pre-Base Year Offsets	III-2-8267
Uncertainty in the Inventory	III-2-9479
Controlled Emission Inventories	III-2-9580
Emissions Reduction from the Proposed Control Measures	III-2-9680
Emissions Reduction Calculations	III-2-9883
CARB Emission Data Reports System	III-2-9984
SIP Set Aside Accounts	III-2-10085

Attachment A: Summer Planning Emissions by Source Category in South Coast Air Basin and Coachella Valley

Attachment B: Annual Average Emissions by Source Category in South Coast Air Basin and Coachella Valley

Attachment C: VOC and NOx Stationary Sources in 2018 Emitting 10 Tons/Year and Higher in South Coast Air Basin

Attachment D: Annual Average On-Road Mobile Source Emissions in South Coast Air Basin

Attachment E: Diesel Emissions in South Coast Air Basin

Attachment F: Road Construction Dust Emissions in South Coast Air Basin

Attachment G: RECLAIM/former-RECLAIM Emissions in South Coast Air Basin and Coachella Valley

Attachment GH: Methodology Update of Area Source Emissions from South Coast Air Quality Management District

Commercial And Industrial Natural Gas Consumption

Residential Natural Gas Consumption

LPG Transfer And Dispensing – Fugitive Losses

Commercial And Industrial Combustion Of LPG

OGV Tankers Fugitive Losses During Transit

Architectural Coatings And Related Solvent

Adhesives And Sealants

Livestock

Composting - Solid Waste (Unspecified) - Chippings And Grindings

Composting - Solid Waste (Unspecified) – Greenwaste

Composting - Co-Composting - Biosolids And Greenwaste Mix

Paved Road Dust

Unpaved Road And Travel Dust

LIST OF FIGURES

FIGURE III-1-1 Comparison of On-Road Emissions of Base and Future Years Between 2016 AQMP and 2022 AQMP	<u>Projected NOx Emissions Subject to Rule 1109.1</u>	III-1- <u>2118</u>
FIGURE III-1-2A Comparison of On-Road Emissions of Base and Future Years Between 2016 AQMP and 2022 AQMP		III-1- <u>3226</u>
FIGURE III-1-2B Comparison of 2018 NOx Emissions Estimated with Travel Activity Data from 2016 RTP and 2020 RTP		III-1- <u>3528</u>
FIGURE III-1-2C Comparison of On-Road Emissions Estimated by EMFAC 2014 versus EMFAC 2017		III-1- <u>3729</u>
FIGURE III-1-3 Aircraft NOx Emission in SCAB Commercial Airports for Draft 2022 AQMP Compared with 2016 AQMP Inventory for year 2018 and 2037		III-1- <u>4334</u>
FIGURE III-1-4 Comparison of Off-Road Emissions at milestone year between 2016 AQMP and 2022		III-1- <u>4636</u>
FIGURE III-2-1 NOx Emission of (former-) RECLAIM Sources for Future Years in Draft 2022 AQMP SIP Inventory		III-2-6
FIGURE III-2-2 Relative Contribution by Source Category to 2018 Emission Inventory		III-2- <u>5254</u>
FIGURE III-2-3 2018 Emissions Inventory Agency Responsibility		III-2- <u>5356</u>
FIGURE III-2-4 Relative Contribution by Source Category to 2023 Emission Inventory		III-2- <u>5458</u>
FIGURE III-2-5 2023 Emissions Inventory Agency Responsibility		III-2- <u>5560</u>
FIGURE III-2-6 Relative Contribution by Source Category to 2025 Emission Inventory		III-2- <u>5662</u>
FIGURE III-2-7 2025 Emissions Inventory Agency Responsibility		III-2- <u>5764</u>
FIGURE III-2-8 Relative Contribution by Source Category to 2031 Emission Inventory		III-2- <u>5866</u>
FIGURE III-2-9 2031 Emissions Inventory Agency Responsibility		III-2- <u>5968</u>
FIGURE III-2-10 Relative Contribution by Source Category to 2032 Emission Inventory		III-2- <u>6070</u>
FIGURE III-2-11 2032 Emissions Inventory Agency Responsibility		III-2- <u>6172</u>
FIGURE III-2-12 Relative Contribution by Source Category to 2037 Emission Inventory		III-2- <u>6274</u>
FIGURE III-2-13 2037 Emissions Inventory Agency Responsibility		III-2- <u>6376</u>
FIGURE III-2-14 VOC Emission Trend by Source Category – Summer Planning		III-2- <u>6477</u>
FIGURE III-2-15 NOx Emission Trend by Source Category – Summer Planning		III-2- <u>6478</u>
FIGURE III-2-16 SOx Emission Trend by Source Category – Summer Planning		III-2- <u>8065</u>
FIGURE III-2-17 PM2.5 Emission Trend by Source Category – Summer Planning		III-2- <u>8165</u>

LIST OF TABLES

TABLE III-1-1	List of Compounds Exempt in U.S. EPA's Definition of VOC; Included in CARB's Definition of VOC	III-1-3
TABLE III-1-2A	2016 AQMP NOx Emission Reductions in Tons per Day by Measure/Adoption Date	III-1- 76
TABLE III-1-2B	2016 AQM VOC/PM Emission Reductions in Tons per Day by Measure/Adoption Date	III-1- 97
TABLE III-1-3	2018 Annual Average Emissions Associated with LPG Combustion in Tons per Day	III-1- 142
TABLE III-1-4	2018 Annual Average PM Emissions Associated with Paved and Unpaved Road in Tons per Day	III-1- 153
TABLE III-1-5	Natural Gas Consumption by Sector in Each County (Million Therms)	III-1- 164
TABLE III-1-6	NOx Emissions Factors Used in Natural Gas Combustion Sectors Emission Update	III-1- 175
TABLE III-1-7	2018 Annual Average Emissions in Tons per Day Associated with Updated Subcategories of Natural Gas Combustion Source Category	III-1- 186
TABLE III-1-8	2018 Annual Average and Summer Planning Emissions Associated with Natural Gas Combustion	III-1- 197
TABLE III-1-9	2018 Annual Average VOC, PM2.5 and NH3 Emissions Associated with Livestock Waste in Tons per Day	III-1- 2219
TABLE III-1-10	2018 VOC Emissions Associated Adhesives and Sealants	III-1- 2320
TABLE III-1-11	2018 Annual Average VOC Emissions Associated with Architectural Coatings in Tons per Day	III-1- 240
TABLE III-1-12	Comparison of 2016 AQMP and Draft 2022 AQMP Annual Average VOC and NH3 Emissions in 2018 Associated with Composting in Tons per Day	III-1- 251
TABLE III-1-13	Revised Aircraft Taxi Times Provided by ONT	III-1-43
TABLE III-2-1A	Comparison of VOC and NOx Emissions by Major Source Category of 2018 Base Year in Draft 2022 AQMP and Projected 2018 in Final 2016 AQMP Summer Planning Inventory (tons per day)	III-2-2
TABLE III-2-1B	Comparison of SOx and PM2.5 Emissions by Major Source Category of 2018 Base Year in 2016 AQMP and Projected 2018 in Final 2016 AQMP Summer Planning Inventory (tons per day)	III-2-4
TABLE III-2-2A	Control Factors by South Coast AQMD Rules Applying to non-RECLAIM sources with Post-2018 Compliance Dates	III-2-8
TABLE III-2-2B	Accumulated Emission Reductions in Tons per Day by South Coast AQMD Rules Applying to non-RECLAIM sources	III-2-9

TABLE III-2-2C Reductions in Tons per Day from South Coast AQMD’s Regulations to Transit from RECLAIM to Command-and-Control Structure	III-2-10
TABLE III-2-3 Baseline Demographic Forecasts in the Draft 2022 AQMP	III-2-11
TABLE III-2-4 Population Distribution by County in SCAB (in Thousands)	III-2- 13 <u>12</u>
TABLE III-2-5 Point Sources Growth Surrogate by Source Category	III-2-13
TABLE III-2-6 Area Sources Growth Surrogate by Source Category	III-2-17
TABLE III-2-7 NAIC Emission Growth Factors by County in the SCAB for the Year 2023	III-2-21
TABLE III-2-8 NAIC Emission Growth Factors by County in the SCAB for the Year 2025	III-2-24
TABLE III-2-9 NAIC Emission Growth Factors by County in the SCAB for the Year 2031	III-2-27
TABLE III-2-10 NAIC Emission Growth Factors by County in the SCAB for the Year 2032	III-2-30
TABLE III-2-11 NAIC Emission Growth Factors by County in the SCAB for the Year 2037	III-2-33
TABLE III-2-12 Stationary Area Source Emission Growth Factors in the SCAB for the Year 2023	III-2-36
TABLE III-2-13 Stationary Area Source Emission Growth Factors in the SCAB for the Year 2025	III-2-39
TABLE III-2-14 Stationary Area Source Emission Growth Factors in the SCAB for the Year 2031	III-2-42
TABLE III-2-15 Stationary Area Source Emission Growth Factors in the SCAB for the Year 2032	III-2-45
TABLE III-2-16 Stationary Area Source Emission Growth Factors in the SCAB for the Year 2037	III-2-48
TABLE III-2-17 Growth Impact to 2037 Emissions in Tons per Day	III-2- 69 <u>84</u>
TABLE III-2-18 Impact of Growth and Point and Area Sources Subject to NSR Offset Requirements (Tons per Day)	III-2- 70 <u>85</u>
TABLE III-2-19A 2037 Stationary Source Categories for Area and Point Sources with No Growth (Tons per Day)	III-2- 72 <u>87</u>
TABLE III-2-19B 2037 Stationary Source Categories for Total Area and Point Sources with No Growth (Tons per Day)	III-2- 74 <u>89</u>
TABLE III-2-20A 2037 Stationary Source Categories for Area and Point Sources with Growth (Tons per Day)	III-2- 75 <u>90</u>
TABLE III-2-20B 2037 Stationary Source Categories for Total Area and Point Sources with Growth (Tons per Day)	III-2- 77 <u>92</u>
TABLE III-2-21 Difference in Growth for Total Area and Point Sources Subject to NSR (Tons per Day)	III-2- 78 <u>93</u>
TABLE III-2-22 Projected Annual Offset Demand (Tons per Day)	III-2- 78 <u>94</u>
TABLE III-2-23 Summary of SIP Set-Aside Accounts for the Draft 2022 AQMP	III-2- 87 <u>102</u>

CHAPTER 1

INVENTORY DEVELOPMENT

Background

Air Contaminants

Inventory Source Categories

Stationary Sources

Improved/Updated Methodologies

Mobile Sources

Inventory Type

Average Annual Day Inventory

Planning Inventory

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 Revised Draft 2022 Air Quality Management Plan (AQMP) includes detailed emissions for base and future milestone years. 2018 is the base year used to project future year emissions for the Revised Draft 2022 Air Quality Management Plan (AQMP) and 2037 is the attainment year for the 2015 federal 8-hour ozone standard.

This appendix includes six attachments: Attachment A – Annual Average Emissions Summary by Major Source Category; Attachment B – Summer Planning Emissions Summary by Major Source Category; Attachment C – Top VOC and NOx emitters in 2018 in the South Coast Air Basin (SCAB or Basin), Top emitters were defined as sources emitted equal to or greater than ten (10) tons per year; Attachment D – On-Road Emissions by Vehicle Category; Attachment E – Emissions from Diesel Fuel Internal Combustion Engines by Major Source Category; and Attachment F – Dust Emissions from Road Construction in SCAB. Attachments A, B, D and E contain emissions and relevant data for the years of 2018, 2022, 2023, 2024, 2025, 2026, 2027, 2029, 2030, 2031, 2032, 2033, 2035, 2036 and 2037.

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 profile, 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 to develop the emissions inventory for all mobile sources in collaboration with local Districts. CARB provides the tool for on-road inventories, the Emission FACtors (EMFAC) 2017³ model, and off-road inventories using models specific to each off-road category⁴. Caltrans provides SCAG with information related to highway projects. SCAG 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 activities

¹Bickett, 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://ww3.arb.ca.gov/msei/downloads/emfac2017-volume-i-users-guide.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>

projections in their 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) are integrated in the Revised Draft 2022 AQMP. The EMFAC 2017 was run with the SCAG custom activities to produce the on-road mobile source inventories. The on-road emissions were further adjusted to reflect recently adopted control programs not included in EMFAC2017.

Air Contaminants

Currently, National Ambient Air Quality Standards (NAAQS or federal standards) exist for the following criteria pollutants: ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), carbon monoxide (CO), fine suspended particulate less than 10 microns in diameter (PM₁₀), fine particulate less than 2.5 microns in diameter (PM_{2.5}), lead, and sulfate. This appendix presents emission levels for the criteria pollutants and their precursors in the Basin and the Coachella Valley. Specifically, data are included for emissions of total organic gases (TOG), volatile organic compounds (VOC), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), CO, particulate matter (PM), PM₁₀, PM_{2.5}, and ammonia (NH₃).

While ozone is a criteria pollutant, it is not included in the emissions inventory because it is not directly emitted. Instead, it is formed in the atmosphere from photochemical reactions involving precursor emissions. Further, while air quality standards for NO_x and SO_x are based on NO₂ and SO₂, respectively, the emissions inventory includes emissions of NO_x and SO_x because multiple species of NO_x and SO_x contribute to the formation of particulate matter, and multiple species of NO_x react with VOC to produce ozone.

TOG incorporates all gaseous compounds containing the element carbon with the exception of the inorganic compounds, CO, carbon dioxide (CO₂), carbonic acid, carbonates, and metallic carbides. VOC, 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 VOC is different from the one used by CARB, which includes some compounds not considered as VOCs by the U.S. EPA. Table III-1-1 lists the compounds that are exempt in U.S. EPA's VOC list, but are included in CARB's VOC list. Certain chlorofluorocarbons (CFCs) are still included in CARB's VOC 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 add much to the VOC emission inventory; Those compounds do not impact regional tropospheric ozone and PM formation. PM represents all airborne particulate matter, also known as total suspended particles (TSP). PM₁₀ and PM_{2.5} are important subsets of PM. In the Revised Draft 2022 AQMP, the amount of VOC in TOG and the amount of PM₁₀ and PM_{2.5} in PM are calculated for each process primarily using speciation and size fraction profiles provided by CARB⁵. Seasonally adjusted summer planning with the representative NO_x and VOC emissions during May to October is the focus of this plan because ozone levels are highest during this timeframe. Besides summer planning inventory, average annual day emissions are also reported for all criteria pollutants and their precursors in the attachments.

⁵ <https://ww2.arb.ca.gov/speciation-profiles-used-carb-modeling>.

TABLE III-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

Revised Draft 2022 AQMP Appendix III: Emission Inventory

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). From the permits South Coast AQMD is able 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 the spatial surrogates (e.g., population, housing, and land use).

Point Sources

The 2018 point source emission inventory is based on the emissions data reported by facilities in the calendar year 2018 via South Coast AQMD's Annual Emissions Reporting (AER) Program. This program applies to facilities including AB 2588 program facilities emitting 4 tons per year (TPY) or more of VOC, NO_x, SO_x, or PM or emitting more than 100 TPY of CO, as specified in Rule 301(e). Those AB 2588 facilities which are subject to quadrennial (once in four years) reporting requirements but not emitting thresholds are also required to submit their toxics emissions inventory through AER program.⁶ Facilities subject to the AER Program calculate and report their emissions 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. The smaller industrial facilities with emissions below reporting thresholds are not subject to the AER program. The emissions from those facilities are included as part of the area source inventory.

In order to prepare the point source inventory, emissions data for each facility were categorized based on 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 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. For modeling purposes, facility location (in latitude and longitude) is specified. Business operation activity profiles are also recorded to allocate the annual emission to finer time resolution (e.g., hourly, day of week, or monthly emission rate). The facility business type is assigned to the facilities based on North American Industry Classification System (NAICS) Code according to their primary activity. The growth projections are assigned by NAICS with the

⁶ AB 2588 and Rule 1402 Supplemental Guidelines. South Coast AQMD, October 2020. Available at: <http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19>.

socioeconomic indexes provided by SCAG 2020 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS).

Area Sources

The South Coast AQMD and CARB shared responsibility to develop the 2018 area source emissions inventory for approximately 400 area source categories. South Coast AQMD developed the area source inventory for about 150 categories whereas 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. The following categories were updated using revised input data such as throughput, activity, consumption, various demographical data, and recently adopted regulations: 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

Table III-1-2A and Table III-1-2B provide a list of the South Coast AQMD and CARB's NO_x emission reduction commitments since the 2016 State Implementation Plan (SIP)⁷ and 2016 AQMP is provided by measure, adoption date, and pollutant. Since the adoption of the 2016 AQMP, in total 13 source specific rules as well as a Facility Based Mobile Source Measure (FBMSM) for commercial airports were adopted or amended through October 2020 to achieve up to 2.4 tons per day and 6.3 tons per day NO_x reductions in the milestone years 2023 and 2031, respectively. In addition, Rule 1109.1, amended in November 2021, expected to achieve 4.11 tons per day NO_x reductions by 2031 in addition to the reductions specified in the Rule 2002. South Coast AQMD committed to reduce an additional 15.9 tons per day and 10.8 tons per day NO_x over the Basin in 2023 and 2031, respectively, through incentive fundings and already achieved 62 percent of the 2023 goal (9.8 tons per day out of 15.9 tons per day). CARB committed to 5 tons per day and 14 tons per day of NO_x reductions in the 2016 SIP for defined measures and 108 tons per day and 97 tons per day of NO_x reductions for further deployment measures in the milestone years 2023 and 2031, respectively.

⁷ <https://ww3.arb.ca.gov/planning/sip/2016sip/2016statesip.pdf>.

TABLE III-1-2A
2016 AQMP NOX EMISSION REDUCTIONS IN TONS PER DAY BY MEASURE/ADOPTION DATE

Agency	Measure	AQMP Measure	Adopted	2023		2031		
				Commitment	Adopted to be Implemented	Commitment	Adopted to be Implemented	
South Coast AQMD	Rule 1135* - Electricity Generating Facilities	CMB-05	2018	5 (by 2025)	0.25	5 (by 2025)	0.4	
	Rules 1146, 1146.1, 1146.2* - Industrial/Commercial Boilers, Steam Generator and Process Heaters	CMB-05	2018		0.38		0.4	
	Rule 1118.1* - Non-Refinery Flares	CMB-05	2019		0.08		0.17	
	Rule 1134* - Stationary Gas Turbine	CMB-05	2019		0		1.96	
	Rule 1110.2* - Gaseous and Liquid-Fuled Engines	CMB-05	2019		0.06		0.29	
	Rule 1117* - Glass Melting Furnaces	CMB-05	2020		0.14		0.14	
	Rule 1179.1 - Combustion Equipment at Publicly Owned Treatment Works Facility	CMB-05	2020		0.05		0.05	
	Rule 1109.1 – NOx reduction from Refinery	CMB-05	2021		0		4.11**	
	Rule 1111 - Residential NG Heating Furnaces	CMB-02	2018	1.1	0.87	1.8	2.51	
	Facility Based Mobile Source Measure (FBMSM)-Commercial Airports	MOB-04	2019	TBD	0.52	TBD	0.38	
	Total adopted/amended					2.4		6.3
		Incentive Measures	MOB-10, 11 & 14	ongoing	15.9	9.8	10.8	TBD

* Reductions are reflected in the RECLAIM allocation caps specified in South Coast AQMD's Rule 2002.

**Net reduction excluding the portion reflected in the RECLAIM allocation caps specified in South Coast AQMD's Rule 2002

TABLE III-1-2A (Continued)
2016 AQMP NOX EMISSION REDUCTIONS IN TONS PER DAY BY MEASURE/ADOPTION DATE

Agency	Measure	Adopted	Expected NOx Reductions	
			2023*	2031**
CARB	ATCM for Portable Engines, and the Statewide Portable Equipment Registration Program Regulation	2017	0.25	TBD
	South Coast On-Road Heavy Duty Vehicle Incentive Measure	2018	<1	N/A
	Low Carbon Fuel Standard and Alternative Diesel Fuels Regulation	2018	1.7	TBD
	Innovative Clean Transit Regulation	2018	<0.1	0.2
	Zero-Emission Airport Shuttle Bus Regulation	2019	<0.1	<0.1
	Advanced Clean Trucks (ACT) and HD Omnibus Regulation	2020	<0.1	7
	Ocean-Going Vessels At Berth	2020	1.1	3.6
	Clean Miles Standard	2021	0	<0.1

*For 2023, CARB committed to 5 tons per day of NOx reductions for defined measures and 108 tons per day of NOx reductions for further deployment measures

**For 2031, CARB committed to 14 tons per day of NOx reductions for defined measures and 97 tons per day of NOx reductions for further deployment measures

TABLE III-1-2B

2016 AQM VOC/PM EMISSION REDUCTIONS IN TONS PER DAY BY MEASURE/ADOPTION DATE

Agency	Measure	AQMP Measure	Adopted	2023		2031		
				Commitment	Adopted to be Implemented	Commitment	Adopted to be Implemented	
South Coast AQMD	Rule 1113 - Architectural Coatings	CTS-01	2016	1	0.95	2	0.95	
	Rule 1168 - Adhesive and Sealant Application	CTS-01	2017		0.79		0.79	
	Total adopted/amended VOC control measures					1.8		1.8
	Rule 445 - Wood Burning Devices	Contingency Measure	2020		0.13		0.13	

Improved/Updated Methodologies

Stationary Nonagricultural Diesel Engines: This category includes emissions from backup and prime generators and pumps, air compressors, and other miscellaneous stationary diesel engines that are widely used throughout the industrial, service, institutional, and commercial sectors. The emission estimates, including emission forecasts, are based on a 2003 CARB methodology derived from the OFFROAD2007 model.⁸

Agricultural Diesel Irrigation Pumps: This category includes emissions from the operation of diesel-fueled stationary and mobile agricultural irrigation pumps. The emission estimates are based on a 2003 CARB methodology using statewide population and include replacements due to the Carl Moyer Program⁹.

Wine Fermentation and Aging: This category includes emissions from the fermentation and aging of wine. Wine fermentation volumes in California are reported by the U.S. Alcohol and Tobacco Tax and Trade Bureau. CARB staff derived the emission factors from a computer model developed by Williams and Boulton. Emissions were initially estimated for 2002 and grown to later years using beverage manufacturing (Alcoholic & Non-Alcoholic) economic output. An emission factor for brandy was derived by Hugh Cook of the Wine Institute. Emissions were initially estimated for 1992 then grown to 2012 using economic output for food manufacturing.¹⁰

Laundering: This category includes emissions from perchloroethylene (~~per~~PERC) dry cleaning establishments. The emission estimates are based on a 2002 CARB methodology that used nationwide ~~per~~PERC consumption rates allocated to the county level based on population and an emission factor of 10.125 pounds per gallon used.¹¹

Gasoline Dispensing Facilities: This category uses a 2015 CARB methodology to estimate emissions from fuel transfer and storage operations at gasoline dispensing facilities (GDFs). The methodology addresses emissions from underground storage tanks, vapor displacement during vehicle refueling, customer spillage, and hose permeation. The updated methodology uses emission factors developed by CARB staff that reflect more current in-use test data and also accounts for the emission reduction benefits of onboard refueling vapor recovery (ORVR) systems. The emission estimates are based on 2012 statewide gasoline sales data from the California Board of Equalization that were apportioned to the county level using fuel consumption estimates from EMFAC 2014. Emissions were grown based on EMFAC 2017.¹²

Gasoline Cargo Tank: This category uses a 2002 CARB methodology to estimate emissions from gasoline cargo tanks. These emissions do not include the emissions from loading and unloading of gasoline cargo tank

⁸ <https://ww3.arb.ca.gov/ei/areasrc/arbfuelcombothr.htm>.

⁹ <https://ww3.arb.ca.gov/ei/areasrc/fullpdf/full1-1.pdf>.

¹⁰ <http://www.arb.ca.gov/ei/areasrc/arbndprofandag.htm>.

¹¹ <https://ww3.arb.ca.gov/ei/areasrc/arbcleanlaund.htm>.

¹² <https://ww2.arb.ca.gov/arb-petroleum-production-and-marketing-methodologies-petroleum-marketing>.

product; they are included in the gasoline terminal inventory and gasoline service station inventory. Pressure-related fugitive emissions are volatile organic vapors leaking from three points: fittings, valves, and other connecting points in the vapor collection system on a cargo tank. 1997 total gasoline sales were obtained from the California Department of Transportation. The emission factors are derived from the data in the report, "Emissions from Gasoline Cargo Tanks, First Edition," published by the Air and Waste Management Association in 2002. The initial emission estimates for 1997 were grown to 2012 using a growth parameter developed by Pechan based on gasoline and oil expenditures data. Emissions were grown according to fuel consumption from EMFAC 2017 mobile sources emission factors model.¹³

Marine Petroleum Loading: These categories are used to inventory 1987 hydrocarbon emissions associated with loading crude oil, residual oil, gasoline, and jet fuel into marine tankers and gasoline into barges. Emissions result from the displacement of vapors existing in the tank before loading and those generated as new product is loaded. The amounts of crude oil, gasoline, jet fuel, and residual oil shipped off from California ports were obtained from a United States Army Corps of Engineers report "Waterborne Commerce of the United States, Calendar Year 1986" Part 4. The emission factor for crude oil loading into tankers was obtained from the report "Hydrocarbon Emissions During Marine Loading of Crude Oils" from Western Oil and Gas Association (1977). The gasoline emission factors for loading into tankers and barges and jet fuel into tankers were obtained from CARB's "Report to the Legislature on Air Pollutant Emissions from Marine Vessels" (1984). The emission factor for residual oil loading into tankers was obtained from the "Inventory of Emissions from Marine Operations within California Coastal Waters, Preliminary Draft" report by Scott Environmental Technology, Inc. (1980). No growth was assumed for these emissions.¹⁴

Marine Petroleum Unloading: These categories are used to estimate hydrocarbon emissions associated with lightering crude oil and ballasting marine vessels after unloading crude oil or gasoline. The amounts of crude oil and gasoline unloaded at California ports were obtained from the United States Army Corps of Engineers report "Waterborne Commerce of the United States, Calendar Year 1986" Part 4. Crude oil lightering data was obtained from the Bay Area AQMD for 1987. Crude oil and gasoline ballasting data for San Luis Obispo for 1987 was obtained from the Army Corps of Engineers. The volume of water used for ballasting following a cargo discharge was obtained from CARB's "Report to the Legislature on Air Pollutant Emissions from Marine Vessels" (1984). The crude oil lightering emission factor was obtained from "Hydrocarbon Emissions During Marine Loading of Crude Oils," Western Oil and Gas Association (1977). Ballasting crude oil and gasoline vessels emission factors were obtained from "Inventory of Emissions from Marine Operations within the California Coastal waters," by Scott Environmental Technology, Inc. (1981). No growth is assumed for this category.¹⁵

Oil and Gas Production: The oil and natural gas production inventory is estimated by a 2015 CARB methodology. This category is related to fugitive emissions from production-related fuel consumption, fugitive losses (sumps, pits, pumps, compressors, well heads, separators, valves and fittings), vapor recovery and

¹³ <https://ww2.arb.ca.gov/arb-petroleum-production-and-marketing-methodologies-petroleum-marketing>.

¹⁴ <https://ww2.arb.ca.gov/arb-petroleum-production-and-marketing-methodologies-petroleum-marketing>.

¹⁵ <https://ww2.arb.ca.gov/arb-petroleum-production-and-marketing-methodologies-petroleum-marketing>.

flares, tank and truck working and breathing losses, wastewater treatment, tertiary production, and wet and dry gas stripping. Emissions were calculated using U.S. EPA's Oil and Natural Gas Tool v1.4 with default emissions factors from ENVIRON Int'l Corp's 2012 report, "2011 Oil and Gas Emission Inventory Enhancement Project for CenSARA States," and activity data taken from California's Division of Oil, Gas, and Geothermal Resources (DOGGR) (which was renamed to Geologic Energy Management Division (CalGEM) in 2020). CARB also incorporated data from the 2007 Oil and Gas Industry Survey (e.g., typical component counts) and feedback from individual air districts (e.g., minimum controls required to operate in a certain district, with associated control factors) to improve these parameters and further adjust the tool's output.^{16,17}

Consumer Products and Aerosol Coatings: The Consumer Product emission estimates were developed using sales and formulation data from the CARB's mandatory survey of all consumer products sold in California for calendar years 2013 through 2015 (2015 Consumer Product Survey). The aerosol coatings estimates were developed using sales and formulation data from a survey conducted by CARB in 2010. Based on the survey data, CARB staff determined the total product sales and total VOC emissions for the various product categories. Growth for personal care products is based on real disposable personal income projections per REMI version 2.4.3. No growth is assumed for aerosol coatings. Growth for all other consumer products is based on SCAG population projections¹⁸. Consumer products survey categories were grouped into seven different series including "Adhesives, Sealants, and Related Products", "Household and Institutional Products", "Personal Care Products", "Pesticide Products", "Solvents and Thinning-Related Products", "Vehicle and Marine Vessel Aftermarket Products", and "Aerosol Coatings (no speciation data reporting required for the survey)". Product speciation and emission data were omitted for Aerosol Coatings category series in 2015 because no speciation data reporting was required for the survey. Also, product speciation and emission data are not reflected in the "Adhesives, Sealants, and Related Products" series for the 10 Aerosol Adhesives categories. The "Personal Care Products" series followed by the "Household and Institutional Products" series showed the highest VOC emissions and ozone forming potentials; they also show the highest LVP-VOC emissions with the latter having larger emissions than the former. "Personal Care Products" series followed by "Adhesives, Sealants, and Related Products" series show the highest emissions attributed to compounds exempted from the definition of VOC under Title 17 CCR, section 94508(a)(138). Baseline VOC emissions in 2018 increased by around 20 tons per day compared with projected 2018 emissions in the 2016 AQMP (107.4 tons per day for Revised Draft 2022 AQMP versus 87.6 tons per day for 2016 AQMP). In total 187 CES related to consumer products were updated in baseline VOC emissions, and 26 new CES were added compared with 2016 AQMP inventory.

Pesticides: The California Department of Pesticide Regulation (DPR) develops month-specific emission estimates for agricultural and structural pesticides. Each calendar year, DPR updates the inventory based on the Pesticides Use Report, which provides updated information from 1990 through the 2018 calendar year. Agricultural pesticide emission forecasts for years 2019 and beyond are based on the average of the most recent five years. Growth for agricultural pesticides is based on CARB projections of farmland acres per FMMP

¹⁶ <https://ww2.arb.ca.gov/resources/documents/oil-and-gas-industry-survey>

¹⁷ <https://ww3.arb.ca.gov/ei/areasrc/oilandgasefinalreport.pdf>,

¹⁸ <https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-commercial-product-surveys>

(Farmland Mapping and Monitoring Program), 2016. Growth for structural pesticides is based on SCAG housing units.¹⁹

Residential Wood Combustion: Residential Wood Combustion estimates are based off a 2011 CARB methodology. It reflects recent survey data on types of wood burning devices and wood consumption rates, updates to the 2002 U.S. EPA National Emission Inventory (NEI) emission factors, and improved calculation approaches. The update reflects wood combustion surveys conducted by several districts including South Coast AQMD in 2003 and 2006. CARB assumes no growth for this category based on the relatively stagnant residential wood fuel use over the past decade (according to the American Community Survey and US Energy Information Administration).²⁰

Fires: Emissions from structural and automobile fires were estimated based on a 1999 CARB methodology using the number of fires and the associated emission factors. Estimates for structural fires are calculated using the amount of the structure that is burned, the amount and content of the material burned, and emission factors derived from test data. Estimates for automobile fires are calculated using the weight of the car and components and composite emission factors derived from AP-42 emission factors. No growth is assumed for this category.²¹

Managed Burning and Disposal – Range Improvement and Forest Management: The Range Improvement Managed Burning and Disposal category provides emission estimates from prescribed burning performed on rangelands. Rangeland is land used to support grazing by livestock. The Forest Management Managed Burning and Disposal category provides emission estimates from prescribed burning performed in natural vegetation types such as forests and woodlands. Burn project perimeters and ignition dates are provided by the 2019 California Department of Forestry and Fire Protection (FRAP) geodatabase. Range Improvement and forest management prescribed burning emissions are estimated using the First Order Fire Effects Model (FOFEM 6.0) and a custom geoprocessing tool (Emission Estimation System, EES) developed for CARB by researchers at UC Berkeley. Future year estimates are based on a 10-year average, held flat in the forecast.²²

Managed Burning and Disposal – Agricultural Burning: The Agricultural Burning Managed Burning and Disposal category includes the open burning of agricultural residues (such as crop stubble and orchard pruning), weed abatement (such as ditch and canal bank burning), and other materials. The emissions inventory is updated to reflect burn data reported by local air districts for 2017. Emissions are calculated using crop specific emission factors and fuel loadings. Temporal profiles reflect monthly burn activity. Growth for

¹⁹ <https://ww2.arb.ca.gov/carb-solvent-evaporation-methodologies-agricultural-and-non-agricultural-pesticides>.

²⁰ <https://ww2.arb.ca.gov/carb-miscellaneous-process-methodologies-residential-fuel-combustion>.

²¹ <https://ww2.arb.ca.gov/carb-miscellaneous-process-methodologies-fires>.

²² <https://ww2.arb.ca.gov/district-miscellaneous-process-methodologies-managed-burning-and-disposal>.

agricultural burning is based on CARB projections of FMMP farmland acres, 2016. No growth is assumed for burning associated with weed abatement.²³

Liquefied Petroleum Gas Combustion: The total liquefied petroleum gas (LPG) consumed in California in the industrial, commercial, and residential sectors was obtained from the Energy Information Administration (EIA) of the U.S. Department of Energy for 2018. LPG combustion emissions were determined by multiplying the estimated area source consumption in external and internal portions of the industrial and commercial sectors by their respective AP-42 default emission factors. The changes in NOx emissions associated with this update are summarized in Table III-1-3. Attachment H has more detail about the activity and emission factors used for this category.

TABLE III-1-3

2018 ANNUAL AVERAGE EMISSIONS ASSOCIATED WITH LPG COMBUSTION IN TONS PER DAY

CES	Description	2016 AQMP		2022 AQMP	
		VOC	NOx	VOC	NOx
66795	INDUSTRIAL L.P.G. COMBUSTION	1.17	1.93	0.01	0.05
58727	COMMERCIAL L.P.G. COMBUSTION	0.22	0.67	0.94	3.01
47217	RESIDENTIAL L.P.G. COMBUSTION (UNSPECIFIED)	0.01	0.46	0.08	1.38
	Total	1.40	3.06	1.03	4.44

Paved and unpaved road dust: PM emissions from paved road dust were updated using 2018 traffic volume data, which are provided by time of day (morning, midday, afternoon, evening, night), from SCAG for road segments within the South Coast AQMD jurisdiction. Emission factor for each individual road segment and time of day was estimated using the U.S. EPA’s AP-42 emission factor equation²⁴, which scales the emissions by accounting for number of wet/rainfall days defined as at least one site per county received at least 0.01 inch of precipitation during the annual averaging period. The average number of rainfall days for SCAB was calculated as 31 days using the local airport precipitation data. PM emissions from unpaved (non-farm) road dust were calculated according to the methodology outlined in CARB’s unpaved (non-farm) roads guidance document. Unpaved road mileage by category was calculated using publicly available GIS data. Attachment H has more details including the sources of GIS data and the precipitation days used for these categories. The

²³ <https://ww2.arb.ca.gov/district-miscellaneous-process-methodologies-managed-burning-and-disposal>.

²⁴ AP 42, Fifth Edition, Volume I, Chapter 13: Miscellaneous Sources. https://www.epa.gov/sites/production/files/2020-10/documents/13.2.1_paved_roads.pdf.

changes in PM emissions in 2018 associated with this update as well as their comparison with the projected 2018 emissions using the 2016 AQMP inventory are summarized in Table III-1-4.

TABLE III-1-4
2018 ANNUAL AVERAGE PM EMISSIONS ASSOCIATED WITH PAVED AND UNPAVED ROAD
IN TONS PER DAY

CES	Description	2016 AQMP		2022 AQMP	
		PM10	PM25	PM10	PM25
83618	PAVED ROAD TRAVEL - FREEWAYS – DUST	13.8	2.1	15.2	2.3
83626	PAVED ROAD TRAVEL - MAJOR STREETS - DUST	15.1	2.3	13.8	2.1
83634	PAVED ROAD TRAVEL - COLLECTOR STREETS – DUST	3.1	0.5	2.4	0.4
83642	PAVED ROAD TRAVEL - LOCAL STREETS - DUST	20.2	3.1	23.4	3.5
47456	PAVED ROAD TRAVEL - (UNSPECIFIED) - DUST	1.6	0.2	1.6	0.2
47399	UNPAVED ROAD TRAVEL - CITY AND COUNTY ROADS – DUST	1.5	0.2	12.3	1.2
47407	UNPAVED ROAD TRAVEL - U.S. FOREST AND PARK ROADS – DUST	1.4	0.1	1.8	0.2
47431	UNPAVED ROAD TRAVEL - FARM ROADS – DUST	0.1	0.0	0.2	0.0
82156	UNPAVED ROAD TRAVEL - (UNSPECIFIED) – DUST	2.5	0.2	2.5	0.3
	Total	59.5	8.7	73.1	10.1

Natural Gas Combustion: District-wide natural gas consumption data, consistent with the 2020 California Gas Report,²⁵ was provided by the Southern California Gas Company (SoCalGas) for 2018. Throughput data for Long Beach, provided separately by SoCalGas, was incorporated into the total. Natural gas throughput data for 2018 was provided for six emission source categories in the industrial and commercial sectors, including industrial/commercial internal combustion engines, space heating, water heating, and other/unspecified

²⁵ https://www.socalgas.com/sites/default/files/2020-10/2020_California_Gas_Report_Joint_Utility_Biennial_Comprehensive_Filing.pdf

sectors. Table III-1-6 list the sources used in the gas consumption data. In the residential sector, space heating, water heating, cooking, and other/unspecified sectors were updated. The ~~District~~South Coast AQMD-wide throughput was allocated to the county level using NAICS 451 - Other Miscellaneous Retail Stores (commercial) and NAICS 339 - Miscellaneous Manufacturing (industrial) as surrogates for commercial and industrial sector, respectively. The ~~District~~South Coast AQMD-wide natural gas consumption throughput for the residential sector was allocated to the county level using population data as provided in SCAG’s 2020 RTP/SCS. Allocation factors varied by county but were the same for all end uses. Table III-1-5 provides a summary of natural gas consumption by county illustrated for the baseline year 2012 in the 2016 AQMP and 2018 in the 2022 AQMP.

Table III-1-5

NATURAL GAS CONSUMPTION BY SECTOR IN EACH COUNTY (MILLION THERMS).

SC = SOUTH COAST; SS = SALTON SEA; MD = MOJAVE DESERT

	SC Los Angeles	SC Orange	SC Riverside	SC San Bernardino	Basin Total	SS Riverside	MD Riverside	District-wide Total
	Residential							
2022 AQMP	1,043	342	205	173	1,762	50	45	1857
2016 AQMP	1,168	362	275	232	2,038	----	----	----
	Commercial							
2022 AQMP	358	126	66	65	615	19	15	649
2016 AQMP	417	155	42	49	663	----	----	----
	Industrial							
2022 AQMP	402	250	52	61	765	13	4	782
2016 AQMP	523	36	15	39	612	----	----	----

Up-to-date NOx emissions factors were used in emission calculations to reflect compliance with a series of South Coast AQMD rules including Rules 1146.2, 1110.2, 1147 for commercial/industrial sectors as well as Rules 1111 and 1121 for residential sector. The NOx emission factors used for natural gas combustion source category emission updates are summarized in Table III-1-6.

Table III-1-6

NOX EMISSION FACTORS USED IN NATURAL GAS COMBUSTION SECTORS EMISSION UPDATE

CES	Source of Emission Factors	NOx Emission Factors (lbs/mmcsf)
47142 Industrial – Natural Gas – Unspecified	Rule 1147-NOx Reductions from Miscellaneous Sources	57.42
66787 Industrial – Natural Gas – IC Engines	Rule 1110.2-Emissions from Gaseous and Liquid Fueled Engines	42.6
58735 Commercial – Natural Gas - Space Heating	CMB-03 (2012 AQMP)-Reductions from Commercial Space Heating	127.6
58743 Commercial – Natural Gas – Water Heating	Rule 1146.2-Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters	25.52
95024 Commercial – Natural Gas – IC Engines	Rule 1110.2-Emissions from Gaseous and Liquid Fueled Engines	42.6
95025 Commercial – Natural Gas – Other	Rule 1147-NOx Reductions from Miscellaneous Sources	57.42
47191 Residential – Natural Gas – Other	Rule 1111 - Reduction of NOx Emissions from Natural Gas Fired, Fan-Type Central Furnaces	97.77
54569 Residential – Natural Gas – Space Heating	Rule 1121 - Control of Nitrogen Oxides from Residential Type, Natural Gas Fired Water Heaters	24.44
54577 Residential – Natural Gas - Water Heating	U.S. EPA AP-42	94
54585 Residential – Natural Gas – Cooking	U.S. EPA AP-42	94

To eliminate point source contributions, the sector-specific Annual Emissions Reporting (AER) throughput data was subtracted from the total. The subtraction was performed because point sources have distinct emission factors and are accounted for separately in the inventory. The internal/external combustion ratio derived from AER throughput data was then applied to calculate the throughputs for stationary I.C. engines and

unspecified subcategories in the industrial and commercial sectors of NG combustion source category. The NOx and VOC emissions associated with the revised gas consumption data and updated emission factors and the comparison with corresponding emissions in 2016 AQMP are summarized in Table III-1-7. Table III-1-8 provide the annual average and summer planning emission summary of the updated emission inventory for natural gas combustion sectors in the Revised Draft 2022 AQMP.

TABLE III-1-7

2018 ANNUAL AVERAGE EMISSIONS IN TONS PER DAY ASSOCIATED WITH UPDATED SUBCATEGORIES OF NATURAL GAS COMBUSTION SOURCE CATEGORY

CES	Description	2016 AQMP		2022 AQMP	
		VOC	NOx	VOC	NOx
47142	INDUSTRIAL NATURAL GAS COMBUSTION (UNSPECIFIED)	0.48	5.64	0.36	1.87
66787	INDUSTRIAL STATIONARY I.C. ENGINES - NATURAL GAS	2.06	1.39	2.77	2.90
58735	COMMERCIAL NATURAL GAS COMBUSTION - SPACE HEATING	0.07	0.53	0.21	2.43
58743	COMMERCIAL NATURAL GAS COMBUSTION - WATER HEATING	0.06	0.20	0.24	0.56
95024	COMMERCIAL NATURAL GAS ICE	3.18	3.10	0.71	0.74
95025	COMMERCIAL NATURAL GAS EXTERNAL COMBUSTION – OTHER	0.24	2.32	0.25	1.31
47191	RESIDENTIAL NATURAL GAS COMBUSTION – OTHER	0.15	2.99	0.25	2.16
54569	RESIDENTIAL NATURAL GAS COMBUSTION - SPACE HEATING	0.38	6.82	1.31	11.67
54577	RESIDENTIAL NATURAL GAS COMBUSTION - WATER HEATING	0.39	1.98	0.85	1.89
54585	RESIDENTIAL NATURAL GAS COMBUSTION – COOKING	0.08	1.58	0.15	1.28
	Total	7.09	26.54	7.10	26.82

TABLE III-1-8

**2018 ANNUAL AVERAGE AND SUMMER PLANNING EMISSIONS ASSOCIATED WITH NATURAL GAS
COMBUSTION IN TONS PER DAY**

		2018 Annual Average (Tons per Day)						
		TOG	VOC	NO _x	CO	SO _x	PM25	NH3
Point	Industrial	0.2	1.6	2.2	0.1	0.2	0.3	0.0
	Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Area	Industrial	1.1	5.1	15.7	0.0	0.7	2.2	0.0
	Commercial	1.2	17.6	9.7	0.1	1.8	0.0	0.0
	Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL		2.5	24.3	27.6	0.2	2.7	2.5	0.0
		2018 Summer Planning (Tons per Day)						
		TOG	VOC	NO _x	CO	SO _x	PM25	NH3
Point	Industrial	0.2	1.7	2.4	0.1	0.2	0.3	0.0
	Commercial	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Area	Industrial	1.0	3.1	14.3	0.0	0.5	2.2	0.0
	Commercial	0.8	10.1	6.6	0.1	1.3	0.0	0.0
	Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL		2.1	14.9	23.3	0.2	2.0	2.6	0.0

Regional Clean Air Incentives Market (RECLAIM emissions): One of the major changes to stationary source emission projections between the 2016 AQMP and the Revised Draft 2022 AQMP is the treatment of point source NO_x and SO_x emissions subject to the RECLAIM program, which mainly includes larger facilities such as power plants, oil and gas production, petroleum refining, and manufacturing and industrial and service sectors. In the 2016 AQMP, RECLAIM source emissions were projected using allocation caps prescribed by the South Coast AQMD's Rule 2002- Allocations for Oxides of Nitrogen (NO_x) and Oxides of Sulfur (SO_x). The 2016 AQMP inventory reflects the 2015 amendment which reduced the NO_x allocation cap by 12 tons per day by 2022.

The 2016 AQMP control measure CMB-05 - Further NO_x Reductions from RECLAIM Assessment from the 2016 AQMP requires additional 5 tons per day reductions from RECLAIM by 2025 and the transition of the RECLAIM

program to a traditional command-and-control regulatory structure. Rule 1109.1 - Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations, which was adopted by South Coast AQMD in November 2021, is designed to partially implement CMB-05 of the Final 2016 AQMP.²⁶ CMB-05 also requires sunsetting the RECLAIM program and transition to a command-and-control regulatory structure. 2025 and 2026 will be the first years with no RECLAIM program for NOx and SOx, respectively. However, to provide a platform to compare with the 2016 AQMP and track the emissions subject to the RECLAIM program even after the program discontinues, the emissions are denoted here separately as “former-RECLAIM” emissions for 2026 and 2027 and afterwards for NOx and SOx, respectively. Rule 1109.1²⁷ implements expedited Best Available Retrofit Control Technology (BARCT) while delivering additional NOx emission reductions representative of BARCT beyond 2023. Implementation of R1109.1 is expected to achieve 7.7 to 7.9 tons per day of NOx emission reductions with the rule baseline estimation in 2017 as 12.3 tons per day (overall 63 percent reduction). Approximately 220 pieces of NOx equipment will need to be modified to meet the proposed NOx limits under R1109.1.

For the Revised Draft 2022 AQMP emission inventory, R1109.1 is expected to be the main driver of former-RECLAIM NOx emission reductions in post-RECLAIM years. Figure III-1-1 provides the change of the NOx emissions by year due to the implementation of R1109.1 for post-RECLAIM years. The NOx emissions from former-RECLAIM refinery sources are expected to decrease starting from 11.08 tons per day in 2024 to 6.43 tons per day in 2037. To avoid double counting the NOx reductions from Rule 2002 which defines reductions in allocation cap²⁸, 2.35 tons per day NOx reductions from R1109.1 implementation before 2024 was excluded. The NOx emissions from RECLAIM program are subject to growth and control for the post-RECLAIM years. The emission trend of (former-) RECLAIM universe is presented in the “Future Baseline Emission” section of Chapter 2.

²⁶ <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-Nov5-034.pdf?sfvrsn=6>.

²⁷ <https://www.aqmd.gov/home/rules-compliance/compliance/1109-1>.

²⁸ <http://www.aqmd.gov/docs/default-source/rule-book/reg-xx/rule-2002.pdf?sfvrsn=4>.

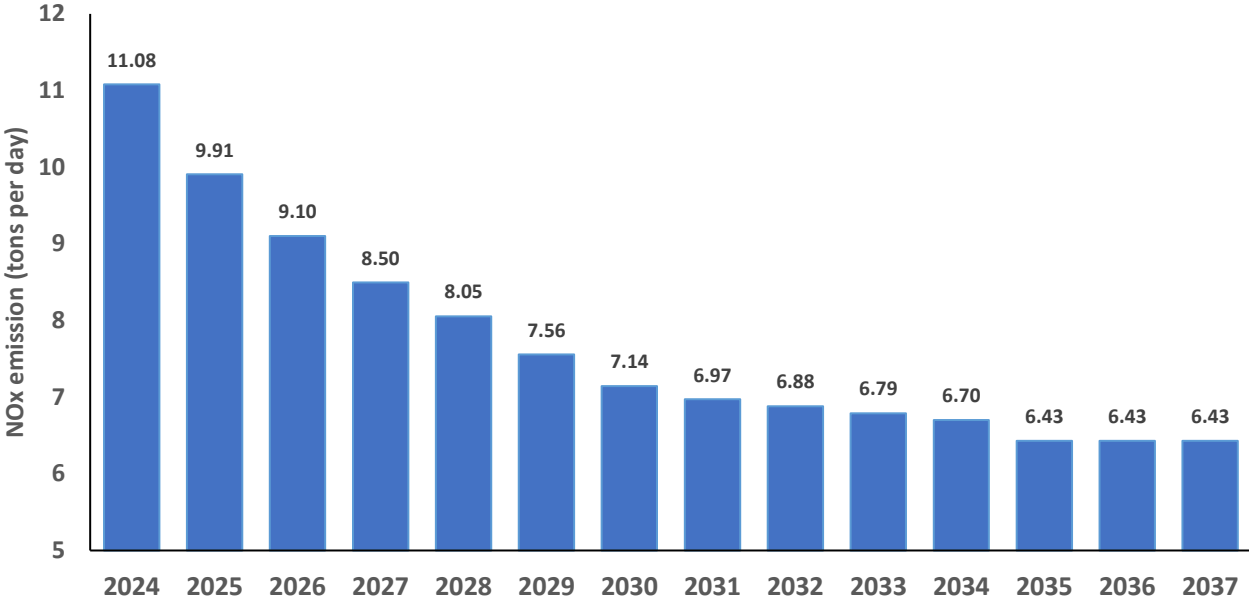


FIGURE III-1-1
PROJECTED NOX EMISSIONS SUBJECT TO RULE 1109.1

Livestock Waste: PM, ammonia (NH3), and VOC emissions from dairy cattle, layers, and swine were updated using the emission factors (EF) from the South Coast AQMD April 2011 Technology Assessment (TA) report. Throughput for each updated emission category of livestock were based on the latest available head count. The total 2018 number of 126,000 dairy cattle was provided by the Santa Ana Water Control Board (SAWCB). Throughput update for layers and swine are based on 2017 United States Department of Agriculture (USDA) census of agriculture in Los Angeles, Orange, Riverside and San Bernardino counties.²⁹ The changes in livestock waste emissions in 2018 associated with this update as well as their comparison with the projected 2018 emission using the 2016 AQMP inventory are summarized in Table III-1-9.

TABLE III-1-9

**2018 ANNUAL AVERAGE VOC, PM2.5 AND NH3 EMISSIONS ASSOCIATED WITH LIVESTOCK WASTE
IN TONS PER DAY**

CES	Description	2016 AQMP			2022 AQMP		
		VOC	PM25	NH3	VOC	PM25	NH3
89516	LIVESTOCK HUSBANDRY - DAIRY CATTLE	0.55	0.02	4.28	0.76	0.61	5.28
89557	LIVESTOCK HUSBANDRY – LAYERS	0.18	0.06	1.64	0.06	0.07	0.41
89573	LIVESTOCK HUSBANDRY – SWINE	0.04	0.00	0.15	0.01	0.00	0.03
	Total	0.77	0.08	6.07	0.82	0.67	5.72

Adhesives and Sealants: VOC emissions from adhesive and sealant applications were updated based on reported solvent- and water-based adhesive and sealants sales data for 2018. VOC emissions were calculated based on the throughput and percent VOC by weight. On October 2017, South Coast AQMD amended the Rule 1168 to reduce VOC emissions from adhesive and sealant applications. The amendments will implement, in part, the 2016 AQMP Control Measure CTS-01: Further Emission Reductions from Coatings, Solvents, Adhesives, and Sealants, which targets a 1 ton per day VOC emission reduction by 2023. The update of VOC emissions from this source category reflects the implementation of Rule 1168. The changes in VOC emissions in 2018 associated with this update as well as their comparison with the projected 2018 emissions using the 2016 AQMP inventory are summarized in Table III-1-10.

29

https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1_Chapter_2_County_Level/California/

TABLE III-1-10
2018 ANNUAL AVERAGE VOC EMISSIONS ASSOCIATED WITH ADHESIVES AND SEALANTS
IN TONS PER DAY

CES	Description	2016 AQMP	2022 AQMP
83030	ADHESIVES AND SEALANTS (SOLVENT BASED)	3.8	3.9
83063	ADHESIVES AND SEALANTS (WATER BASED)	0.3	1.1
	Total	4.1	5.0

LPG Transfer Dispensing – Fugitive Loss: VOC emissions from LPG transfer and dispensing–fugitive losses at residential, commercial, industrial, chemical, agricultural, and retail sales facilities were estimated using updated activity data for 2018. The 2018 population data is used as a surrogate to apportion 2018 State throughput to South Coast AQMD jurisdiction and county/basin level. The VOC emissions over the Basin for 2018 in the Revised Draft 2022 AQMP is estimated as 2.3 tons per day compared with the 2.6 tons per day for 2018 in the 2016 AQMP emission inventory.

Architectural Coatings: The emission inventory for architectural coatings has been updated to reflect the most recent data available (see Table III-1-11). The 2022 AQMP emission inventory for architectural coatings is based on quantity and emissions reports submitted annually by the architectural coating manufacturers, as required under Rule 314 – Fees for Architectural Coatings. In total 64 subcategories of emissions source (CES) codes in the architectural coatings category have been updated. Sales volumes for solvent-based and waterborne coatings reported annually under Rule 314 were used to estimate the total volume of thinning, additive, and cleanup solvents using typical usage ratios. Emissions from colorants were estimated under that assumption that colorant was added to 80 percent of all coatings, and four ounces of colorant were added to each liter of coating according to the current VOC quantity limit (g/L) under Rule 1113. The Revised Draft 2022 AQMP estimates VOC emissions from this category at 10.6 tons per day for 2018 and 12.4 tons per day for 2037. The corresponding VOC emissions from the 2016 AQMP are 11.6 tons per day for 2018. The lower VOC emissions in the Revised Draft 2022 AQMP inventory reflects the lower-VOC content of the coatings as the manufacturers continue to formulate products that are compile and below regulatory limits.

TABLE III-1-11

2018 ANNUAL AVERAGE VOC EMISSIONS ASSOCIATED WITH ARCHITECTURAL COATINGS
IN TONS PER DAY

Year	2016 AQMP	2022 AQMP	Rule 314 Reported Data
2012	13.3	--	13.7
2017	11.4	--	11.5
2018	11.6	10.6	10.9
2031	-- <u>12.7</u>	12.0	---
2037	---	12.4	---

Composting: Three new CES associated with composting are introduced into the Revised Draft 2022 AQMP emission inventory to replace the CES codes 89490 and 90472 in the 2016 AQMP inventory. VOC and NH3 emissions from green waste composting operations (CES 90473) and co-composting operations (CES 90475) were estimated according to the methodology developed in the AER guideline document for greengreen2-17 waste composting operations (South Coast AQMD, 2015)³⁰ and South Coast AQMD Rule 1133.3 requirements (South Coast AQMD, 2011)³¹. Throughput was a new update with the 2018 actual annual throughput for co-composting feedstock (CES 90475) or the facilities reported to the South Coast AQMD under the Rule 1133 Registration/Annual Update requirements (CES 90473). If the 2018 throughput data was not readily available for the facility, the total actual throughput available in a most recent year (between 2014 and 2019) was used as a substitute. Emissions from chipped and ground mulch (CES 90474) was estimated following the methodology developed for the 2016 AQMP Control Measure BCM-10. Facility level reported annual throughput data for 2018 was used to perform emission updates. The changes in VOC and NH3 emissions in 2018 associated with this update as well as their comparison with the projected 2018 emission using 2016 AQMP inventory for replaced CES are summarized in Table III-1-12.

TABLE III-1-12

COMPARISON OF 2016 AQMP AND ~~DRAFT~~ REVISIED DRAFT 2022 AQMP ANNUAL AVERAGE VOC AND NH3 EMISSIONS IN 2018 ASSOCIATED WITH COMPOSTING IN TONS PER DAY

CES	Description	2016 AQMP		2022 AQMP	
		VOC	NH3	VOC	NH3
90474	COMPOSTING - SOLID WASTE (UNSPECIFIED) - CHIPPINGS AND GRINDINGS	--	--	4.77	0.67
90473	COMPOSTING - SOLID WASTE (UNSPECIFIED) – GREENWASTE	--	--	0.58	0.12
90475	COMPOSTING - CO-COMPOSTING - BIOSOLIDS AND GREENWASTE MIX	--	--	0.31	0.51
89490	COMPOSTING - WASTE DISPOSAL	4.4	0.66	--	--
90472	COMPOSTING – AMMONIA	0.2	0.39	--	--
	TOTAL	4.6	1.05	5.66	1.3

³⁰ <http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/guidecalcgreenwaste.pdf?sfvrsn=4>

³¹ <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1133-3.pdf>

Fugitive Emissions from Tanker Ships: A new emission category was created to estimate the pressure-related fugitive VOC emissions through the mast riser, pressure vacuum (P/V) valves, and other components of ocean-going vessel (OGV) tankers during marine transit of crude oil and other petroleum products. This category does not include fugitive losses at berth. VOC emissions in 2018 from this category is estimated to be 7.83 tons per day.

Changes in Point and Area Sources Emissions in Base Year (2018) Inventory

The point source inventory continued its downward trend primarily due to the implementation of South Coast AQMD's regulations for stationary point sources. Point source emissions of VOC, NOx, SOx, and PM2.5 decreased between 2012 and 2018; from 28, 29, and 9 tons per day to 23, 25 and 7 tons per day for VOC, NOx and SOx, respectively. The area source inventory also decreased between 2012 and 2018 for NOx emissions. VOC emissions increased due to more accurate estimate of consumer product emission using updated emission factors; SOx emissions increased only 1 ton per day while PM level remains almost unchanged. VOC, NOx, SOx and PM2.5 emissions changed from 183, 36, 1 and 36 tons per day to ~~195, 25, 194, 27~~, 2 and ~~36~~35 tons per day between 2012 and 2018.

Mobile Sources

On-Road Mobile Sources

The Revised Draft 2022 AQMP emission estimates for on-road motor vehicles come from applying the emission rates in CARB's EMFAC 2017³² model to the transportation activity data provided by the SCAG in its adopted 2020 RTP/SCS. The California Department of Transportation (Caltrans), the Department of Motor Vehicles (DMV), and SCAG supply CARB with data necessary 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 activity (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. SCAG also updates a demographic database for population, housing, employment and patterns of land use within its jurisdiction.

Emission rate data in EMFAC 2017 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 EMFAC 2017 model calculates exhaust and evaporative emission rates by vehicle type for different vehicle speeds and environmental conditions (temperature and relative humidity). Temperature and humidity profiles are used to produce month specific, annual average, and episodic inventories.

³² <https://ww3.arb.ca.gov/msei/downloads/emfac2017-volume-iii-technical-documentation.pdf>

Parameters accounted for by the EMFAC 2017 include the following: 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 EMFAC 2017 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) ~~Three~~Four vehicle fuel types (gasoline, diesel, ~~and natural gas,~~ and electric)
- (3) Truck types (ports, agriculture, construction, interstate, out-of-state, public fleet, utility fleet, power take off, tractor)
- (4) In-state and out-of-state
- (5) Fifty calendar years (2000-2050)
- (6) ~~Two~~Three vehicle exhaust processes (starts, idling and running)
- (7) Four evaporative processes (diurnal, hot soak, running loss, and resting loss)
- (8) ~~Seven~~Eight pollutants (~~HCTOG,~~ VOC, CO, CO₂, NO_x, PM, PM₁₀, PM_{2.5}, and SO_x)
- (9) Fuel consumption.

To develop the detailed emission inputs needed by air quality dispersion 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, 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 the CARB.³³

EMFAC 2017 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 Revised Draft 2022 AQMP are reported by major vehicle class categories to compare with previous inventory reporting.

³³ https://github.com/mmb-carb/ESTA_Documentation.

Revised Draft 2022 AQMP Appendix III: Emission Inventory

EMFAC 2017 was the basis for on-road planning inventories, emission budgets, and rate-of-progress calculations. The EMFAC 2017 model has undergone extensive revisions from the previous version (EMFAC 2014) to include new data and significant changes to the methodologies regarding calculation of motor vehicle emissions and revisions to implementation data for control measures ~~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 changes include:

- EMFAC 2017 includes new data and significant changes to the methodologies regarding calculation of motor vehicle emissions and revisions to implementation data for control measures.
- EMFAC 2017 includes 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 emissions factor data was developed based on data from EPA's In-Use Vehicle Program, CARB's Vehicle and Truck and Bus Surveillance Programs, CARB's PEMs and Transit Bus testing and Integrated Bus Information Systems of West Virginia and Altoona.
- EMFAC 2017 updates the Motor vehicle fleet age, vehicle types and vehicle population based on 2013-2016 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 Highway Patrol School Bus Inspections and National Transit Database information. Each of these changes affect emissions factors for each area in California.³⁴
- In addition to the updates in EMFAC 2017 with respect to EMFAC 2014, external adjustments are applied to the on-road emissions to include newly adopted regulations that are not reflected in EMFAC 2017. These new regulations include the Advanced Clean Trucks (ACT)³⁵, Innovative Clean Transit (ICT)³⁶, and Heavy-Duty (HD) Low NOx Omnibus Regulation³⁷, Heavy Duty Inspection and Maintenance Regulation.³⁸

EMFAC 2017 does not estimate ammonia (NH₃) emissions. Ammonia emissions were calculated externally by using VMT activity data by vehicle type and by applying vehicle-specific ammonia emission factors based on the methodology developed by CARB. The new update to on-road ammonia emissions present higher emissions as compared to previous versions primarily due to the high emission factors associated with diesel vehicles equipped with selective catalytic reduction. This update on ammonia emissions is consistent with the

³⁴ More detailed information on the changes incorporated in EMFAC 2017 can be found at: <https://ww3.arb.ca.gov/msei/downloads/emfac2017-volume-iii-technical-documentation.pdf>

³⁵ Advanced Clean Trucks, <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks>

³⁶ Innovative Clean Transit, <https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit>

³⁷ Heavy-Duty Low NOx Omnibus Regulation, <https://ww2.arb.ca.gov/rulemaking/2020/hdomnibuslownox>

³⁸ Heavy-Duty Inspection and Maintenance Regulation, <https://ww2.arb.ca.gov/rulemaking/2021/hdim2021>

methodology used in the EMFAC 2021 version. Further documentation on ammonia emission factors can be found in the EMFAC 2021 technical documentation.³⁹

Figure III-1-2A compares on-road baseline emissions estimated by EMFAC 2014 used in the 2016 AQMP with EMFAC 2017 used in the Revised Draft 2022 AQMP. The figure includes emissions for base year, 2018 and selected future milestone years, 2023, 2025, and 2031. The comparison for on-road emissions reflects changes due to the updated EMFAC model and updated travel activity data from 2020 RTP/SCS. EMFAC 2017 is the most current (U.S. EPA approved) version of EMFAC, and so provides the basis of the Revised Draft 2022 AQMP on-road emissions. In addition to the regulations reflected in EMFAC 2017, Advanced Clean Trucks (ACT)⁴⁰, Innovative Clean Transit (ICT)⁴¹, the U.S. EPA and National Highway Traffic Safety Administration (NHTSA) Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One (SAFE-1)⁴² and Heavy-Duty (HD) Engine and Vehicle Low NOx Omnibus Regulations⁴³ are reflected in the Revised Draft 2022 AQMP and impact some of the underlying assumptions in EMFAC 2017 model. The Revised Draft 2022 AQMP estimates show lower emissions of NOx and VOCs in 2018 than projected levels from the 2016 AQMP.

Emissions in future milestone years are significantly lower than the base year 2018 emissions of all pollutants. For the future years 2023 through 2031, in general, the Revised Draft 2022 AQMP emissions estimates are lower compared to 2016 AQMP estimates ~~with the exception of NOx emissions in 2025 and 2031~~. Emission reductions in future can be attributed to ongoing implementation of regulations and programs such as Advanced Clean Cars Program⁴⁴, ICT Regulation, Zero Emission Airport Shuttle Bus Regulation⁴⁵, Clean Miles Standard⁴⁶, ACT, ~~and Heavy-Duty (HD) Omnibus low NOx requirements, and HDI&M.~~⁴⁷ Despite growth in vehicular activities, emissions from on-road mobile sources are expected to decrease in future years; NOx and VOC emissions in 2037 are 6276 and 5556 percent lower than those in 2018, respectively.

Figure III-1-2B compares the base-year 2018, 2023 and 2031 NOx emissions estimated with travel activity data from the 2016 RTP ~~and used in the 2016 AQMP and from the 2020 RTP used in the 2016 AQMP and the Revised Draft 2022 AQMP, respectively.~~

³⁹ EMFAC technical documentation, available at: <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-road-documentation>

⁴⁰ Advanced Clean Trucks, <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks>

⁴¹ Innovative Clean Transit, <https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit>

⁴² 84 FR 51310. <https://www.govinfo.gov/content/pkg/FR-2019-09-27/pdf/2019-20672.pdf>

⁴³ Heavy-Duty Engine and Vehicle Low NOx Omnibus Regulations, <https://ww2.arb.ca.gov/rulemaking/2020/hdomnibuslownox>

⁴⁴ Advanced Clean Cars Program, <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program>

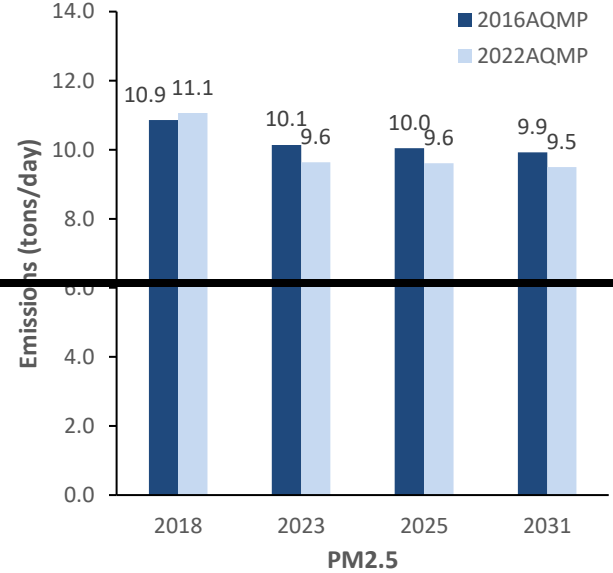
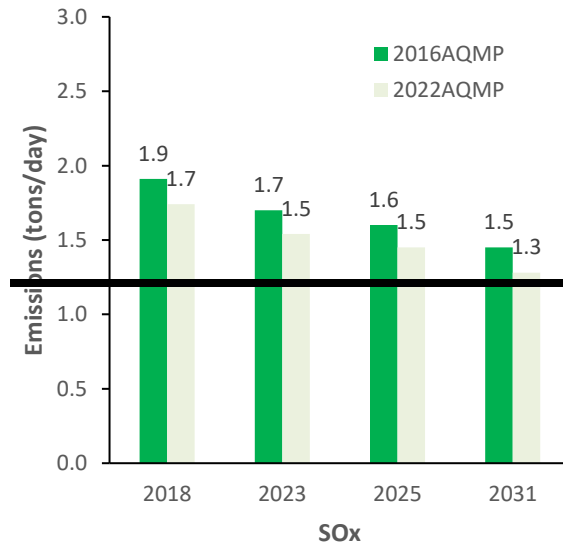
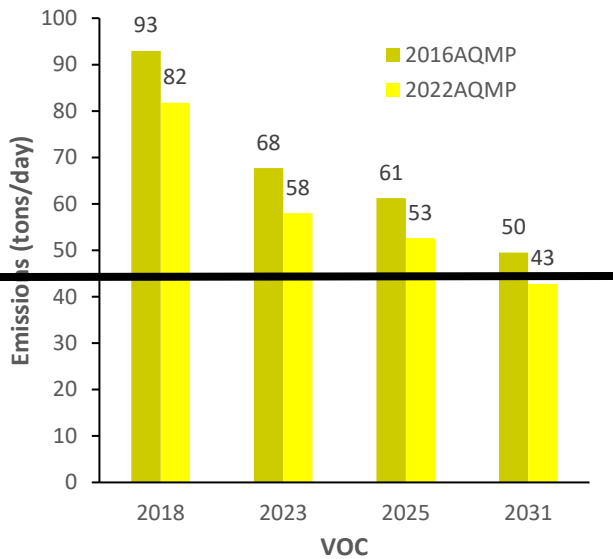
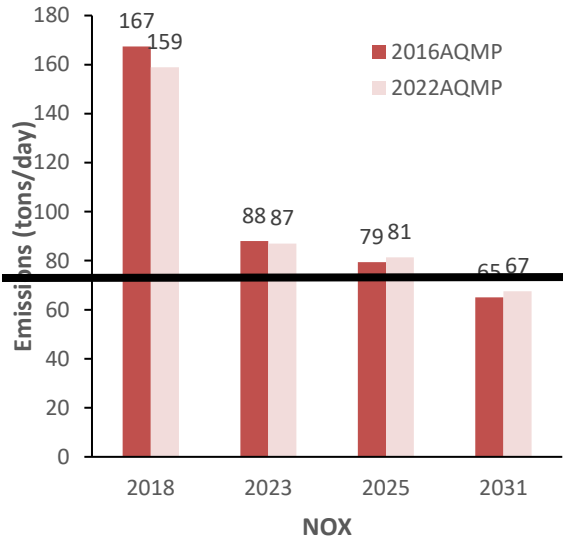
⁴⁵ Zero-Emission Airport Shuttle Regulation, <https://ww2.arb.ca.gov/our-work/programs/zero-emission-airport-shuttle>

⁴⁶ Clean Mile Standard, <https://ww2.arb.ca.gov/our-work/programs/clean-miles-standard>

⁴⁷ HD Inspection and Maintenance Regulation, <https://ww2.arb.ca.gov/rulemaking/2021/hdim2021>

The 2020 RTP estimates of projects less vehicle activity for all vehicle classes compared to the projections in the 2016 RTP. Activity in light- and medium-duty vehicles including passenger cars and light- and medium-duty trucks are similar to the 2016 RTP traffic activity. However, mileages traveled by heavy-duty vehicles were projected to be slightly lower than the 2016 RTP estimates traffic activity. The reduced VMTs are more pronounced in the heavy heavy-duty category, as evident in the NOx emissions shown in the Figure III-1-2B. Given that emissions from heavy-duty vehicles are the largest contributor to on-road mobile NOx emissions, the new on-road mobile emissions using the 2020 RTP data are lower in the future compared to the 2016 RTP data.

Figure III-1-2C compares the on-road emissions estimated using EMFAC 2014 in the 2016 AQMP and EMFAC 2017 used in the Draft 2022 using the same 2016 RTP data with external adjustments for newly adopted regulations used in the Revised Draft 2022 using the same 2016 RTP data. EMFAC2017 was updated from its predecessor EMFAC2014, and the update included an increase in NOx emission factors for heavy-duty trucks for model year 2010+, based on reported higher in-use emissions. The increase in heavy-duty truck emissions included in the baseline are then adjusted externally to reflect newly adopted regulations not included in the EMFAC2017. In general, EMFAC 2017 tends to estimate lower VOC emissions, compared to EMFAC 2014. NOx emissions in 2018 are comparable between the two EMFAC versions. However, future NOx emissions estimated with EMFAC 2017 are estimates higher than NOx emissions estimated with EMFAC 2014. The main contributor in 2023 due to higher future NOx emissions estimated by EMFAC 2017 is the higher in-use NOx emission rates from medium- and heavy-duty vehicle model years of 2010 and newer. Also, light-duty vehicles have lower running exhaust emissions, but have higher start emissions. By 2031, the effect of newly approved regulations on heavy-duty trucks in addition to the regulations embedded in EMFAC2017 as off-model adjustments leads to substantial NOx emission reductions. As a result, EMFAC 2017 with external adjustments projects lower NOx emissions for 2031 compared with EMFAC2014.



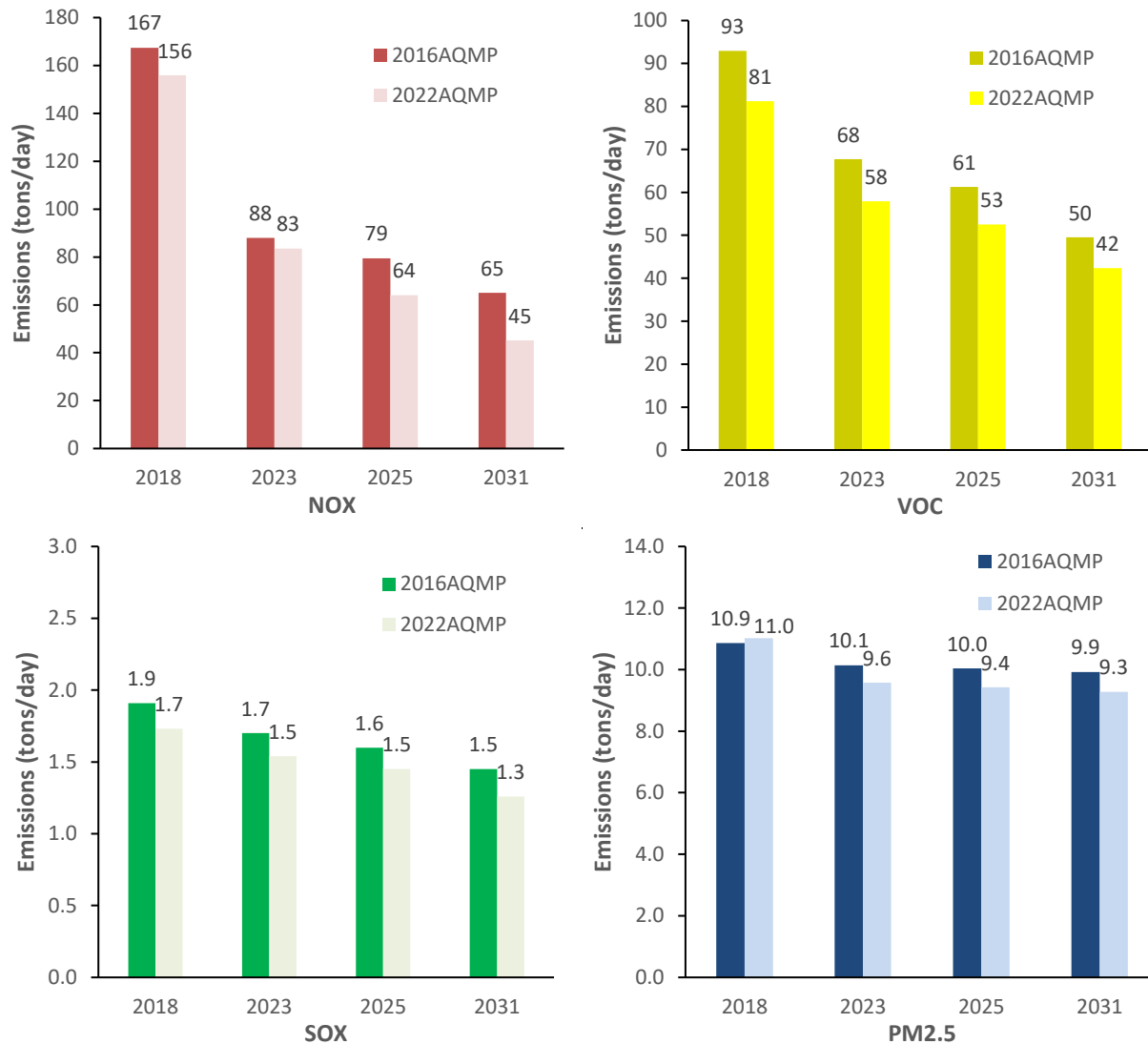
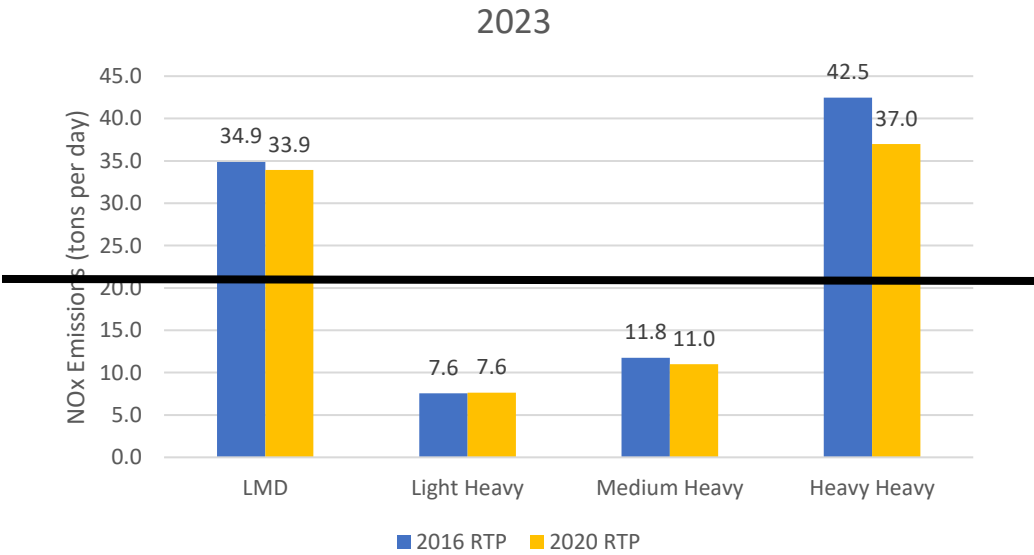
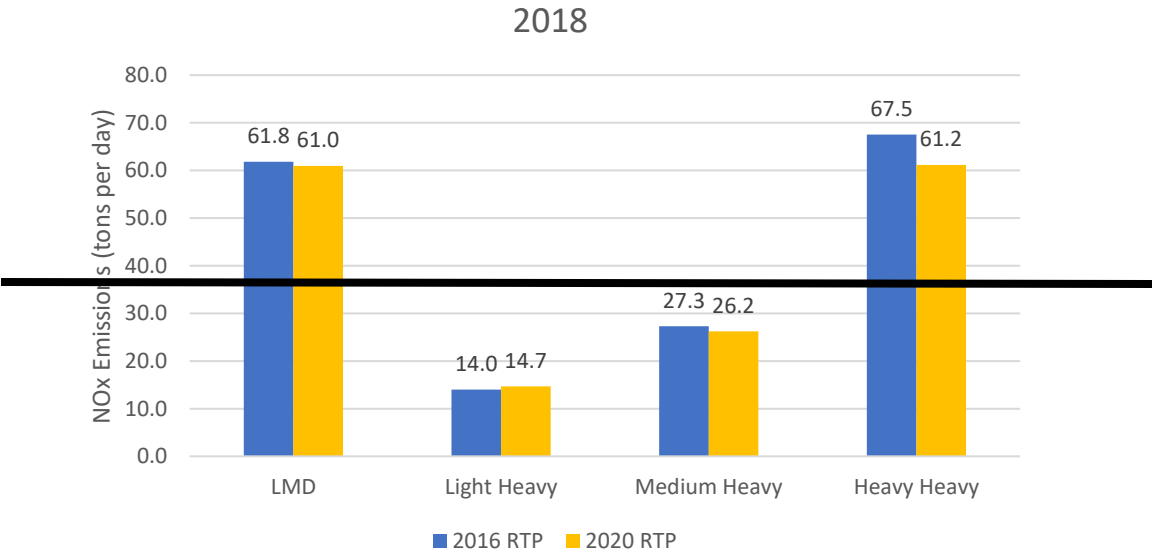
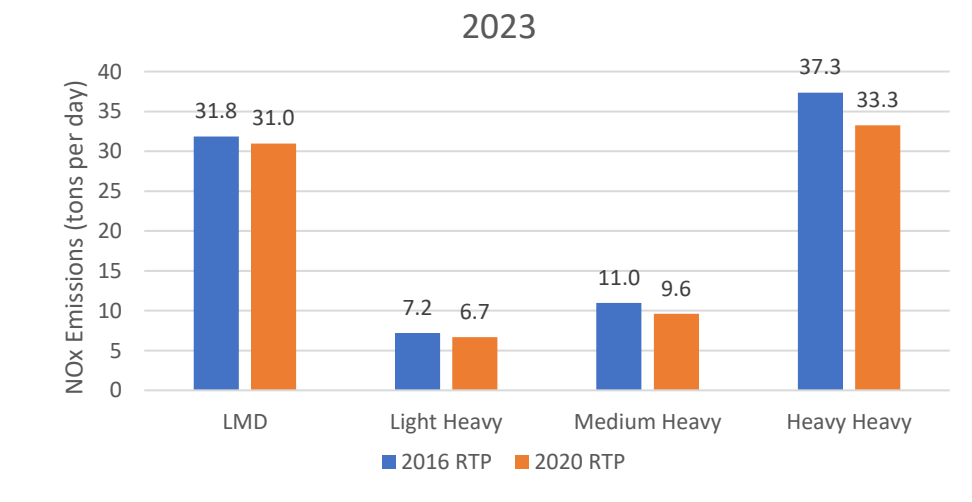
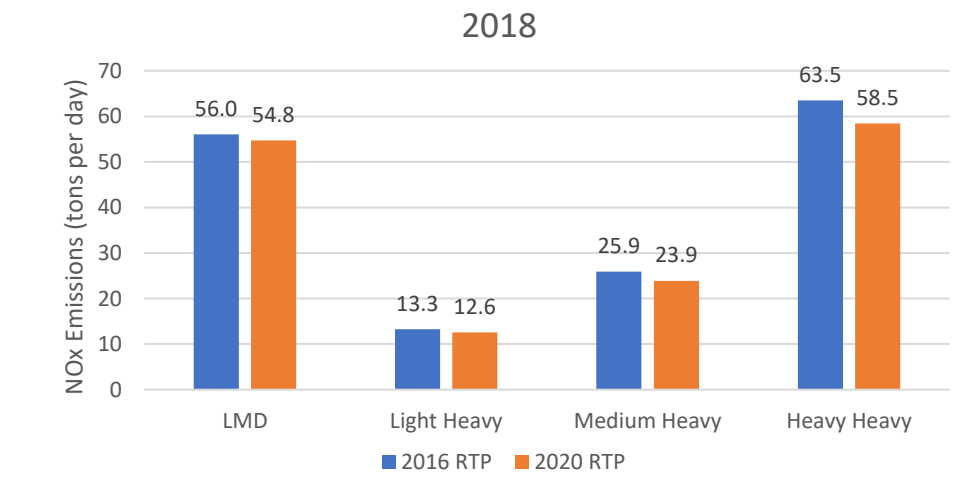
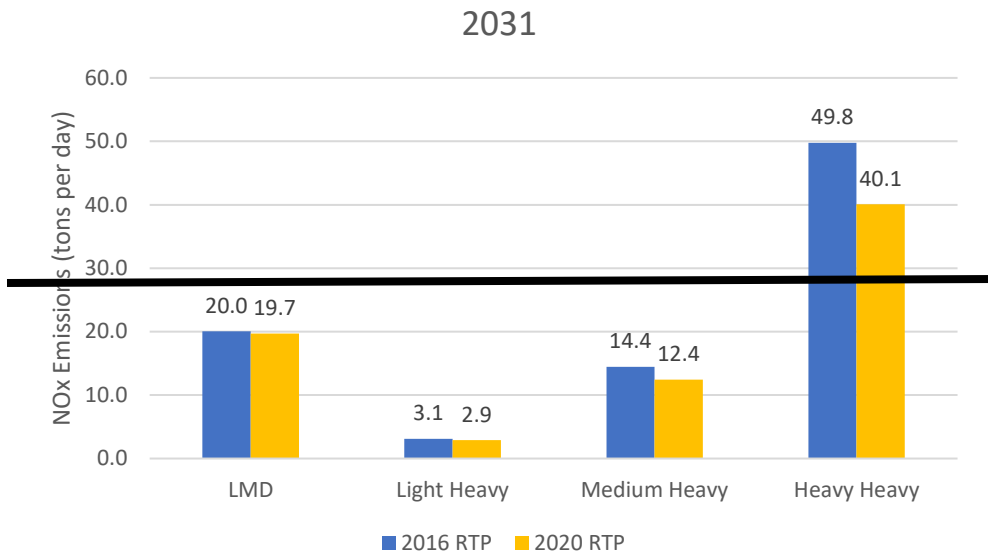


FIGURE III-1-2A
COMPARISON OF ON-ROAD EMISSIONS OF BASE AND FUTURE MILESTONE YEARS IN 2016 AQMP AND
REVISED DRAFT 2022 AQMP
(SUMMER PLANNING INVENTORY)





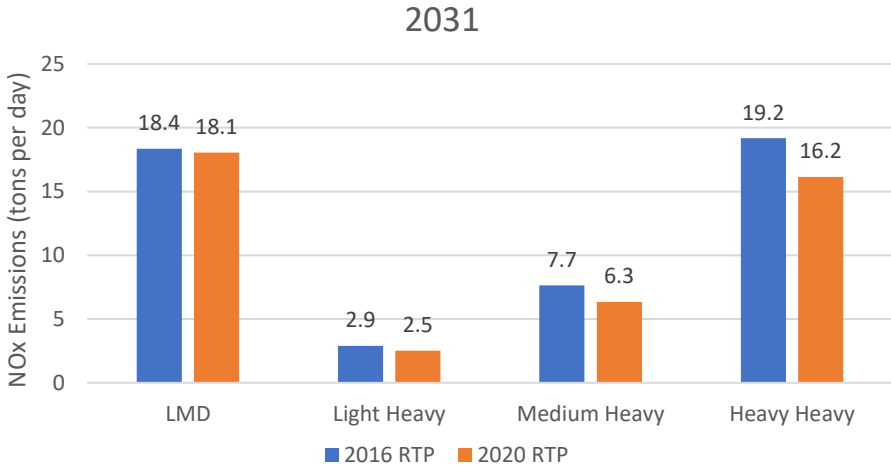
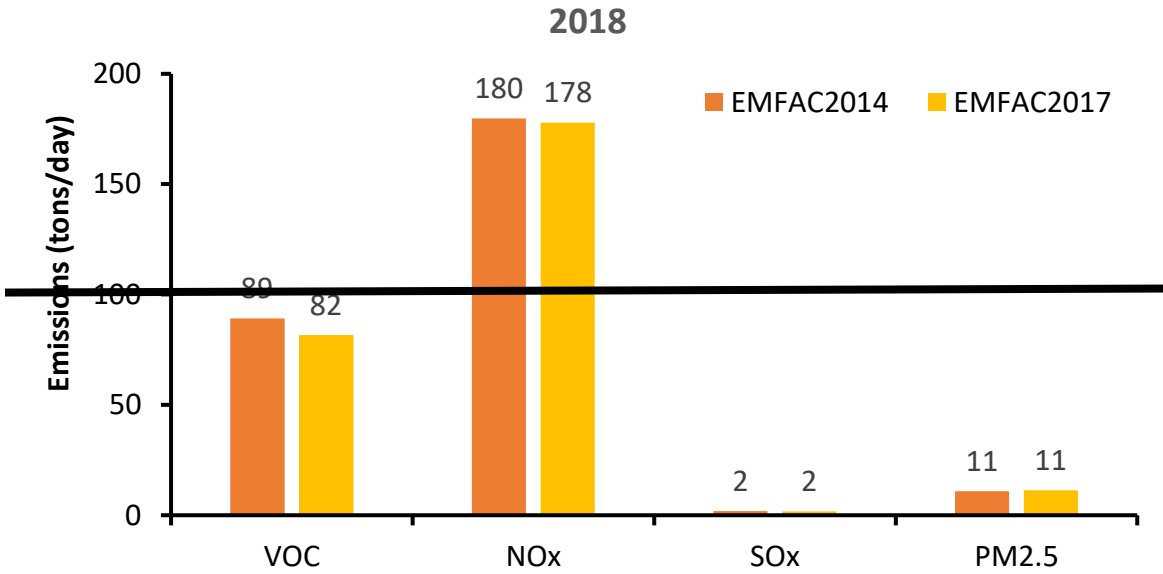
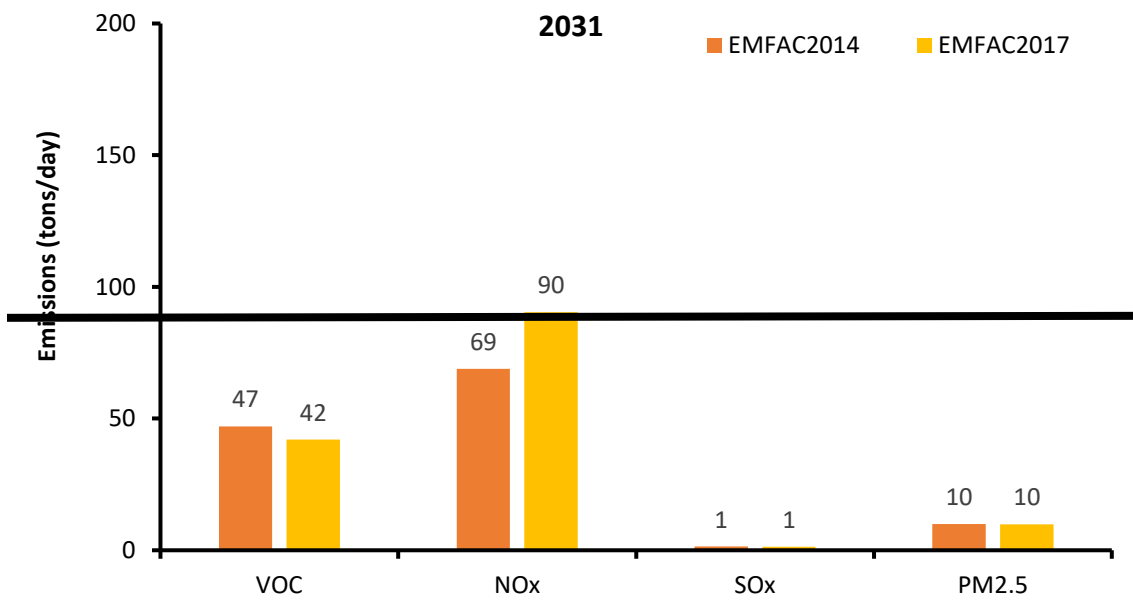
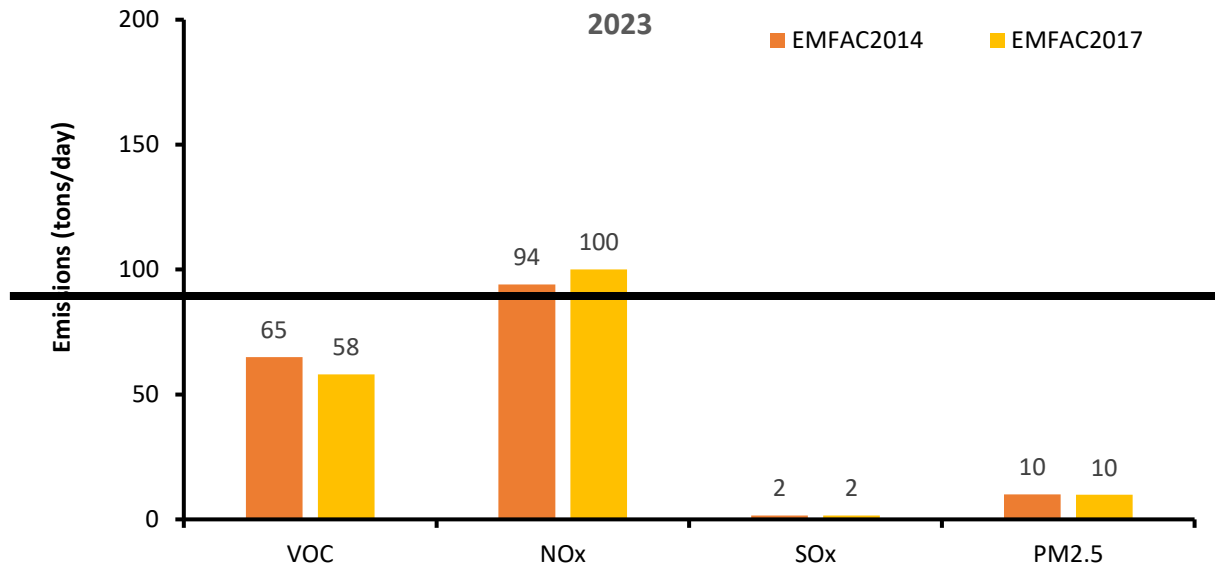


FIGURE III-1-2B
COMPARISON OF NOx SUMMER PLANNNG EMISSIONS ESTIMATED WITH TRAVEL ACTIVITY DATA FROM 2016 RTP VS. 2020 RTP (USING EMFAC 2017 WITH OFF-MODEL ADJUSTMENTS)





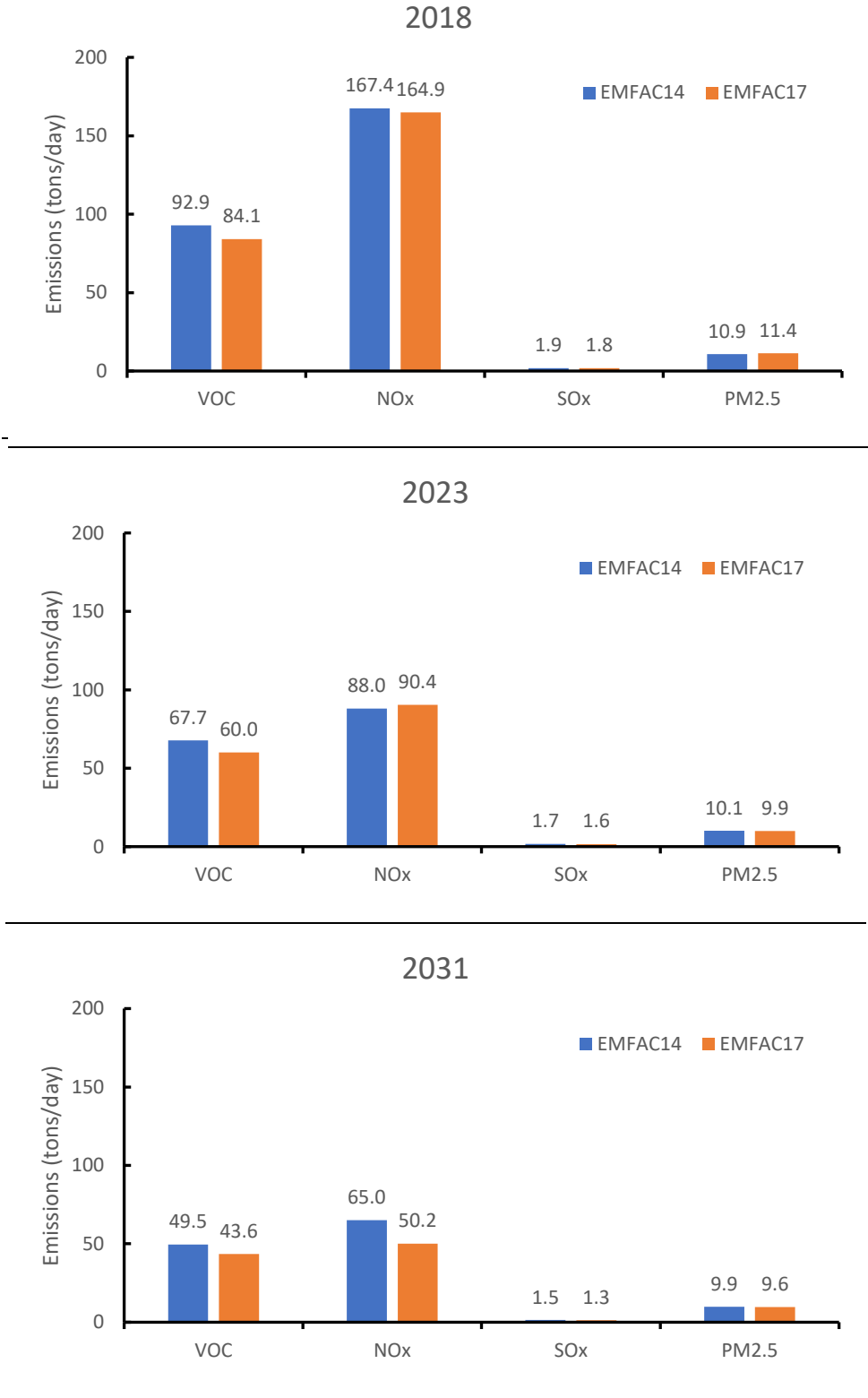


FIGURE III-1-2C

COMPARISON OF ON-ROAD SUMMER PLANNING EMISSIONS ESTIMATED BY EMFAC 2014 VS. EMFAC 2017 WITH OFF-MODEL ADJUSTMENTS (USING TRAVEL ACTIVITY DATA FROM 2016 RTP)

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 ~~variety~~ ~~of~~ ~~model~~ ~~tools~~ to estimate emissions for more than one hundred off-road equipment categories. The ~~model~~ ~~estimates~~ account for the effects of various adopted regulations, technology types, and seasonal effects on emissions. The ~~model~~ ~~estimates~~ combine population, equipment activity, horsepower, load factors, population growth, retirement factors, and emission factors to yield the annual emission by county, air basin or Statewide. Temporal usage profiles are used to develop seasonal emission estimates that are then spatially allocated to the county or air basin using surrogates such as population.⁴⁸ A brief description of these models and their updates since the 2016 AQMP as well as updates to other categories in the inventory not calculated using public available models are presented as follows:

Ocean-Going Vessels (OGVs): OGV emission were updated in 2021 based on Automatic identification System (AIS) transponder data. This data, along with vessel information supplied by the South Coast AQMD and IHS Fairplay⁴⁹ provides vessel visit counts, speed, engine size, and other vessel characteristics. The inventory adopts the U.S. EPA's methodology for emissions based on vessel speed, engine model year and horsepower. The inventory includes transit, maneuvering, anchorage, and at-berth emissions. At-berth emission was updated using 2019 CARB at-berth compliance reporting.⁵⁰ The comprehensive national model Freight Analysis Framework (FAF) was used to develop growth rates for forecasting.⁵¹

Locomotives: All locomotive inventories were updated in 2020 and include linehaul (large national companies), switchers (used in railyards), passenger, and Class 3 locomotives (smaller regional companies). Data for each sector was supplied by rail operations, including Union Pacific and Burlington Northern, and Santa Fe Railway (BNSF) for linehaul and switcher operations. Data for other categories was supplied by the locomotive owners. Emission factors for all categories were based on the U.S. EPA emission factors for locomotives. The inventory reflects the 2005 memorandum of understanding (MOU) with Union Pacific and BNSF. Growth rates were primarily developed from the comprehensive national model FAF.⁵² A new category includes military and industrial (M&I) locomotive emission inventory and relies on the annual fuel consumption and engine information collected from 2011 to 2018. The M&I locomotive data was supplied by 39 private companies, 4 military rail groups, with a total of 85 locomotives. The subject locomotives typically consist of smaller, older switchers and medium horsepower (MHP, 2,301 to 3,999 horsepower) locomotives

⁴⁸ More information about off-road models can be found at http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

⁴⁹ <https://ihsmarkit.com/products/ship-and-port-data.html>

⁵⁰ https://ww3.arb.ca.gov/msei/offroad/pubs/2019_ogv_inventory_writeup_ver_oct_18_2019.pdf

⁵¹ https://ww2.arb.ca.gov/sites/default/files/2022-03/CARB_2021_OGV_Documentation_ADA.pdf.

⁵² <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-road>.

operating within the boundaries of a granary, plant, or industrial facility. The updated M&L locomotive methodology will be available on CARB's website.⁵⁰

Commercial Harbor Craft: Commercial Harbor Crafts/Craft (CHC) are grouped into 18 vessel types: articulated tug barge (ATB), bunker barge, towed petrochemical barge, other barge, dredge, commercial passenger fishing, commercial fishing, crew and supply, catamaran ferry, monohull ferry, short run ferry, excursion, ATB tug, push and tow tug, escort/ship assist tug, pilot boat, research boat, and work boat. The CHC inventory was updated in 2021 and includes vessels used around harbors such as tug and tow boats, fishing vessels, research vessels, barges, and similar. The inventory was updated based on CARB's reporting data for these vessels, as well as inventories from the Ports of Los Angeles and Long Beach and Oakland and Richmond. This supplied vessel characteristics, and the population was scaled up to match U.S. Coast Guard data on the annual number of vessels in California waters. Activity and load factors were based on a mix of reporting data and port-specific inventories. Emission factors were based on certification data for harbor craft engines. Population and activity growth factors were estimated based on historical trends in the past decade.⁵³

Small Off-Road Engines (SORE): SORE are spark-ignition engines rated at or below 19 kilowatts (i.e., 25 horsepower). Typical engines in this category are used in lawn and garden equipment as well as other outdoor power equipment and cover a broad range of equipment. The majority of this equipment belongs to the Lawn and Garden (e.g., lawnmower, leaf blower, trimmer) and Light Commercial (e.g., compressor, pressure washer, generator) categories. The SORE 2020 Model⁵⁴, new model to estimate emissions from SORE categories, reflects the recovering California economy from the 2008 economic recession. The SORE annual sales were forecasted using historic growth of the number of California households (Department of Finance (DOF) household forecasts, 2000 – 2008 and 2009 – 2018). SORE now accounts for a large portion of gasoline related mobile source emissions. For Revised Draft 2022 AQMP, the emission benefits of SORE regulation adopted on December 9, 2021⁵⁵ are reflected into the baseline emissions update.

Diesel Agricultural Equipment: The agricultural equipment inventory covers all off-road vehicles used on farms or first processing facilities (of all fuel types). It was updated in 2021 using a 2019 survey of California farmers and rental facilities, and the 2017 U.S. Department of Agriculture (USDA) agricultural census. Emission factors are based on the 2017 off-road diesel emission factor update. The inventory reflects incentive programs for agricultural equipment that were implemented earlier than August 2019. Agricultural growth rates were developed using historical data from the County Agricultural Commissioners' reports.⁵⁶

⁵³ <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2021/chc2021/apph.pdf>.

⁵⁴ https://ww2.arb.ca.gov/sites/default/files/2020-09/SORE2020_Technical_Documentation_2020_09_09_Final_Cleaned_ADA.pdf.

⁵⁵ <https://ww2.arb.ca.gov/rulemaking/2021/sore2021>

⁵⁶ https://ww2.arb.ca.gov/sites/default/files/2021-08/AG2021_Technical_Documentation_0.pdf.

In-Use Off-Road Equipment: This category covers off-road diesel vehicles over 25 horsepower in construction, mining, industrial, and oiling drilling categories. The inventory was updated in 2022 based on the DOORS⁵⁷ registration program. Activity was updated based on a 2021 survey of registered equipment owners, and emission factors were based on the 2017 off-road diesel emission factor update. The inventory reflects the In-Use Off-Road Equipment Regulations, as amended in 2011.⁵⁸

Cargo Handling Equipment: The Cargo Handling Equipment (CHE) inventory covers equipment (of all fuels) used at California ports and intermodal railyards, such as cranes, forklifts, container handling equipment, and more. The inventory population and activity were updated in 2021 based on the port inventories for the Ports of Los Angeles and Long Beach and Richmond, and the CARB reporting data for other ports and railyards. Load factors were based on the previous inventory in 2007, and emission factors were based on the 2017 off-road diesel emission factor update. The inventory reflects the CHE Airborne Toxic Control Measures (ATCM), adopted in 2005 and completed in 2017.⁵⁹

Transportation Refrigeration Units: The Transportation Refrigeration Units (TRU) inventory was updated in 2020 based on the TRU reporting program. The activity was developed based on 2010 surveys of facilities served by TRUs and 2017 to 2019 telematics data purchased from TRU manufacturers. Emission factors were developed specifically for TRUs based on TRU engine certification data reported to the U.S. EPA as of 2018. The inventory reflects the TRU ATCM and 2021 amendments. Forecasting was based on IBISWorld reports forecast for related industries, and turnover forecasting was based on the past 20 years equipment population trends.⁶⁰

Portable Equipment: Portable equipment inventory includes non-mobile diesel, such as generators, pumps, air compressors, chippers, and other miscellaneous equipment over 50 horsepower. This inventory was developed in 2017 based on CARB's registration program, 2017 survey of registered owners for activity and fuel, and the 2017 off-road diesel emission factor update. The inventory also reflects the Portable ATCM and 2017 amendments. Because registration in Portable Equipment Registration Program (PERP) is voluntary, the PERP registration data was used as the basis for equipment population, with an adjustment factor used to represent the remaining portable equipment in the State. In previous AQMPs, emissions from portable equipment were included in the off-road equipment category. In the Revised Draft 2022 AQMP, it is listed as a separate category. Estimates of future emissions beyond the base year were made by adjusting base year estimates for population growth, activity growth, and the purchases of new equipment (i.e., natural and accelerated turnover).⁶¹

⁵⁷ <https://ww2.arb.ca.gov/sites/default/files/classic/msprog/ordiesel/documents/userguide-initialreporting.pdf>.

⁵⁸ <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-road>.

⁵⁹ <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-road>.

⁶⁰ <https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/apph.pdf>.

⁶¹ <https://ww3.arb.ca.gov/msei/ordiesel/perp2017report.pdf>.

Large Spark Ignition/Forklifts: The large spark ignition (LSI) inventory includes gasoline and propane forklifts, sweeper/scrubbers, and tow tractors. The inventory was updated in 2020 based on the LSI/forklift registration in the DOORS reporting system, and the sales data was provided by the Industrial Truck Association (ITA). Activity was based on a survey of equipment owners in the DOORS system, and emission factors were based on the U.S. EPA's latest guidance for gasoline and propane engines. The inventory reflects the LSI regulation requirements and 2016 amendments.⁶²

Recreational Marine Vessels: Pleasure craft or recreational marine vessel (RMV) is a broad category of marine vessel that includes gasoline-powered spark-ignition marine watercraft (SIMW) and diesel-powered marine watercraft. It includes outboards, sterndrives, personal watercraft, jet boats, and sailboats with auxiliary engines. This emissions inventory was last updated in 2014 to support the evaporative control measures. The population, activity, and emission factors were revised using new surveys, DMV registration information, and emissions testing. Staff used economic data from a 2014 UCLA Economic Forecast to estimate the near-term annual sales of RMV (2014 to 2019). To forecast long-term annual sales (2020 and later), staff used an estimate of California's annual population growth as a surrogate.¹⁵

Recreational Vehicles: Off-highway recreational vehicles include off-highway motorcycles (OHMC), all-terrain vehicles (ATV), off-road sport vehicles, off-road utility vehicles, sand cars, golf carts, and snowmobiles. A new model was developed in 2018 to update emissions from recreational vehicles. Input factors such as population, activity, and emission factors were re-assessed using new surveys, DMV registration information, and emissions testing. OHMC population growth is determined from two factors: incoming population as estimated by future annual sales and the scrapped vehicle population as estimated by the survival rate.¹⁵

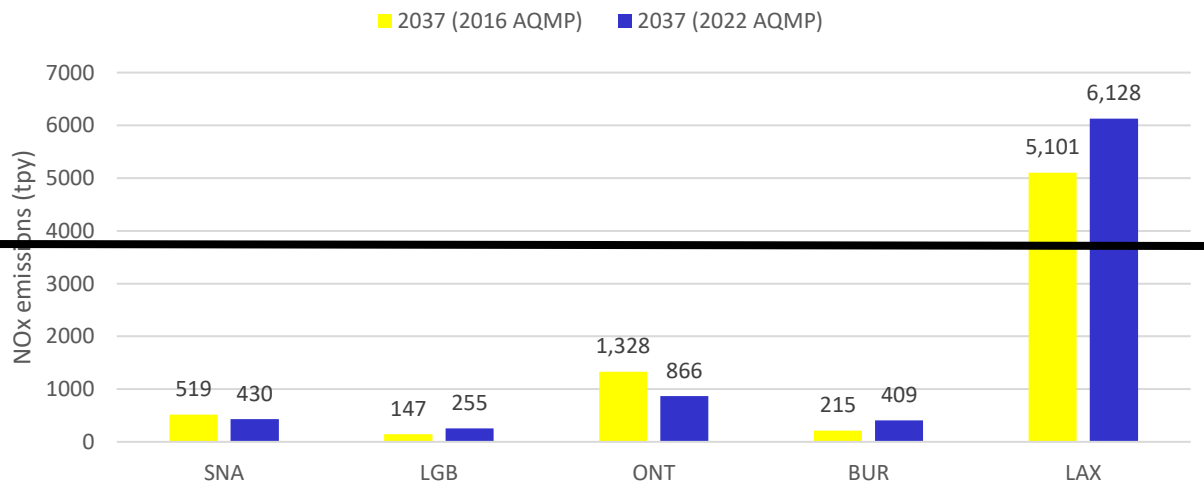
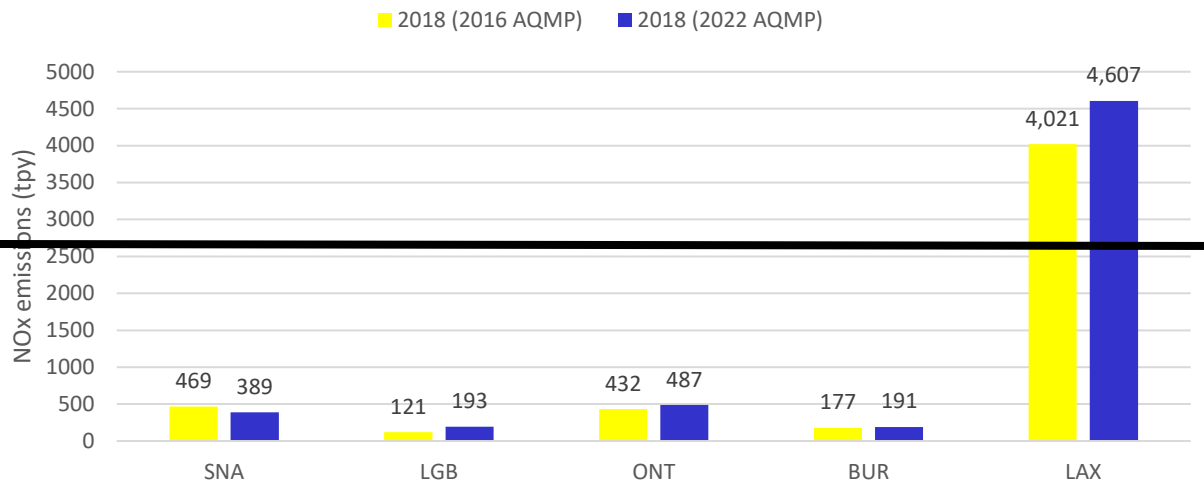
Fuel Storage and Handling: Emissions from portable fuel containers (gas cans) were estimated based on past surveys and in-house testing. This inventory uses a composite growth rate that depends on occupied household (or business units), percent of households (or businesses) with gas cans, and average number of gas cans per household (or business) units.¹⁵

Aircraft: An updated aircraft emissions inventory was developed for the 2018 base year and 2037 attainment year based on the latest available activity data from airports and Federal Aviation Administration (FAA) databases and application of the FAA's Aviation Environmental Design Tool (AEDT) for airports with detailed aircraft activity data for commercial air carrier/taxi operations. For smaller general aviation (GA) and military airports, U.S. EPA's average landing and takeoff emission factors were used to calculate emissions. The emissions for 41 commercial airports in the South Coast Air Basin were updated. FAA's Terminal Area Forecast (TAF) was used to forecast operations except if the airport provided its own projections or the airport was not covered by TAF. In the latter case, operations were carried over from the base year and held constant. Figure III-1-3 presents comparison of the five major commercial airports in SCAB aircraft emissions with those in the 2016 AQMP inventory for 2018 and 2037. Those airports are SNA (John Wayne Airport), LGB (Long Beach Airport), ONT (Ontario International Airport), BUR (Bob Hope Airport) and LAX (Los Angeles International Airport). Commercial airport emissions increased compared with 2016 AQMP inventory, with the exception

⁶² <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-road>.

Revised Draft 2022 AQMP Appendix III: Emission Inventory

of ONT (2037) and SNA (both 2018 and 2037), which decreased due to fewer than expected air carrier operations. Further details are available in the Revised Draft 2022 AQMP Aircraft Emissions Inventory Report (South Coast AQMD, October 2021).⁶³ Subsequent to publication of the emissions inventory report, ONT notified South Coast AQMD that the aircraft taxi times originally provided were no longer accurate. South Coast AQMD proceeded to revise the emissions inventory for ONT consistent with the updated taxi times, which are shown in Table III-1-13. This change resulted in a 0.1-0.3 ton per day NOx increase at ONT depending on the year.



⁶³ <http://www.aqmd.gov/docs/default-source/Agendas/aqmp/2022-aqmp-ag/revised-draft-2022-aqmp-aircraft-emissions-inventory-report.pdf?sfvrsn=6>.

TABLE III-1-13
REVISED AIRCRAFT TAXI TIMES PROVIDED BY ONT

Year	Taxi-in (minutes)	Taxi-out (minutes)
2018	5.28	12.18
2023	5.28	13.53
2031	5.43	14.42
2037	5.43	14.47

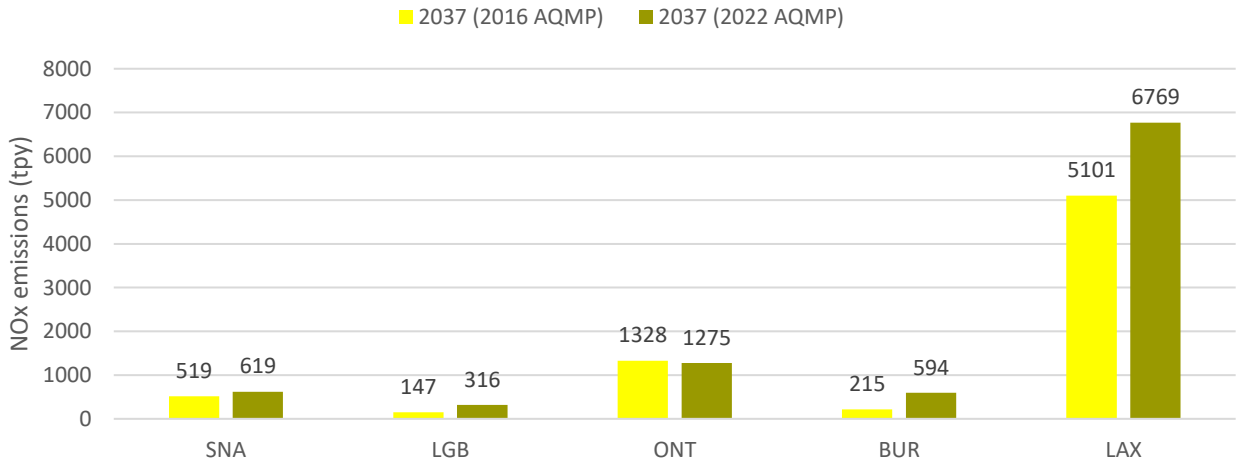
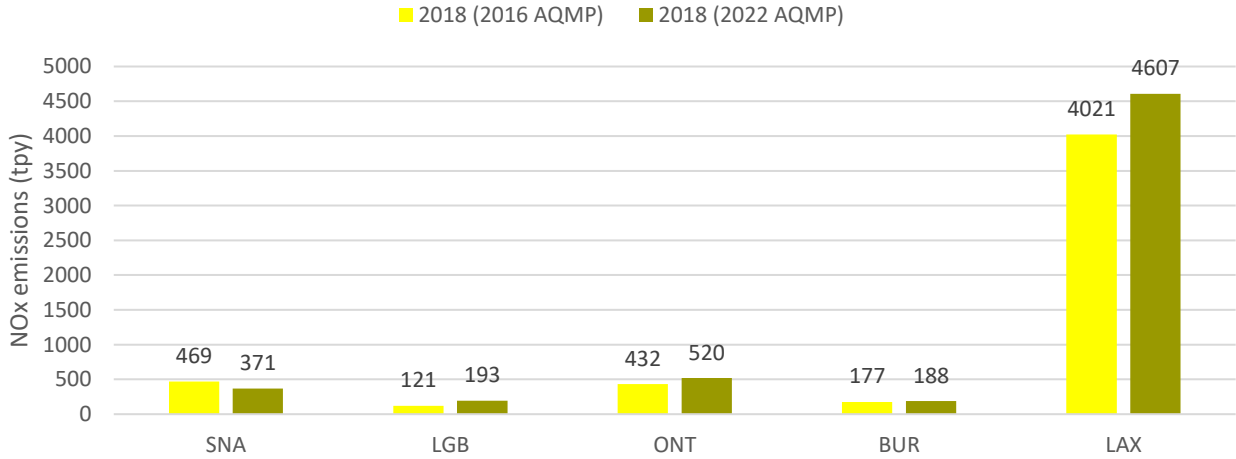
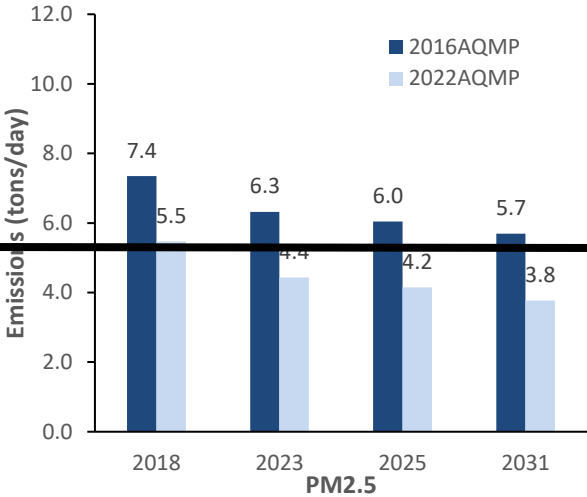
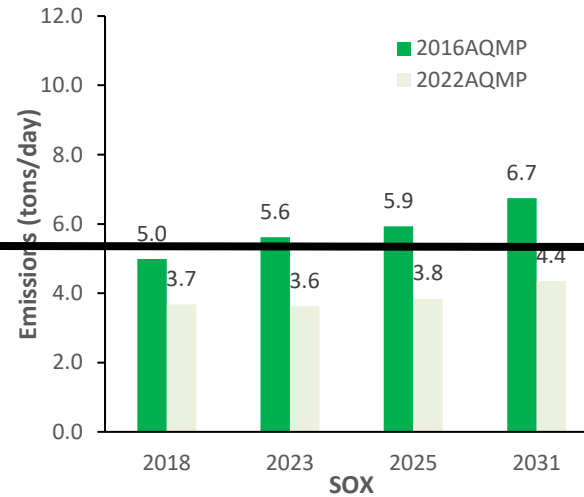
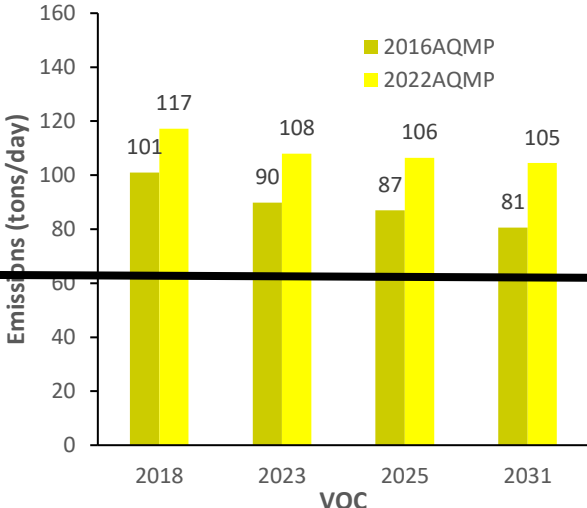
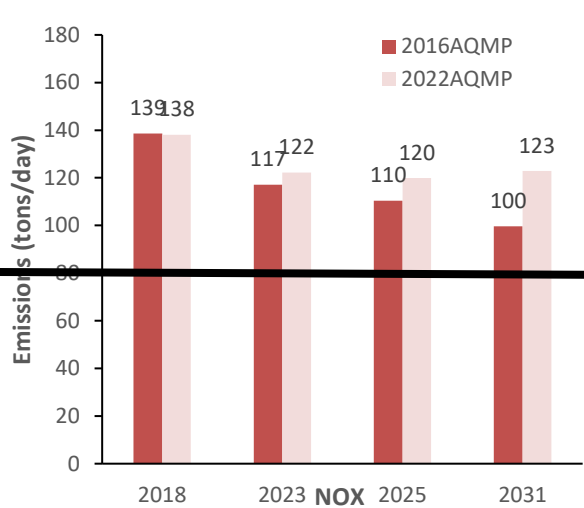


FIGURE III-1-3
AIRCRAFT NOX EMISSIONS IN SCAB COMMERCIAL AIRPORTS FOR THE DRAFT REVISED DRAFT 2022 AQMP COMPARED TO THE 2016 AQMP INVENTORY FOR 2018 AND 2037

Revised Draft 2022 AQMP Appendix III: Emission Inventory

Figure III-1-4 shows a comparison of the off-road baseline emissions in the 2016 AQMP and the Revised Draft 2022 AQMP. VOC and NOx emissions estimates are higher in the Revised Draft 2022 AQMP than the 2016 AQMP estimates ~~except the NOx emission estimates for 2018 which remains almost unchanged.~~ Higher VOC and NOx emissions in the Revised Draft AQMP 2022 inventory are due to the updates in methodology and activity data. VOC and NOx emissions from off-road sources ~~mostly decrease in the future years due to the continued implementation of existing regulations, except NOx emissions slightly increases in 2031 due to increase activities and growth.~~ SOx emission estimates are lower in the Revised Draft 2022 AQMP. The SOx emissions from off-road mobile sources show a marginal decrease in 2023 (42 percent; 0.1 ton per day) which is mostly attributed to decrease in aircraft emissions but increase 54 percent and 18 percent in 2025 and 2031, respectively, from 2018 emissions level; this increase correspond to less than 1 ton per day of additional SOx and are mostly driven by increased emissions from aircraft and ocean-going vessels.

Estimates of direct PM2.5 emissions from off-road mobile sources are lower in the Revised Draft 2022 AQMP. PM2.5 emissions from off-road mobile sources are projected to decrease ~~1920, 24, and 3433~~ 20, 24, and 3133 percent in 2023, 2025, and 2031, respectively, from 2018 emissions level; these seemingly large decreases, however, correspond to ~~only less than~~ approximately 1 ton per day of less PM2.5 up to 2025 and approximately 2 tons per day in 2031 which are mostly attributed to decrease in off-road equipment emissions.



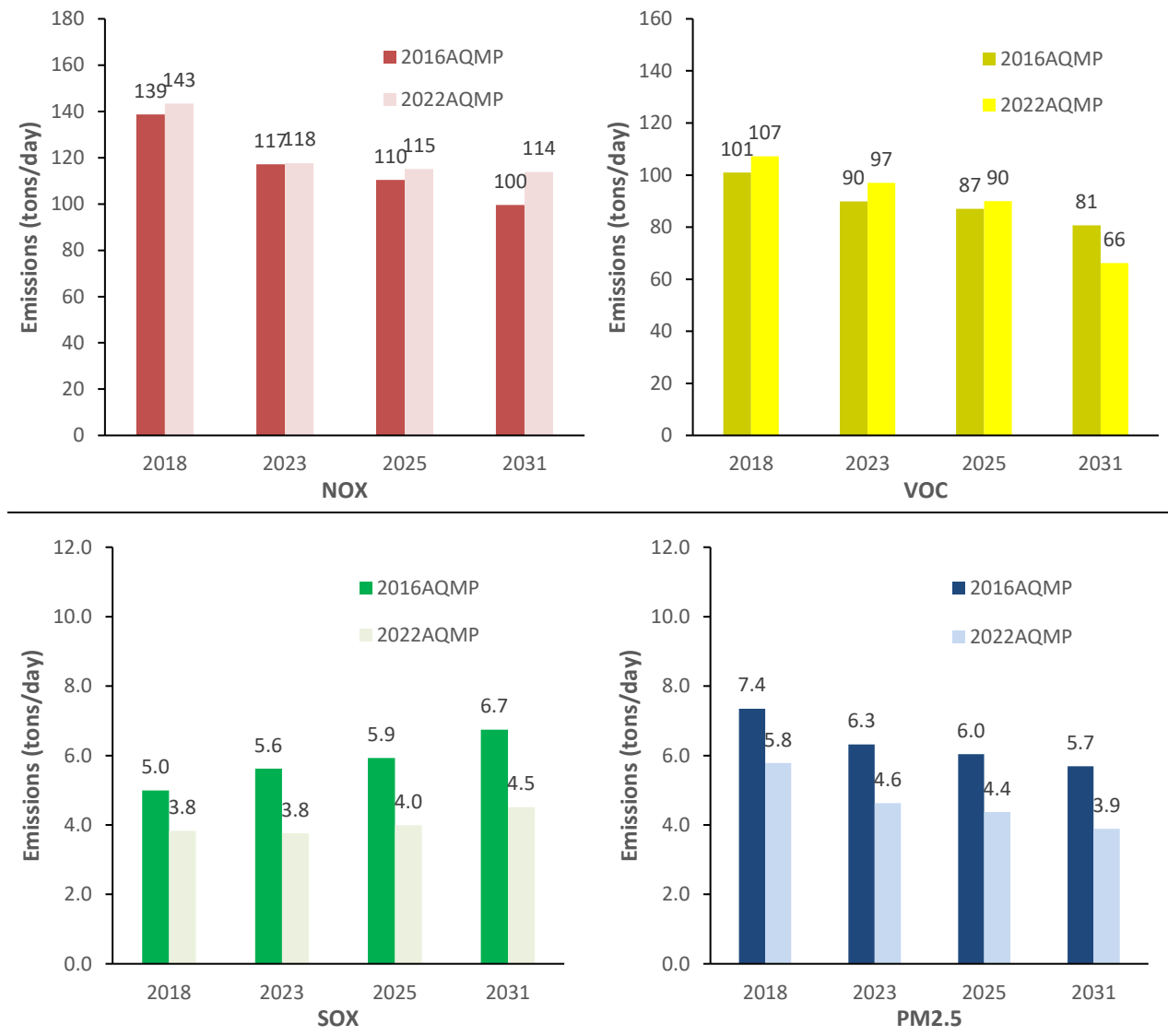


FIGURE III-1-4
COMPARISON OF OFF-ROAD EMISSIONS - 2016 AQMP AND DRAFT REVISED DRAFT 2022 AQMP
(SUMMER PLANNING INVENTORY)

Inventory Type

Two inventory types, annual average inventory and summer planning inventory are included in the Revised Draft 2022 AQMP to track emission reductions due to regulations, establish transportation conformity and to develop control measures. The summer planning inventory was used to develop the attainment strategy for the 2015 8-hour ozone standard.

Average Annual Day Inventory

The average annual day emissions inventory was derived primarily by dividing the annual total emissions by 365, except for the emissions derived from CARB's EMFAC 2017 (on-road mobile sources) and In-Use Off-Road Fleet Inventory (most off-road mobile sources) models. EMFAC 2017 considers the average annual day inventory from on-road mobile sources associated with the typical weekdays (Tuesday to Thursday) traffic volume patterns and monthly average temperature and relative humidity conditions (for evaporative emissions). The on-road emission during weekends and holidays are significantly different compared with average annual day condition. In addition, the average annual day inventory was developed for all criteria pollutants regardless of their attainment status. The average annual day emissions are used to estimate cost-effectiveness of proposed control measures and future tracking of AQMP implementation (e.g., annual progress report on rule adoption).

Planning Inventory

The summer planning inventory provides the basis for tracking emission reduction progress specified by the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA). The CAA requires a plan to reduce ozone precursor emissions by 3 percent per year within the South Coast air basin, which is "extreme" nonattainment area for the 2018 8-hour federal ozone standard, until the attainment date. This, so-called Reasonable Further Progress (RFP) demonstration is specified in the U.S. EPA's final rule of "Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements" (80 FR 12264, 12271) and CAA, Section 182(c)(2)(C). RFP requires VOC and/or NO_x reductions of 18 percent over the first 6 years after the baseline year and an additional 3 percent per year averaged over each consecutive 3-year period until the attainment date for the 2015 8-hour ozone standard.

The South Coast Air Basin is also designated as a nonattainment area for ozone for the California Ambient Air Quality Standards (CAAQS or State standard). The intent of the summer planning inventory is to characterize emission levels that occur during the typical season of ozone air quality violations. The summer planning inventory, also known as the ozone planning inventory, contains emissions of ozone precursors (i.e., VOC and NO_x) during the summertime, when ambient concentrations of ozone are typically at their highest, which is defined as May through October for planning purposes.

CARB has developed guidelines for the development of planning inventories. Point sources emission estimates represent an "average annual operating day." Emissions from point sources are calculated by dividing the total annual emissions produced by a source by the number of days the source was in operation. The calculation formula is illustrated as following:

$$\text{SEMS (t/d)} = \text{EMS (t/y)} / \{\text{OP_DAY} \times \text{WEEK_YR}\}$$

Where, SEMS is the seasonal emissions (tons/seasonal day); EMS is annual emissions (tons/year); OP_DAY is the number of days of operation per week; and WEEK_YR is the number of operating weeks per year.

For example, if a company emitted 150 tons in a year and the production lines operated 5 days a week for 40 weeks, then the average operating emissions from this facility are calculated to be 150 tons divided by 200 days or 0.75 tons per day.

For area and other mobile sources, planning emissions represent an “average seasonal operating day.” As an example, VOC emissions produced by asphalt road-paving operations are calculated by considering the variation in monthly levels and weekly operating days for paving activity during the year. Road paving activities vary throughout the year, with maximum rates during the summer season. Paving activity varies throughout the week with, on average, five operating days in a week. The allocation of annual area source emissions among the seasons is based on estimated relative monthly and weekly emissions patterns. For example, emissions from natural gas combustion for residential and commercial heating during summer months is significantly lower than winter months with higher ambient temperature and lower fuel combustion. The calculation formula for average seasonal operating day area and other mobile sources emission is illustrated as following:

$$\text{SEMS (t/d)} = \{\text{EMS (t/y)} \times \text{SUMMER_THROUGHPUT}\} / \text{SUMOPDAY}$$

$$\text{SUMOPDAY} = 184 \text{ (summer days)} / 7 \text{ (days/week)}$$

$$\times \text{OP_DAY (operating days/week)}$$

Where SEMS is the seasonal average summer planning emissions (tons/seasonal day); EMS is annual emissions (tons/year); SUMMER_THROUGHPUT is the sum of fractional monthly throughputs; and OP_DAY is the number of days of operation per week.

CHAPTER 2

SUMMARY OF EMISSIONS

Baseline Emission Inventories

Base Year Emissions

Future Year Emissions

Emission Trend and Agency Responsibilities

Impact of Growth – Pre-Base Year Offsets

Uncertainty in the Inventory

Controlled Emission Inventories

Emission Reductions from the Proposed Control Measures

Emission Reductions Calculations

CARB Emission Data Reports System

SIP Set Aside Accounts

Baseline Emission Inventories

Base Year Emissions

The 2018 emission inventory is used as the base year to project future year emissions. It represents the most recent and comprehensive inventory development. Attachment C lists SCAB top VOC and NOx producers which emitted equal to or greater than ten tons per year in 2018. The total VOC emissions from these facilities represent 67 percent of the total point sources VOC emissions and 7 percent of the total stationary VOC emissions. The total NOx emissions from these facilities represent 84 percent of the total point ~~sources~~source NOx emissions and ~~3433~~ percent of the total stationary ~~sources~~source NOx emissions. The stationary ~~sources~~source emissions ~~result~~are primarily from the combustion of fuels, evaporation of solvents or fuels, and processing of materials. Hence, stationary sources are grouped under fuel combustion, waste disposal, cleaning and surface coatings, petroleum production and marketing, industrial processes, solvent evaporation, and other miscellaneous processes.

Mobile sources are divided into two source categories: 1) on-road, and 2) other (off-road) mobile sources. On-road mobile sources include light-duty passenger vehicles, light-, medium-, and heavy- heavy duty trucks, motorcycles, urban buses, school buses and motor homes. Other mobile sources include aircraft, trains, ships and commercial boats, recreational boats, off-road recreational vehicles, off-road equipment, portable equipment, farm equipment, and fuel storage and cargo handling equipment.

Table III-2-1A and III-2-1B compare the summer planning Inventory emissions between the 2018 base year in the Revised Draft 2022 AQMP and the projected 2018 emissions in the Final 2016 AQMP by major source category for VOC, NOx, SOx, and PM2.5.

TABLE III-2-1A
COMPARISON OF VOC AND NOX EMISSIONS IN TONS PER DAY BY MAJOR SOURCE CATEGORY OF 2018 BASE
YEAR IN DRAFT REVISIED DRAFT 2022 AQMP AND PROJECTED 2018 IN FINAL 2016 AQMP
(SUMMER PLANNING INVENTORY)

SOURCE CATEGORY	2016 AQMP	Revised Draft 2022 AQMP	% Change	2016 AQMP	Revised Draft 2022 AQMP	% Change
	VOC			NOx		
STATIONARY SOURCES						
Fuel Combustion	11.3	5.24	-52%	22.8	18.320.1	-20%12%
Waste Disposal	15.4	16.6	8%	2.5	1.5	-39%38%
Cleaning and Surface Coatings	42.3	38.1	-10%	0.1	0.0	-80%69%
Petroleum Production and Marketing	21.1	20.6	-2%	0.3	0.3	-11%10%
Industrial Processes	12.3	10.98	-12%	0.1	0.1	18%13%
Solvent Evaporation:						
Consumer Products	87.6	107.4	23%	0.0	0.0	0%
Architectural Coatings	11.5	10.6	-8%	0.0	0.0	0%
Others	2.7	2.73	0%-14%	0.0	0.0	0%
Misc. Processes	7.1	5.87	-18%20%	10.3	11.85	14%11%
RECLAIM SOURCES	0.0	0.0	0%	24.2	18.2	-25%
Total Stationary Sources	211	218	3%	60	5052	-17%14%
MOBILE SOURCES						
On-Road Vehicles	93	8281	-12%13%	167	159156	-5%7%
Off-Road Vehicles	101	117107	-16%6%	139	138143	0%3%
Total Mobile Sources*	194	199188	-3%	306	297299	-3%2%
TOTAL	405	417406	3%0%	366	347351	-5%4%

*Totals are rounded to nearest integer.

Overall, there are minor increases in the 2018 emissions of VOC and NOx in the revised Draft 2022 AQMP inventory as compared to the 2016 AQMP inventory with 3 percent increase almost no change in VOC and a 54 percent

decrease in total NOx emissions. Of note in the stationary source categories are the emission changes associated with RECLAIM categories and natural gas and LPG combustion sources. As described earlier, the RECLAIM emissions cap was used to project NOx emissions for future years. Following the Governing Board's direction, the RECLAIM program will be converted to a traditional command-and-control regulatory structure. 2025 and 2026 will be the first years with no RECLAIM programs for NOx and SOx, respectively. The 2018 RECLAIM emissions from the 2016 AQMP inventory were the projection from the 2016 AQMP base year (2012), allocation caps defined in the South Coast AQMD's Rule 2002, while the 2022 AQMP uses actual reported emissions for 2018, which were lower than the cap by 6 tons per day for NOx.

For the on-road mobile source category, the updates described earlier to the on-road emissions model EMFAC 2017, recently adopted regulations and vehicle activity changes resulted in ~~313 percent increase~~ and ~~57 percent decrease~~ decreases in VOC and NOx emissions, respectively. The updates to several of the off-road category emission estimates resulted in a ~~166 percent increase~~ in VOC emissions and ~~no change~~ 3 percent increase in NOx emissions. Updates were completed for locomotives, ocean-going vessels, cargo handling equipment, commercial harbor craft, farming equipment, pleasure craft, Small Off-Road Engines (SORE), and off-road recreational vehicles. As a whole, mobile source VOC and NOx emissions decreased by 3 percent and 2 percent, respectively, between the 2016 AQMP and the revised Draft 2022 AQMP in 2018.

TABLE III-2-1B
COMPARISON OF SOX AND PM2.5 EMISSIONS IN TONS PER DAY BY MAJOR SOURCE CATEGORY OF 2018 BASE
YEAR IN REVISED DRAFT AQMP 2022 AND PROJECTED 2018 IN FINAL 2016 AQMP
(SUMMER PLANNING INVENTORY)

SOURCE CATEGORY	2012 2016	2016Revised	% Change	2012 2016	2016Revised	% Change
	AQMP	Draft 2022		AQMP	Draft 2022	
	SOx			PM2.5		
STATIONARY SOURCES						
Fuel Combustion	2.0	2.5	0% 22%	5.6	5.24	-7% 3%
Waste Disposal	0.6	0.5	-22%	0.3	0.3	8%
Cleaning and Surface Coatings	0.0	0.0	0%	1.7	1.6	-8% 9%
Petroleum Production and Marketing	0.4	0.3	-29% 30%	1.5	0.9	-40%
Industrial Processes	0.12	0.14	17%18%	7.4	5.0	-32%
Solvent Evaporation:						
Consumer Products	0	0	0%	0	0	0%
Architectural Coatings	0	0	0%	0	0	0%
Others	0	0	0%	0	0	0%
Misc. Processes	0.3	0.2	-52% 55%	27.8	29.81	7%5%
RECLAIM SOURCES	6.8	5.5	-19%	0	0	0%
Total Stationary Sources	10	9	-12%	44	4342	-3%4%
MOBILE SOURCES						
On-Road Vehicles	1.9	1.7	-9%	10.9	11.40	2%1%
Off-Road Vehicles	3.7	3.78	0%4%	5.5	5.58	0%6%
Total Mobile Sources*	6	56	-3%1%	16	17	1%3%
TOTAL	17	1415	-16%15%	62	59	-5%

*Values are rounded to nearest integer and may not sum due to rounding error.

Future Year Emissions

Future baseline emissions, which assume no additional air quality regulations introduced beyond already adopted regulations and programs, are presented in this appendix. The future years include attainment years and other milestone years significant to demonstrate progress toward attainment. They are 2023, 2025, 2031, 2032 and 2037. Emissions by major source category are provided in the Attachment B. These emissions are forecast from the 2018 base year by incorporating the controls implemented under South Coast AQMD rules and programs adopted as of October 2020, and 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 the Revised Draft 2022 AQMP emissions inventory. Growth projections from SCAG were replaced for 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,⁶⁴ 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:

$$FY_i = BY \times CF_i \times GF_i$$

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 . The 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, RECLAIM allocation cap as defined in the South Coast AQMD's rule 2002 was used for the years prior to the conversion to a traditional command and control structure. The last years of RECLAIM are 2024 and 2025 for NO_x and SO_x, respectively. After the sunset year, sources belonging to the RECLAIM universe, referred as "former-RECLAIM", are then scaled using growth and control factors normalized by the growth and control factors of the sunset year 2024. Baseline emissions for years after sunset are projected as follows:

$$FY_i = SY \times CF_i/CF_s \times GF_i/GF_s$$

where FY_i is the forecasted emissions for year i . SY is the emissions in the sunset year (2024 for NO_x, and 2025 for SO_x). 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.

Figure III-2-1 shows the (former-) RECLAIM universe NO_x emission trend in the Revised Draft 2022 AQMP SIP inventory for future years. The latest amendment of the regulation XX in December 2015 reduces NO_x

⁶⁴ https://www.socalgas.com/sites/default/files/2020-10/2020_California_Gas_Report_Joint_Utility_Biennial_Comprehensive_Filing.pdf.

allocation cap from RECLAIM facilities from 22.5 tons per day in 2019 to 14.5 tons per day in 2024. From 2025, the NOx emissions under former-RECLAIM undergo steady decrease with the implementation of R1109.1 as well as other stationary source rules by the South Coast AQMD. The emission number shown here are annual average inventory with the sum of South Coast Air Basin and Coachella Valley (former-) RECLAIM universe. Attachment G has detail tables for SOx and NOx RECLAIM/former-RECLAIM emission for baseline and future years over South Coast Air Basin and Coachella Valley separately.

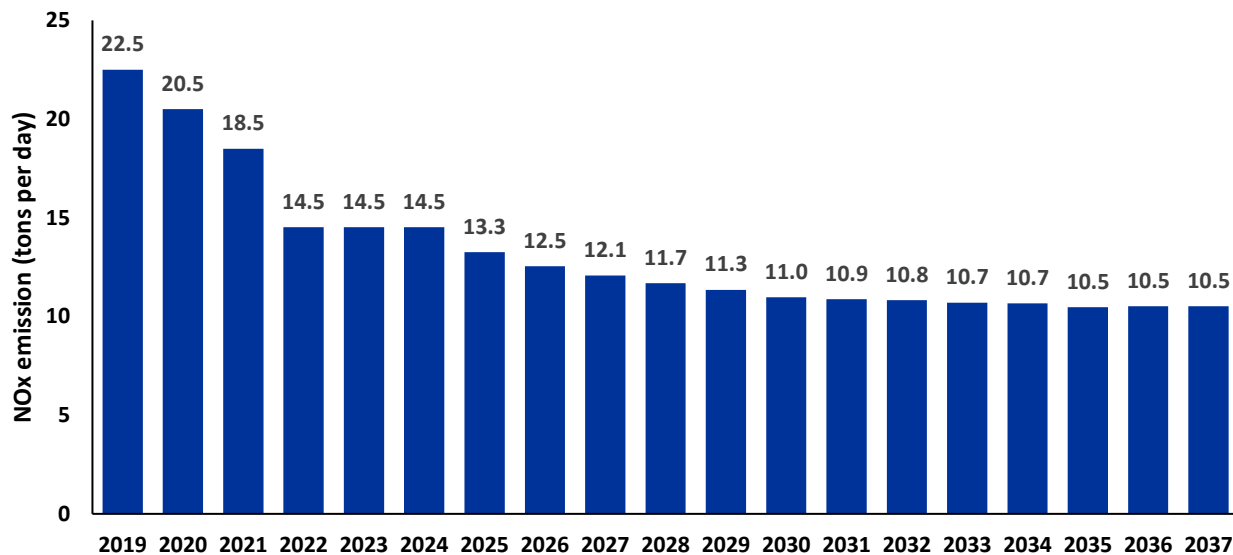


FIGURE III-2-1

NOX EMISSION OF (FORMER-) RECLAIM SOURCES FOR FUTURE YEARS IN REVISED DRAFT 2022 AQMP SIP INVENTORY (TONS PER DAY)

Control Factors

The impact of South Coast AQMD rules and programs adopted or amended with compliance dates after 2018 are included in the baseline emission forecasts with control factors. Control factors were developed in 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 an individual source category:

$$Cf_i = 1 - \text{Control Efficiency}$$

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 III-2-2A lists control factors for the attainment year 2032 and 2037 for newly adopted or amended South Coast AQMD rules after 2016 AQMP with post-2018 compliance dates. Table III-2-2B lists the resulting future accumulated annual average emission reductions in 2032 and 2037. In total, ten 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 reflected in the baseline emissions inventory of the Revised Draft 2022 AQMP. The 2016 AQMP control factors from the rules R1146.2 (with the amendment date of May 5, 2006) and R1147 (with amendment date of December 5, 2008) are also included into the future baseline emission projections in the Revised Draft 2022 AQMP since they are not fully implemented by 2018 and have criteria pollutant emission reductions with post-2018 implementation schedule. Table III-2-2C list the South Coast AQMD's regulations adopted since the Final 2016 AQMP to convert the RECLAIM program to a traditional command-and-control structure. South Coast AQMD has adopted eight so-called 'landing' rules prior to October 2020 in order to transition out of RECLAIM. A portion of the R1109.1 (2.35 tons per day NOx reduction) is attributed to the RECLAIM reductions as specified in the Rule 2002, therefore reflected in the RECLAIM allocation cap. To avoid double counting, the reductions from the landing rules are not reflected in the baseline of Revised Draft 2022 AQMP SIP inventory.

Growth Factors

To quantify growth, a facility business type is assigned to the facilities based on 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 with 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. Growth surrogates include industry output growth, employment growth, demographic growth, vehicle miles traveled (VMT) growth and others. 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 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 grow 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 (Table III-1-7 lists the categories). The demographic forecasts from the year 2018 through 2037 for population, housing, employment, and motor vehicle activity for South Coast Air Basin are shown in Table III-2-3.

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

RULES*	DESCRIPTION	Adoption /Amend Date	2032			2037		
			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	-	0.62	-	-	0.58	-
1111	Residential NG Heating Furnaces (<175k btu/hr)	2-Mar-18	-	0.62	-	-	0.52	-
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	-	0.36	-	-	0.36	-
1135	Electricity Generating Facilities	2-Nov-18	-	0	-	-	0.09	-
1146 & 1146.1	Industrial /Commercial Boilers, Steam Generator, & Process Heaters	7-Dec-18	-	0.33	-	-	0.33	-
1168	Adhesive and Sealant Applications	6-Oct-17	0.85	-	-	0.85	-	-
Airport	FBMSM — Commercial Airports	6-Dec-19	0.34 -	0.34	-	0.34 -	0.34	-

* Regulations adopted or amended as of October 2020 since 2016 AQMP and Rule 1109.1

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

RULES*	DESCRIPTION	Adoption /Amend Date	2032			2037		
			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	-	4.20	-	-	4.65	-
1111	Residential NG Heating Furnaces	2-Mar-18		2.71	-	-	3.39	-
1113	Architectural Coatings	5-Feb-16	0.95	-	-	0.95	-	-
1118.1 (non-RECLAIM)**	Non-Refinery Flares	4-Jan-19	-	0.12	-	-	0.12	-
1134 (non-RECLAIM)**	Stationary Gas Turbine	5-Apr-19	-	0.17	-	-	0.17	-
1135 (non-RECLAIM)**	Electricity Generating Facilities	2-Nov-18	-	0.04	-	-	0.04	-
1146 & 1146.1 (non-RECLAIM)**	Industrial /Commercial Boilers, Steam Generator, & Process Heaters	7-Dec-18	-	-	-	-	0.06	-
1168	Adhesive and Sealant Applications	6-Oct-17	0.79	-	-	0.79	-	-
Airport	FBMSM – Commercial Airports	6-Dec-19	-	0.90	-	-	0.90	-

* Adopted or amended as of October 2020 and Rule 1109.1. Only the rules with post-2018 compliance date are listed.

**The emission reductions for RECLAIM portion of are not included to avoid double counting.

**TABLE III-2-2C
REDUCTIONS IN TONS PER DAY FROM SOUTH COAST AQMD’S REGULATIONS TO TRANSIT FROM RECLAIM TO
COMMAND-AND-CONTROL STRUCTURE***

RULES*	DESCRIPTION	Adoption /Amend Date	2032			2037		
			VOC	NOx	PM	VOC	NOx	PM
1109.1**	NOx reduction from refinery	5-Nov-21	-	2.35	-	-	2.35	-
1110.2	Emissions from Gaseous and Liquid-Fueled Engines	1-Nov-19	-	0.29	-	-	0.29	-
1117	Glass Melting Furnaces	5-Jun-20	-	0.14	-	-	0.14	-
1118.1	Non-Refinery Flares	4-Jan-19	-	0.04	-	-	0.04	-
1134	Stationary Gas Turbine	5-Apr-19	-	1.79	-	-	1.79	-
1135	Electricity Generating Facilities	2-Nov-18	-	0.36	-	-	0.36	-
1146 & 1146.1	Industrial /Commercial Boilers, Steam Generator, & Process Heaters	7-Dec-18	-	0.40	-	-	0.40	-
1146.2	Large Water Heaters & Small Boilers	7-Dec-18	-	0.01	-	-	0.01	-

* Adopted or amended prior to October 2020 and Rule 1109.1. Rules with post-2018 compliance dates

**Portion of the R1109.1 reductions complying with the Rule 2002 RECLAIM allocation cap before the program sunset.

**TABLE III-2-3
BASELINE DEMOGRAPHIC FORECASTS IN THE REVISED DRAFT 2022 AQMP**

CATEGORY		2018	2023	2025	2031	2032	2037
Population	Millions	16.7	17.3	17.5	18.1	18.2	18.6
	Growth (%)		3.5	4.8	8.5	9	11.8
Housing Units	Millions	5.3	5.7	5.7	6	6	6.2
	Growth (%)	-	5.9	7.7	12.5	13.3	17
Total Employment	Millions	7.7	8	8.1	8.4	8.4	8.6
	Growth (%)	-	3	4.4	7.9	8.4	11.3
Daily VMT	Millions	388	394	394	397	399	406
	Growth (%)	-	1.7	1.6	2.5	2.9	4.8

Current forecasts indicate that ~~this region~~ the Basin will experience a population growth of 12 percent by the year 2037 with a 5 percent increase in vehicle miles traveled (VMT) from the 2018 levels. Housing units and total employment show growth of 17 percent and 11 percent, respectively.

Demographic projections in the Revised Draft 2022 AQMP for the years 2023, 2025, 2031 differ slightly from the projection assumed in the 2016 AQMP. Population in 2022, 2023, and 2025 are projected to be 200,000 inhabitants more than projected for those years in the 2016 AQMP, ~~as a result~~ because of a faster population growth rate assumed in the Revised Draft 2022 AQMP. ¶

Similarly, total employment forecast in the Revised Draft 2022 AQMP exhibits a sharper rate of increase with 200,000 higher employment for years 2023, 2025, and 2031, compared to those in the 2016 AQMP. The daily VMT forecasts, however, are lower by 13, 9, and 12 million in the Revised Draft 2022 AQMP for these three years, indicating slow growth in VMT compared to the last AQMP.

Table III-2-4 shows the relative distribution of population by county in the Basin for the years 2018, 2023, 2025, 2031, 2032 and 2037. By 2037 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.

TABLE III-2-4

POPULATION DISTRIBUTION BY COUNTY IN SCAG SOUTH COAST AIR BASIN (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
2031	10,513	3,453	2,273	1,844	18,082
2032	10,562	3,464	2,292	1,860	18,179
2037	10,803	3,512	2,386	1,939	18,641

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 base year, 2018 and future milestone years such as 2023, 2025, 2031, 2032, and 2037. Table III-2-5 lists the point sources growth surrogate by NAICS. Table III-2-6 shows the area sources growth surrogate by source category. Tables III-2-7 through Table III-2-11 illustrate the growth factors for point sources by NAICS for years of 2023, 2025, 2031, 2032 and 2037 in the draft Revised Draft 2022 AQMP. Tables III-2-12 through Table III-2-16 contain the growth factors for years of 2023, 2025, 2031, 2032 and 2037 in the draft Revised Draft 2022 AQMP for the area sources by source category.

TABLE III-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 III-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 III-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 III-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 III-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

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

TABLE III-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 Dispensing 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

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

TABLE III-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

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

TABLE III-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.

** ~~Forest Management Services FRAP provided actual 2012 emission data burn perimeters and ignition dates~~ which is used in FOEM model to estimate prescribed burning emissions; ~~Future emission grow year estimates are based on a 10-year average, held flat from TAD2003 in the forecast.~~

TABLE III-2-7

NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB 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	1.081	1.098	1.225	1.117
Utilities – Electricity	221	1.027	1.043	1.164	1.061
Construction	23	1.021	1.025	1.107	1.025
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	1.093	1.117	1.184	1.128
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 III-2-7 (CONTINUED)

NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB 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	0.000	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 III-2-7 (CONTINUED)

NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB 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

(Base year is 2018)

TABLE III-2-8

NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB FOR THE YEAR 2025

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, 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	1.115	1.145	1.336	1.167
Utilities -- Electricity	221	0.940	0.965	1.126	0.984
Construction	23	1.030	1.037	1.165	1.041
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	1.132	1.168	1.277	1.189
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 III-2-8 (CONTINUED)

NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB 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 III-2-8 (CONCLUDED)

NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB 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

(Base year is 2018)

TABLE III-2-9

NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB 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	1.194	1.244	1.544	1.301
Utilities -- Electricity	221	0.745	0.776	0.963	0.812
Construction	23	1.060	1.069	1.255	1.090
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	1.193	1.261	1.425	1.322
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 III-2-9 (CONTINUED)

NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB 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	0.000	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 III-2-9 (CONCLUDED)

NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB 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

(Base year is 2018)

TABLE III-2-10

NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB FOR THE YEAR 2032

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.158	0.940	1.192	1.104
Oil and Gas Extraction	211	1.766	1.433	1.818	1.684
Mining (except Oil and Gas)	212	0.988	0.802	1.017	0.942
Support Activities for Mining	213	0.988	0.802	1.017	0.942
Utilities - Except Electricity	221	1.202	1.254	1.574	1.318
Utilities -- Electricity	221	0.740	0.773	0.969	0.812
Construction	23	1.066	1.074	1.272	1.098
Food Manufacturing	311	1.058	1.121	1.277	1.182
Beverage and Tobacco Product Manufacturing	312	0.837	0.887	1.010	0.935
Textile Mills	313	1.289	1.366	1.555	1.441
Textile Product Mills	314	1.289	1.366	1.555	1.441
Apparel Manufacturing	315	1.302	1.381	1.572	1.456
Leather and Allied Product Manufacturing	316	1.302	1.381	1.572	1.456
Wood Product Manufacturing	321	1.048	1.111	1.265	1.171
Paper Manufacturing	322	1.050	1.113	1.267	1.174
Printing and Related Support Activities	323	1.220	1.293	1.473	1.364
Petroleum and Coal Products Manufacturing	324	1.191	1.263	1.438	1.332
Chemical Manufacturing	325	1.077	1.142	1.300	1.205
Plastics and Rubber Products Manufacturing	326	0.978	1.037	1.181	1.093
Nonmetallic Mineral Product Manufacturing	327	1.033	1.095	1.247	1.155
Primary Metal Manufacturing	331	1.201	1.273	1.450	1.343
Fabricated Metal Product Manufacturing	332	1.043	1.105	1.258	1.166
Machinery Manufacturing	333	1.092	1.158	1.319	1.221
Computer and Electronic Product Manufacturing	334	1.232	1.306	1.488	1.378
Electrical Equipment -Appliance-Component Manufacturing	335	1.083	1.148	1.308	1.211
Transportation Equipment Manufacturing	336	1.099	1.165	1.327	1.229
Furniture and Related Product Manufacturing	337	1.157	1.226	1.396	1.293

TABLE III-2-10 (CONTINUED)

NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB FOR THE YEAR 2032

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Miscellaneous Manufacturing	339	1.135	1.203	1.370	1.269
Wholesale Trade	42	1.005	0.991	1.116	1.005
Motor Vehicle and Parts Dealers	441	1.205	1.383	1.341	1.330
Furniture and Home Furniture Stores	442	1.310	1.503	1.458	1.446
Electronics and Appliance Stores	443	1.310	1.503	1.458	1.446
Building Material-Garden Equipment-Supplies Dealers	444	1.310	1.503	1.458	1.446
Food and Beverage Stores	445	0.979	1.124	1.090	1.081
Health and Personal Care Stores	446	0.979	1.124	1.090	1.081
Gasoline Stations	447	1.310	1.503	1.458	1.446
Clothing and Clothing Accessories Stores	448	1.310	1.503	1.458	1.446
Sporting Goods-Hobby-Book- Music Stores	451	1.310	1.503	1.458	1.446
General Merchandise Stores	452	1.310	1.503	1.458	1.446
Miscellaneous Store Retailers	453	1.310	1.503	1.458	1.446
Nonstore Non-store Retailers	454	1.310	1.503	1.458	1.446
Air Transportation	481	1.214	1.267	1.589	1.331
Rail Transportation	482	1.110	1.158	0.000	1.217
Water Transportation	483	1.463	1.526	1.915	1.604
Truck Transportation	484	1.292	1.348	1.691	1.416
Transit and Ground Passenger Transportation	485	1.276	1.332	1.671	1.399
Pipeline Transportation	486	1.237	1.291	1.620	1.357
Scenic and Sightseeing Transportation	487	1.130	1.179	1.479	1.239
Support Activities for Transportation	488	1.130	1.179	1.479	1.239
Postal Service	491	1.037	1.082	1.358	1.137
Couriers and Messengers	492	1.037	1.082	1.358	1.137
Warehousing and Storage	493	1.195	1.246	1.564	1.310
Information	51	1.459	1.395	1.542	1.408
Finance and Insurance	52	1.267	1.277	1.394	1.323
Real Estate and Rental and Leasing	53	1.272	1.282	1.399	1.328
Professional-Scientific-and Technical Services	541	1.169	1.200	1.390	1.187
Management of Companies and Enterprises	551	1.210	1.241	1.438	1.228

TABLE III-2-10 (CONCLUDED)

NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB FOR THE YEAR 2032

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Administrative and Support Services	561	1.048	1.076	1.246	1.064
Waste Management and Remediation Services	562	1.048	1.076	1.246	1.064
Educational Services	611	1.177	1.189	1.361	1.179
Ambulatory Health Care Services	621	1.070	1.072	1.184	1.138
Hospitals	622	1.308	1.301	1.420	1.349
Nursing and Residential Care Facilities	623	1.457	1.415	1.591	1.559
Social Assistance	624	1.175	1.188	1.359	1.178
Arts, Entertainment, Museums, and Recreation	71	1.274	1.312	1.454	1.574
Accommodation and Food Services	72	1.174	1.209	1.339	1.451
Repair and Maintenance	811	1.060	1.082	1.236	1.123
Personal and Laundry Services	812	1.060	1.082	1.236	1.123
Religious-Grant-Civic-Professional-and Similar Org	813	1.049	1.070	1.150	1.095
Private Households	814	1.049	1.070	1.150	1.095
Public Administration	92	1.154	1.131	1.364	1.171

(Base year is 2018)

**TABLE III-2-11
NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB FOR THE YEAR 2037**

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.180	0.849	1.184	1.098
Oil and Gas Extraction	211	2.001	1.439	2.007	1.862
Mining (except Oil and Gas)	212	0.975	0.701	0.977	0.907
Support Activities for Mining	213	0.975	0.701	0.977	0.907
Utilities - Except Electricity	221	1.246	1.307	1.732	1.407
Utilities — Electricity	221	0.735	0.769	0.975	0.811
Construction	23	1.093	1.094	1.356	1.141
Food Manufacturing	311	1.034	1.111	1.320	1.211
Beverage and Tobacco Product Manufacturing	312	0.782	0.841	0.999	0.917
Textile Mills	313	1.301	1.398	1.660	1.524
Textile Product Mills	314	1.301	1.398	1.660	1.524
Apparel Manufacturing	315	1.343	1.444	1.715	1.574
Leather and Allied Product Manufacturing	316	1.343	1.444	1.715	1.574
Wood Product Manufacturing	321	1.025	1.102	1.309	1.201
Paper Manufacturing	322	1.026	1.103	1.310	1.202
Printing and Related Support Activities	323	1.220	1.312	1.557	1.429
Petroleum and Coal Products Manufacturing	324	1.186	1.275	1.514	1.389
Chemical Manufacturing	325	1.054	1.133	1.345	1.234
Plastics and Rubber Products Manufacturing	326	0.943	1.014	1.204	1.105
Nonmetallic Mineral Product Manufacturing	327	1.007	1.083	1.285	1.180
Primary Metal Manufacturing	331	1.197	1.287	1.528	1.403
Fabricated Metal Product Manufacturing	332	1.014	1.090	1.294	1.188
Machinery Manufacturing	333	1.071	1.152	1.368	1.255
Computer and Electronic Product Manufacturing	334	1.237	1.330	1.579	1.449
Electrical Equipment -Appliance-Component Manufacturing	335	1.061	1.140	1.354	1.243
Transportation Equipment Manufacturing	336	1.088	1.170	1.389	1.275
Furniture and Related Product Manufacturing	337	1.146	1.232	1.463	1.343

TABLE III-2-11 (CONTINUED)
NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB FOR THE YEAR 2037

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Miscellaneous Manufacturing	339	1.118	1.202	1.427	1.310
Wholesale Trade	42	1.009	0.981	1.143	1.011
Motor Vehicle and Parts Dealers	441	1.258	1.489	1.426	1.432
Furniture and Home Furniture Stores	442	1.377	1.629	1.561	1.568
Electronics and Appliance Stores	443	1.377	1.629	1.561	1.568
Building Material-Garden Equipment-Supplies Dealers	444	1.377	1.629	1.561	1.568
Food and Beverage Stores	445	0.975	1.153	1.105	1.110
Health and Personal Care Stores	446	0.975	1.153	1.105	1.110
Gasoline Stations	447	1.377	1.629	1.561	1.568
Clothing and Clothing Accessories Stores	448	1.377	1.629	1.561	1.568
Sporting Goods-Hobby-Book- Music Stores	451	1.377	1.629	1.561	1.568
General Merchandise Stores	452	1.377	1.629	1.561	1.568
Miscellaneous Store Retailers	453	1.377	1.629	1.561	1.568
Nonstore Retailers	454	1.377	1.629	1.561	1.568
Air Transportation	481	1.264	1.326	1.758	1.428
Rail Transportation	482	1.138	1.193	0.000	1.285
Water Transportation	483	1.559	1.635	2.167	1.760
Truck Transportation	484	1.354	1.420	1.882	1.529
Transit and Ground Passenger Transportation	485	1.347	1.413	1.873	1.521
Pipeline Transportation	486	1.281	1.344	1.781	1.447
Scenic and Sightseeing Transportation	487	1.160	1.216	1.612	1.310
Support Activities for Transportation	488	1.160	1.216	1.612	1.310
Postal Service	491	1.053	1.104	1.464	1.189
Couriers and Messengers	492	1.053	1.104	1.464	1.189
Warehousing and Storage	493	1.232	1.292	1.713	1.392
Information	51	1.590	1.481	1.683	1.515
Finance and Insurance	52	1.324	1.326	1.476	1.407
Real Estate and Rental and Leasing	53	1.332	1.334	1.485	1.416
Professional-Scientific-and Technical Services	541	1.213	1.245	1.496	1.240
Management of Companies and Enterprises	551	1.249	1.281	1.540	1.276

TABLE III-2-11 (CONCLUDED)
NAIC EMISSION GROWTH FACTORS BY COUNTY IN THE SCAB FOR THE YEAR 2037

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Administrative and Support Services	561	1.068	1.096	1.316	1.091
Waste Management and Remediation Services	562	1.068	1.096	1.316	1.091
Educational Services	611	1.235	1.242	1.462	1.237
Ambulatory Health Care Services	621	1.095	1.087	1.232	1.186
Hospitals	622	1.382	1.366	1.498	1.422
Nursing and Residential Care Facilities	623	1.573	1.510	1.699	1.672
Social Assistance	624	1.240	1.247	1.468	1.242
Arts, Entertainment, Museums, and Recreation	71	1.339	1.381	1.561	1.752
Accommodation and Food Services	72	1.220	1.258	1.422	1.596
Repair and Maintenance	811	1.084	1.104	1.303	1.169
Personal and Laundry Services	812	1.084	1.104	1.303	1.169
Religious-Grant-Civic-Professional-and Similar Org	813	1.069	1.089	1.194	1.134
Private Households	814	1.069	1.089	1.194	1.134
Public Administration	92	1.201	1.160	1.461	1.227

(Base year is 2018)

**TABLE III-2-12
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB 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 III-2-12 (CONTINUED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB 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 III-2-12 (CONCLUDED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB FOR THE YEAR 2023

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
620	Livestock Husbandry - Dairy Cattle	0.819	1.000	1.040	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 III-2-13
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB 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 III-2-13 (CONTINUED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB 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 III-2-13 (CONCLUDED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB 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 III-2-14
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB 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 - 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 III-2-14 (CONTINUED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB 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 III-2-14 (CONCLUDED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB 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.

**TABLE III-2-15
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB FOR THE YEAR 2032**

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.982	1.025	1.286	1.077
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.766	1.433	1.818	1.684
050	Industrial Stationary I.C. Engines - Natural Gas	1.766	1.433	1.818	1.684
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	0.999	1.059	1.205	1.116
060	Commercial Natural Gas Combustion - Space Heating	0.795	0.913	0.885	0.878
060	Commercial Natural Gas Combustion - Water Heating	0.780	0.895	0.868	0.861
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.771	0.884	0.858	0.851
060	Commercial L.P.G. Combustion	1.158	1.167	1.315	1.176
099	Resource Recovery	0.982	1.025	1.286	1.077
110	Sewage Treatment Plants - Potws - POTWs = Ammonia	1.070	1.072	1.184	1.138
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.070	1.072	1.184	1.138
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.070	1.072	1.184	1.138
210	Dry Cleaning	1.060	1.082	1.236	1.123
220	Degreasing	0.999	1.059	1.205	1.116
230	Auto Refinishing - Coatings	1.049	1.070	1.150	1.095
230	Marine Coatings	1.463	1.526	1.915	1.604
230	Paper Coatings	1.050	1.113	1.267	1.174
230	Can And Coil, Metal Parts And Products Coatings	1.043	1.105	1.258	1.166
230	Wood Furniture And Fabricated Products Coatings	1.157	1.226	1.396	1.293
230	Plastic Parts	0.978	1.037	1.181	1.093
230	Semiconductor Coatings	1.232	1.306	1.488	1.378
230	Aircraft And Aerospace Coatings	1.214	1.267	1.589	1.331
240	Printing	1.220	1.293	1.473	1.364
250	Adhesives And Sealants	0.999	1.059	1.205	1.116
299	Miscellaneous Industrial Solvent Uses	0.999	1.059	1.205	1.116
310	Oil & Gas Production	1.766	1.433	1.818	1.684

TABLE III-2-15 (CONTINUED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB FOR THE YEAR 2032

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
330	Petroleum Marketing - Natural Gas Transmission Losses	0.885	0.922	1.008	0.961
330	LPG Transfer and Dispensing - Fugitive Losses	1.121	1.068	1.290	1.168
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.719	0.714	0.804	0.777
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.719	0.714	0.804	0.777
410	Chemical	1.077	1.142	1.300	1.205
420	Wine Fermentation / Aging	0.979	1.124	1.090	1.081
420	Bakeries	1.058	1.121	1.277	1.182
430	Asphaltic Concrete Production	1.068	1.075	1.274	1.100
430	Surface Blasting	0.988	0.802	1.017	0.942
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.033	1.095	1.247	1.155
440	Secondary Metal Production	1.201	1.273	1.450	1.343
450	Wood Processing Losses	1.157	1.226	1.396	1.293
499	Industrial Lubricant	1.070	1.072	1.184	1.138
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	1.070	1.072	1.184	1.138
520	Architectural Coatings	1.121	1.068	1.290	1.168
540	Asphalt Paving and Roofing Operations	1.068	1.075	1.274	1.100
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.121	1.068	1.290	1.168
610	Residential Natural Gas Combustion - Space Heating	0.946	0.947	1.046	1.006
610	Residential Natural Gas Combustion - Water Heating	0.937	0.938	1.036	0.996
610	Residential Natural Gas Combustion - Cooking/Other	0.944	0.945	1.044	1.004
610	Residential L.P.G. Combustion (Unspecified)	1.121	1.068	1.290	1.168
620	Tilling/Harvest Operations - Dust	1.000	1.000	1.000	1.000

TABLE III-2-15 (CONCLUDED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB FOR THE YEAR 2032

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	0.611	1.000	0.611	0.698
620	Livestock Husbandry - Others	1.000	1.000	1.090	0.685
630	Building And Road Construction - Dust	1.068	1.075	1.274	1.100
640	Paved Road Travel - Freeways - Dust	1.017	1.032	1.131	1.064
640	Paved Road Travel - (Unspecified) - Dust	1.017	1.032	1.131	1.064
640	Paved Road Travel - Major Streets - Dust	1.008	1.049	1.235	1.089
640	Paved Road Travel - Collector/Local Streets - Dust	0.978	1.026	1.146	1.089
645	Unpaved Road Travel - Farm Roads - Dust	1.000	0.858	0.958	0.726
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.990	0.858	0.958	0.726
650	Unpaved Roads <u>And</u> 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	0.958	0.726
670	Agricultural Burning - Forest Management*	----	----	----	----
670	Agricultural Burning - Weed Abatement	1.000	1.000	1.000	1.000
670	Wildland Fire Use <u>And</u> Waste Burning (Unspecified)	1.000	1.000	1.000	1.000
690	Cooking	1.060	1.082	1.236	1.123
699	Domestic Activity - Ammonia	1.070	1.072	1.184	1.138

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

**TABLE III-2-16
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB FOR THE YEAR 2037**

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.929	0.974	1.292	1.049
030	Petroleum Production Fuel Combustion - Gaseous Fuel	2.001	1.439	2.007	1.862
050	Industrial Stationary I.C. Engines - Natural Gas	2.001	1.439	2.007	1.862
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	0.971	1.044	1.239	1.137
060	Commercial Natural Gas Combustion - Space Heating	0.730	0.864	0.827	0.831
060	Commercial Natural Gas Combustion - Water Heating	0.722	0.855	0.819	0.823
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.715	0.847	0.811	0.814
060	Commercial L.P.G. Combustion	1.200	1.201	1.394	1.227
099	Resource Recovery	0.929	0.974	1.292	1.049
110	Sewage Treatment Plants Potws POTWs - Ammonia	1.095	1.087	1.232	1.186
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.095	1.087	1.232	1.186
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.095	1.087	1.232	1.186
210	Dry Cleaning	1.084	1.104	1.303	1.169
220	Degreasing	0.971	1.044	1.239	1.137
230	Auto Refinishing - Coatings	1.069	1.089	1.194	1.134
230	Marine Coatings	1.559	1.635	2.167	1.760
230	Paper Coatings	1.026	1.103	1.310	1.202
230	Can And Coil, Metal Parts And Products Coatings	1.014	1.090	1.294	1.188
230	Wood Furniture And Fabricated Products Coatings	1.146	1.232	1.463	1.343
230	Plastic Parts	0.943	1.014	1.204	1.105
230	Semiconductor Coatings	1.237	1.330	1.579	1.449
230	Aircraft And Aerospace Coatings	1.264	1.326	1.758	1.428
240	Printing	1.220	1.312	1.557	1.429
250	Adhesives And Sealants	0.971	1.044	1.239	1.137
299	Miscellaneous Industrial Solvent Uses	0.971	1.044	1.239	1.137
310	Oil & Gas Production	2.001	1.439	2.007	1.862

TABLE III-2-16 (CONTINUED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB FOR THE YEAR 2037

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
330	Petroleum Marketing - Natural Gas Transmission Losses	0.853	0.891	1.001	0.954
330	LPG Transfer and Dispensing - Fugitive Losses	1.157	1.087	1.355	1.226
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.685	0.682	0.794	0.764
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.685	0.682	0.794	0.764
410	Chemical	1.054	1.133	1.345	1.234
420	Wine Fermentation / Aging	0.975	1.153	1.105	1.110
420	Bakeries	1.034	1.111	1.320	1.211
430	Asphaltic Concrete Production	1.094	1.095	1.356	1.141
430	Surface Blasting	0.975	0.701	0.977	0.907
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.007	1.083	1.285	1.180
440	Secondary Metal Production	1.197	1.287	1.528	1.403
450	Wood Processing Losses	1.146	1.232	1.463	1.343
499	Industrial Lubricant	1.095	1.087	1.232	1.186
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	1.095	1.087	1.232	1.186
520	Architectural Coatings	1.157	1.087	1.355	1.226
540	Asphalt Paving and Roofing Operations	1.094	1.095	1.356	1.141
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.157	1.087	1.355	1.226
610	Residential Natural Gas Combustion - Space Heating	0.936	0.929	1.053	1.014
610	Residential Natural Gas Combustion - Water Heating	0.924	0.917	1.040	1.001
610	Residential Natural Gas Combustion - Cooking/Other	0.930	0.924	1.047	1.008
610	Residential L.P.G. Combustion (Unspecified)	1.157	1.087	1.355	1.226
620	Tilling/Harvest Operations - Dust	1.000	1.000	1.000	1.000

TABLE III-2-16 (CONCLUDED)
STATIONARY AREA SOURCE EMISSION GROWTH FACTORS IN THE SCAB FOR THE YEAR 2037

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	1.066	1.000
620	Livestock Husbandry - Layers	0.536	1.000	0.536	0.634
620	Livestock Husbandry - Others	1.000	1.000	1.114	0.619
630	Building And Road Construction - Dust	1.094	1.095	1.356	1.141
640	Paved Road Travel - Freeways - Dust	1.025	1.054	1.169	1.074
640	Paved Road Travel - (Unspecified) - Dust	1.025	1.054	1.169	1.074
640	Paved Road Travel - Major Streets - Dust	1.020	1.051	1.297	1.132
640	Paved Road Travel - Collector/Local Streets - Dust	0.993	1.042	1.186	1.136
645	Unpaved Road Travel - Farm Roads - Dust	1.000	0.833	0.949	0.661
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.989	0.833	0.949	0.661
650	Unpaved Roads And 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	0.949	0.661
670	Agricultural Burning - Forest Management*	----	----	----	----
670	Agricultural Burning - Weed Abatement	1.000	1.000	1.000	1.000
670	Wildland Fire Use And and Waste Burning (Unspecified)	1.000	1.000	1.000	1.000
690	Cooking	1.084	1.104	1.303	1.169
699	Domestic Activity - Ammonia	1.095	1.087	1.232	1.186

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

Emission Trend and Agency Responsibilities

Odd- and even-numbered figures of Figures III-2-2 through III-2-13 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 2018, 2023, 2025, 2031, 2032 and 2037. These figures present total emission levels from the summer planning inventory for VOC, NO_x, CO, SO_x and PM_{2.5}. Figures III-2-14 through III-2-17 illustrate the emission trends by pollutant (VOC, NO_x, PM_{2.5}, and SO_x) for the same years: 2018, 2023, 2025, 2031, 2032 and 2037.

Significant reductions in NO_x emissions are evident in the figures, particularly for the mobile source categories; the on-road category shows the largest reductions for both VOC (55 percent) and NO_x (62.76 percent) emissions between 2018 and 2037. Overall, VOC, NO_x, and CO emissions are projected to be reduced by 71.7 percent, 37.47 percent, and 8.44 percent between 2018 and 2037. The magnitude of emission reductions up to 2025/2031 is greater than that from 2031/2032 to 2037; maximum (minimum) tonnage reduction for substantial reductions of NO_x emissions occurs in 2025 (2037) are projected to occur between 2018 and 2023 with 101 (12) tons per day reductions, which was largely driven by CARB's Truck and Bus regulation—contributes to the reductions expected in near future years, while recently. Recently adopted regulations such as Advanced Clean Cars, Heavy Duty low NO_x omnibus⁶⁵ and Heavy-Duty Inspection and Maintenance⁶⁶ are expected to bring reductions in far further future years close to the attainment date.

Little or no change in the emissions of PM_{2.5} and SO_x are shown in the figures. As shown in Figures III-2-15 and III-2-16, the emissions of SO_x show minor increase (9.4 percent, approximately 1 ton per day) from 2018 to 2037 as emissions growth overtakes the modest emission reductions benefits from fleet turnover to cleaner equipment.

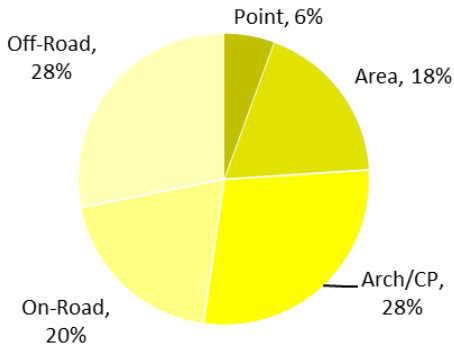
Odd-numbered figures from Figure III-2-2 to Figure III-2-13 show what fractions of the emissions are from sources under the primary regulatory purview of each of the three agencies – U.S. EPA, CARB, and South Coast AQMD – for all the years modeled. South Coast AQMD primarily oversees stationary sources through permit, 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, locomotive, ocean-going vessels, aircraft, selected heavy-duty trucks such as out-of-state, international registration and interstate trucks are subject to federal and international regulations. Preempted off-road equipment with horsepower less than 175 are federal sources as well. For ozone formation, the Basin's most difficult air quality attainment challenge, VOC and NO_x emissions are the most important precursors; sources that are not under South Coast AQMD regulatory authority are the major contributors. In 2037, over 67.70 percent of the VOC emissions and 81.80 percent of the NO_x emissions fall under U.S. EPA and CARB control. Conversely, the majority of the SO_x and PM_{2.5} emissions, which are much smaller than the NO_x and VOC emissions, are from sources under South Coast AQMD authority.

⁶⁵ Heavy-Duty Engine and Vehicle Low NO_x Omnibus Regulations, <https://ww2.arb.ca.gov/rulemaking/2020/hdomnibuslownox>

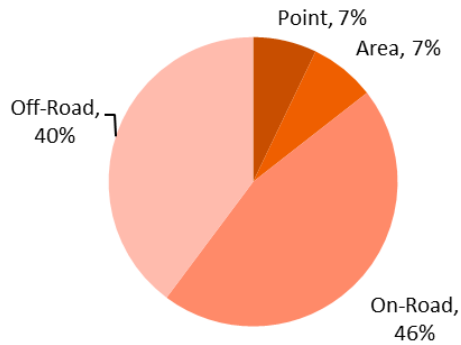
⁶⁶ Heavy-Duty Inspection and Maintenance Program, <https://ww2.arb.ca.gov/our-work/programs/heavy-duty-inspection-and-maintenance-program>

Revised Draft 2022 AQMP Appendix III: Emission Inventory

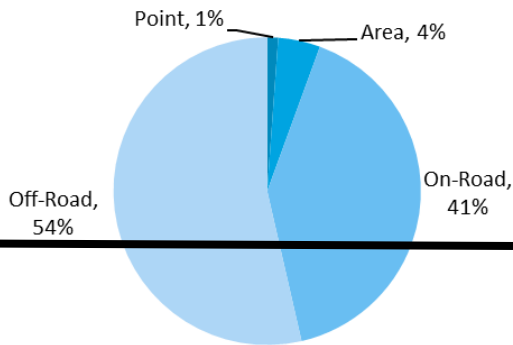
This demonstrates that to successfully meeting the ~~districts~~ South Coast AQMD's ozone and PM2.5 attainment obligations will require collaboration and efforts from all three agencies.



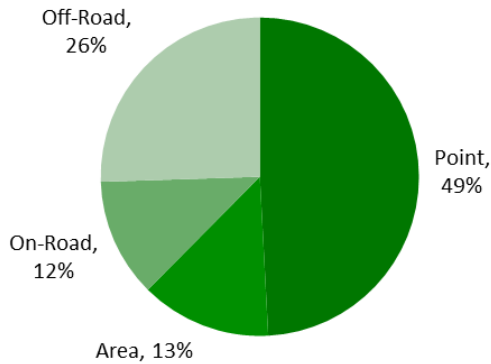
VOC Emissions: 417 tons/day



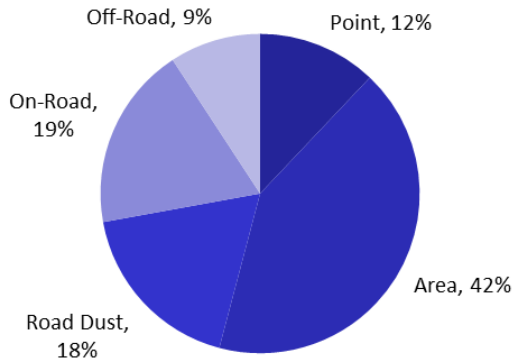
NOx Emissions: 347 tons/day



CO Emissions: 1846 tons/day



SOx Emissions: 14 tons/day



Directly Emitted PM2.5 Emissions: 59 tons/day

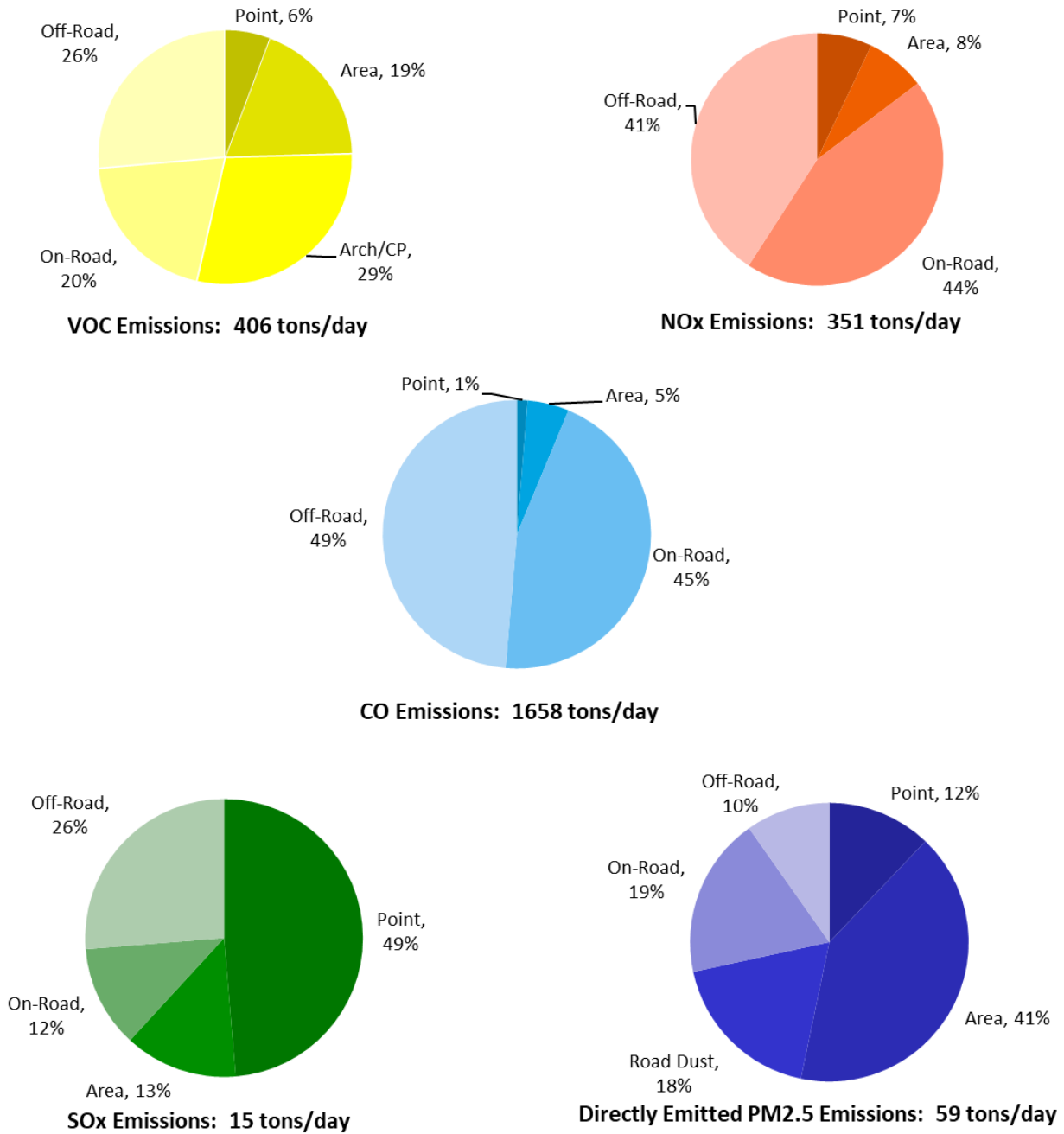
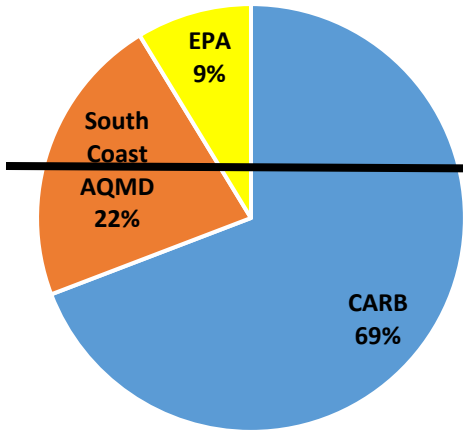


FIGURE III-2-2

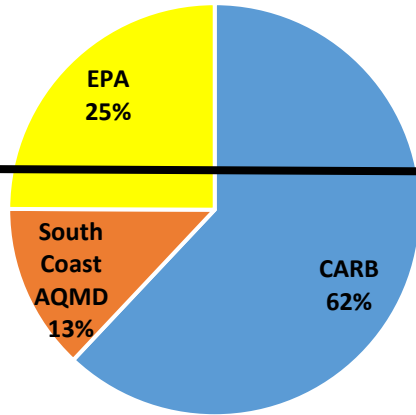
RELATIVE CONTRIBUTION BY SOURCE CATEGORY TO 2018 EMISSIONS INVENTORY

(Arch = Architectural Coatings, CP = Consumer Products)

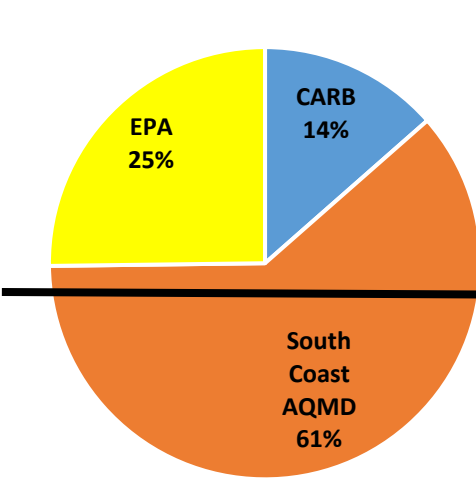
(Summer Planning)



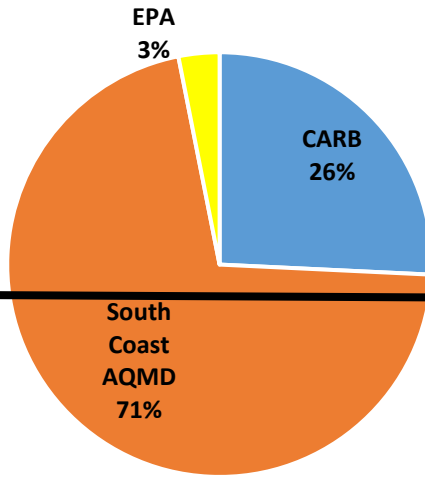
VOC Emissions: 417 tons/day



NOx Emissions: 347 tons/day



SOx Emissions: 14 tons/day



Directly Emitted PM2.5 Emissions: 59 tons/day

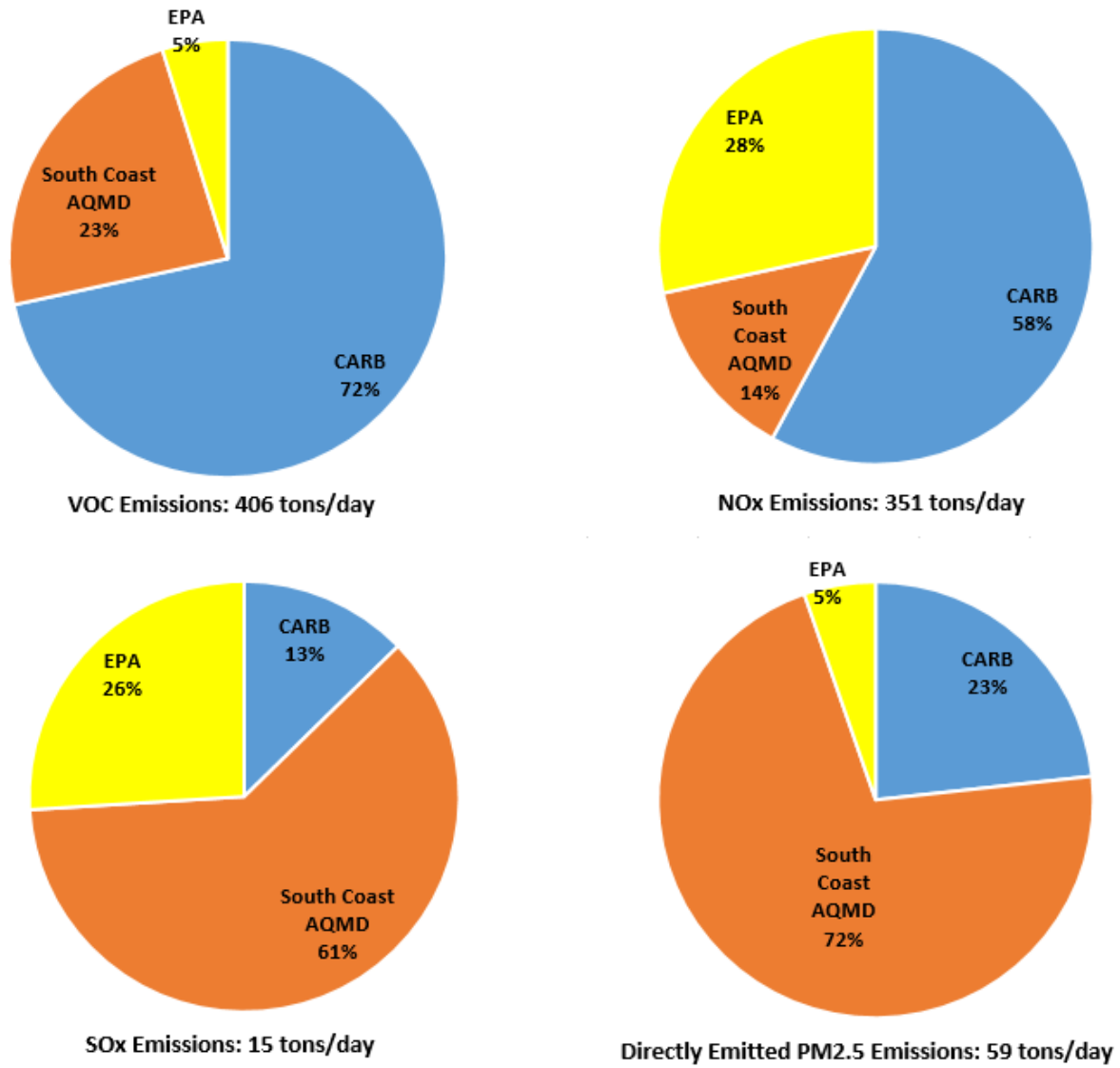
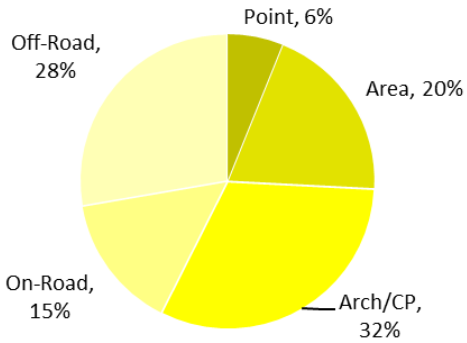


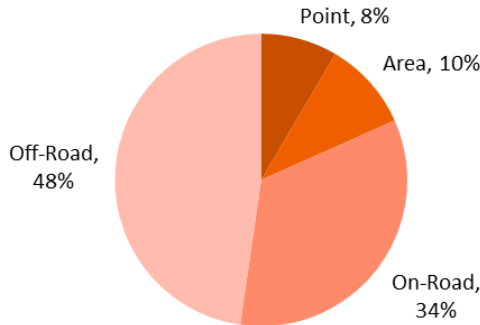
FIGURE III-2-3

2018 EMISSION INVENTORY AGENCY RESPONSIBILITY

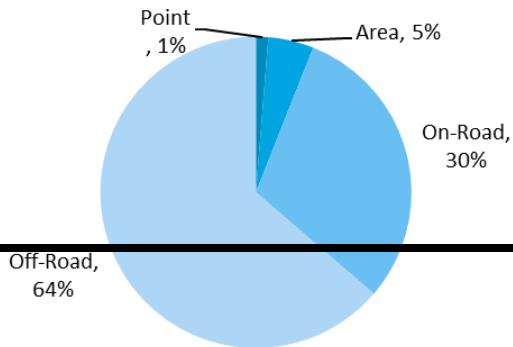
(Summer Planning)



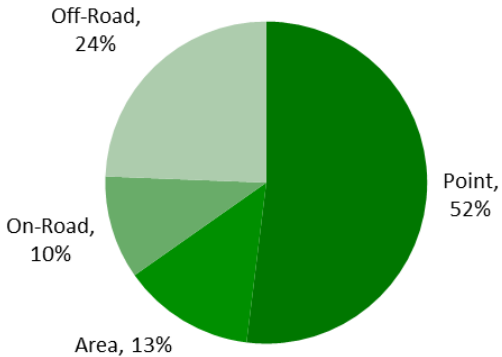
VOC Emissions: 390 tons/day



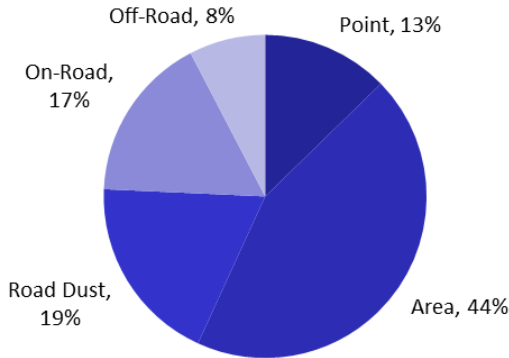
NOx Emissions: 256 tons/day



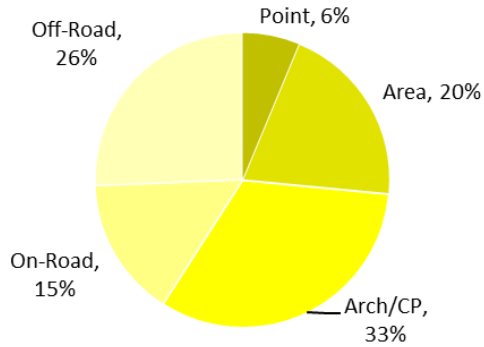
CO Emissions: 1703 tons/day



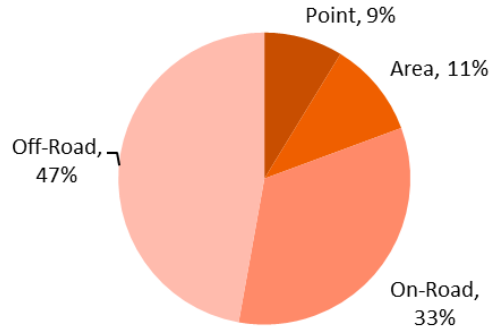
SOx Emissions: 15 tons/day



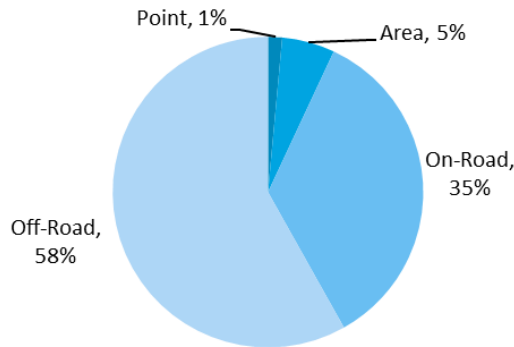
Directly Emitted PM2.5 Emissions: 58 tons/day



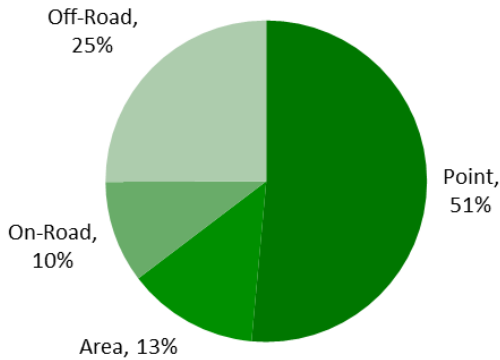
VOC Emissions: 378 tons/day



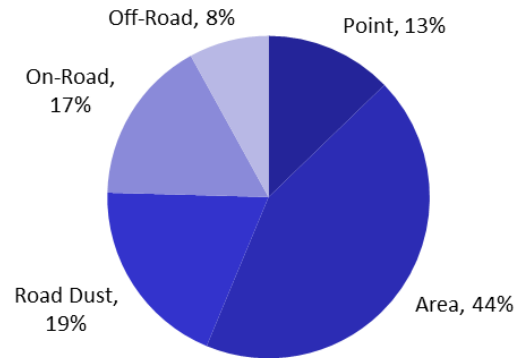
NOx Emissions: 249 tons/day



CO Emissions: 1458 tons/day



SOx Emissions: 15 tons/day



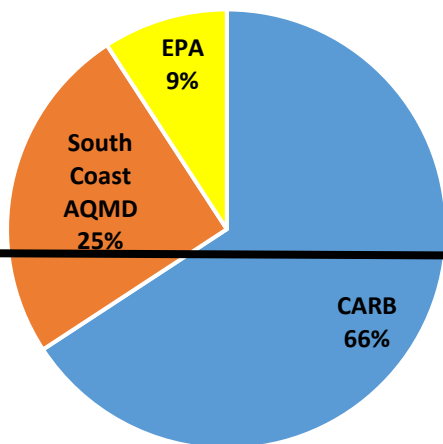
Directly Emitted PM2.5 Emissions: 58 tons/day

FIGURE III-2-4

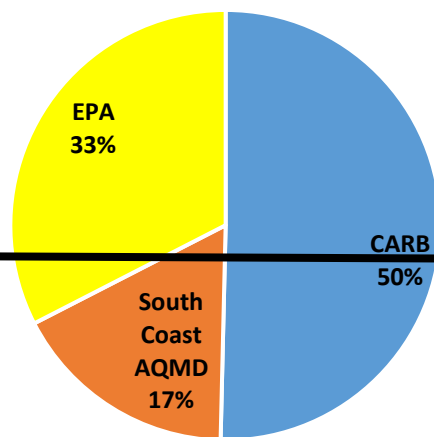
RELATIVE CONTRIBUTION BY SOURCE CATEGORY TO 2023 EMISSION INVENTORY

(Arch = Architectural Coatings, CP = Consumer Products)

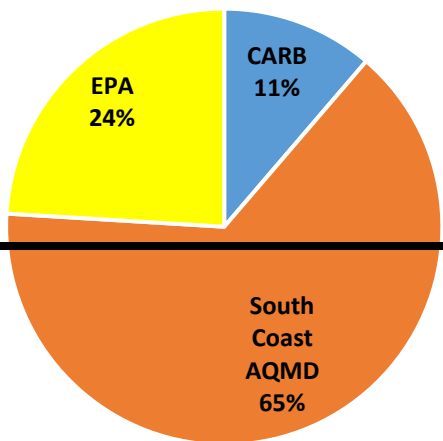
(Summer Planning)



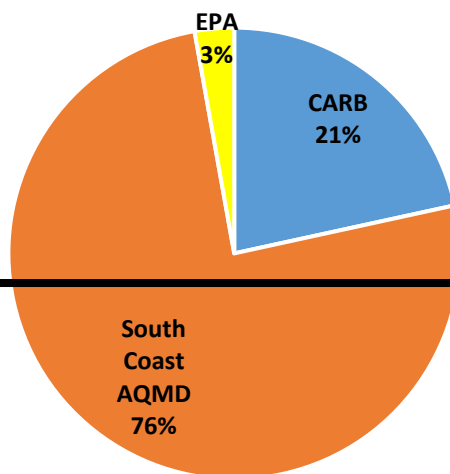
VOC Emissions: 390 tons/day



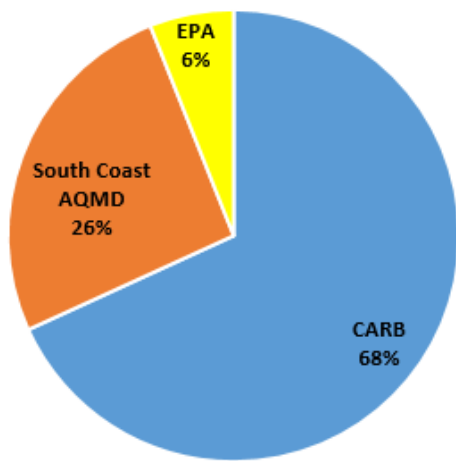
NOx Emissions: 256 tons/day



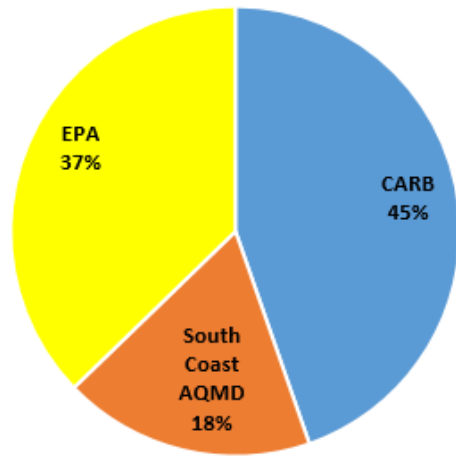
SOx Emissions: 15 tons/day



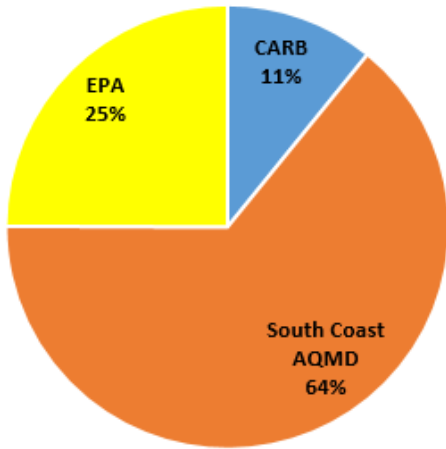
Directly Emitted PM2.5 Emissions: 58 tons/day



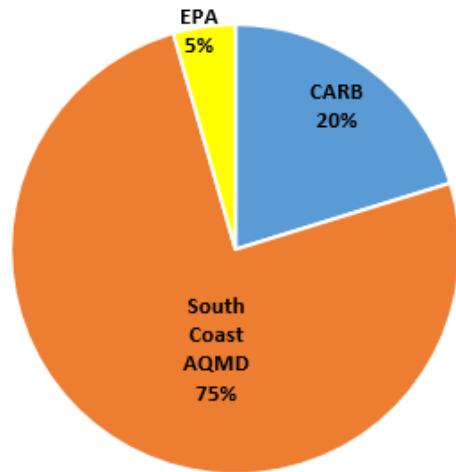
VOC Emissions: 379 tons/day



NOx Emissions: 249 tons/day



SOx Emissions: 15 tons/day

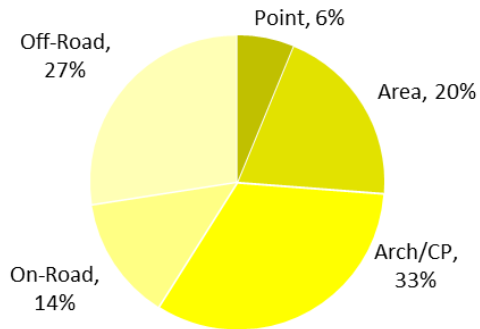


Directly Emitted PM2.5 Emissions: 58 tons/day

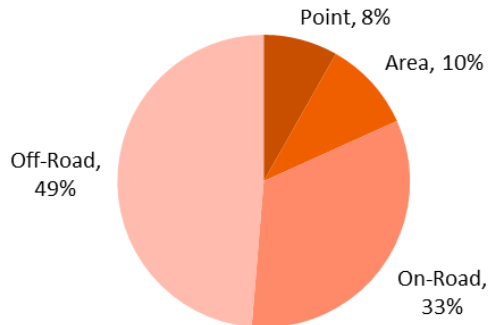
FIGURE III-2-5

2023 EMISSION INVENTORY AGENCY RESPONSIBILITY

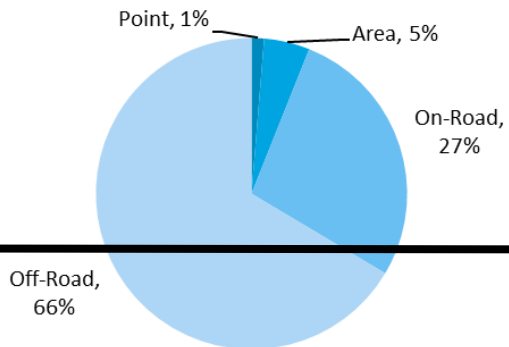
(Summer Planning)



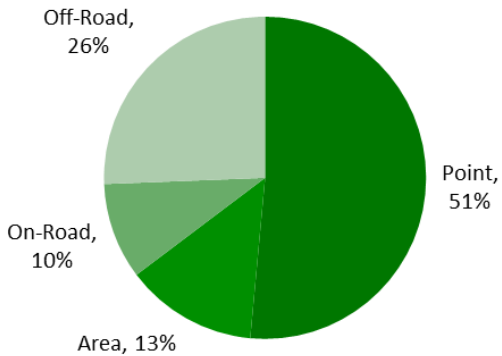
VOC Emissions: 388 tons/day



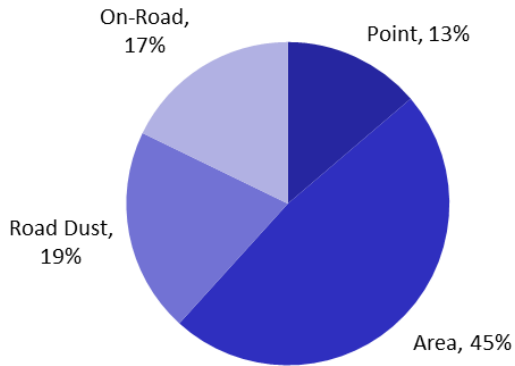
NOx Emissions: 246 tons/day



CO Emissions: 1678 tons/day



SOx Emissions: 15 tons/day



Directly Emitted PM2.5 Emissions: 58 tons/day

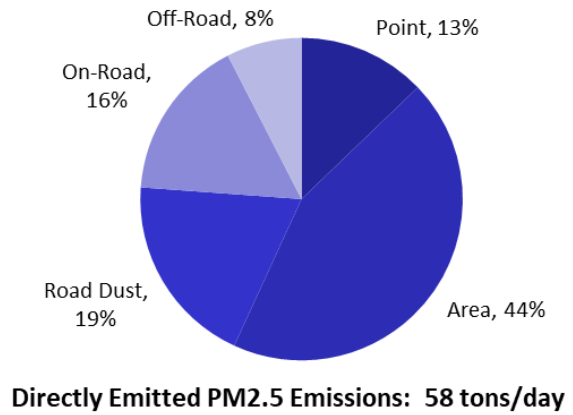
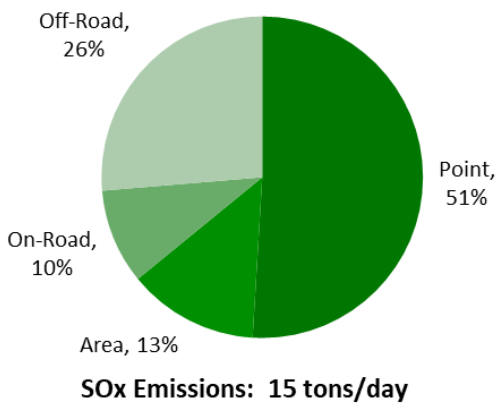
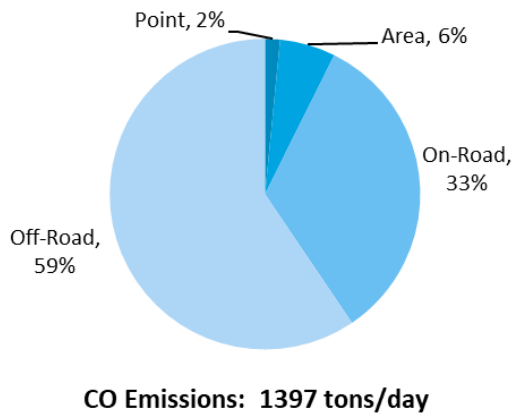
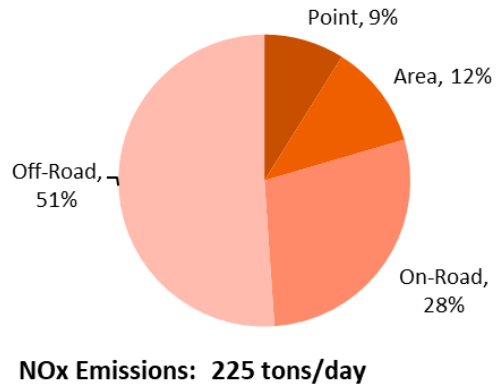
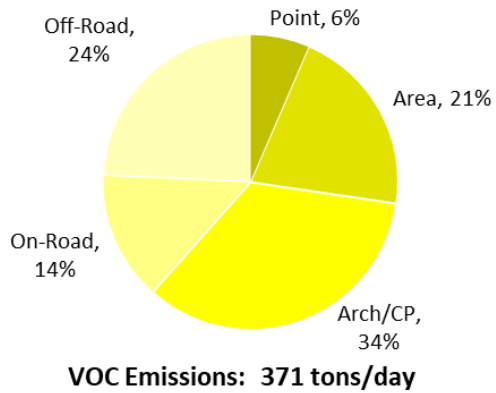
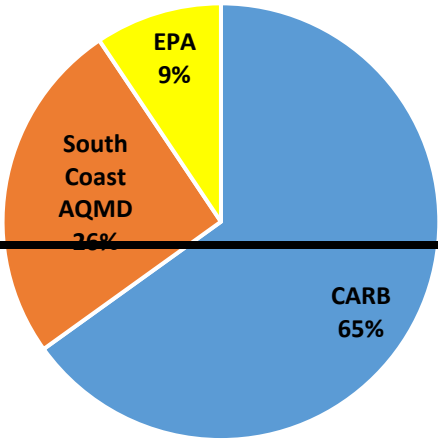


FIGURE III-2-6

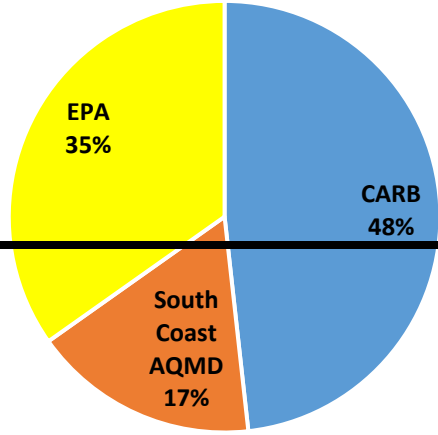
RELATIVE CONTRIBUTION BY SOURCE CATEGORY TO 2025 EMISSION INVENTORY

(Arch = Architectural Coatings, CP = Consumer Products)

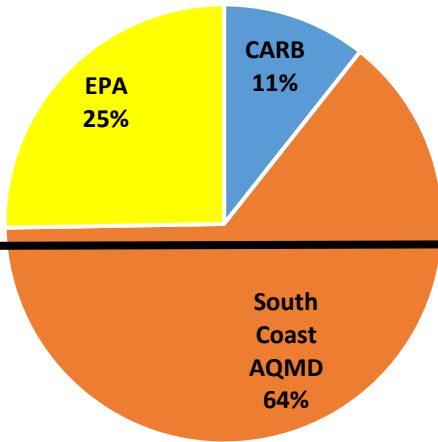
(Summer Planning)



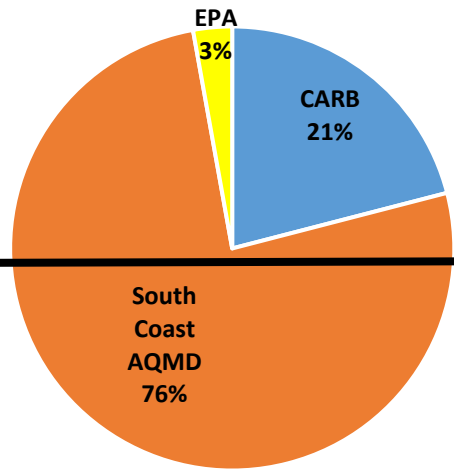
VOC Emissions: 388 tons/day



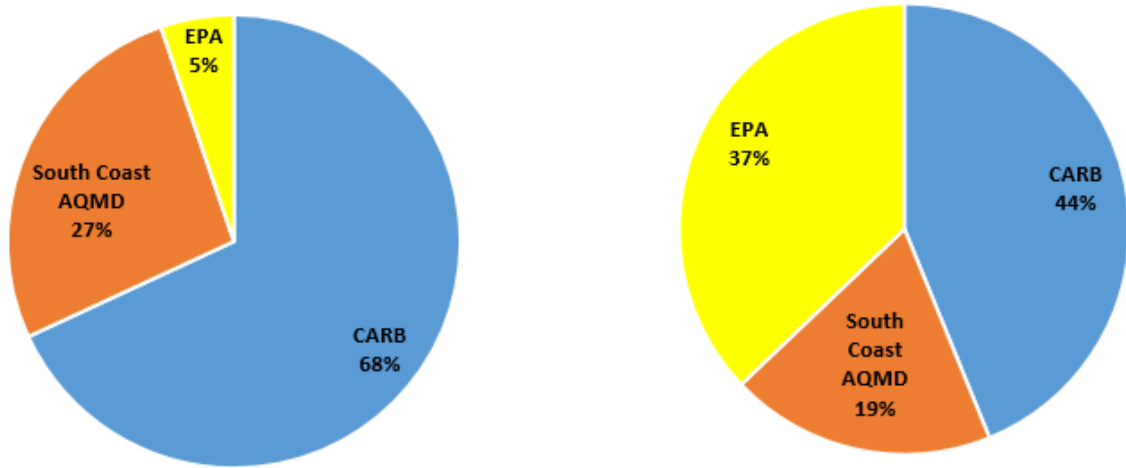
NOx Emissions: 246 tons/day



SOx Emissions: 15 tons/day

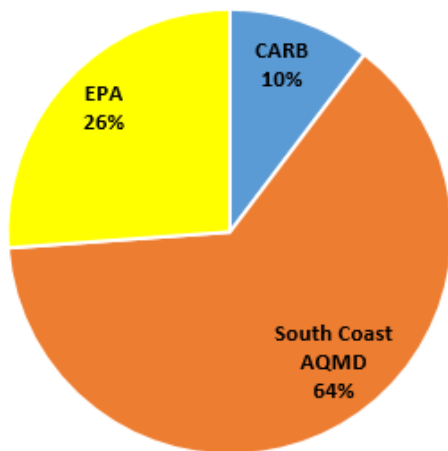


Directly Emitted PM2.5 Emissions: 58 tons/day

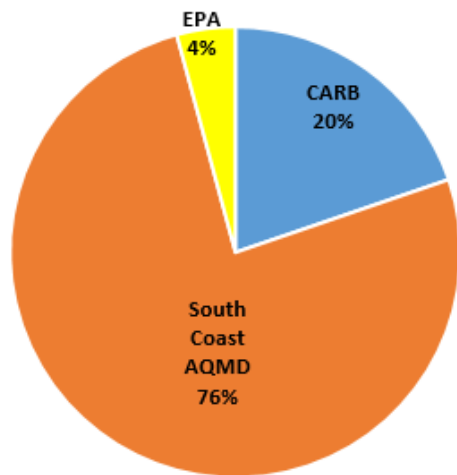


VOC Emissions: 371 tons/day

NOx Emissions: 225 tons/day



SOx Emissions: 15 tons/day

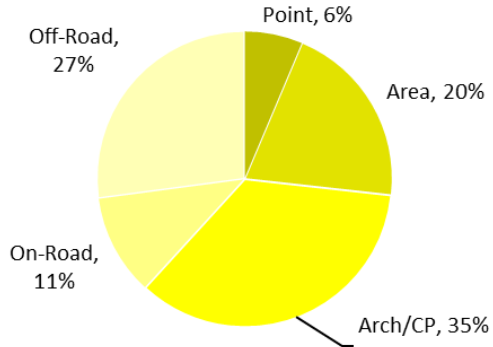


Directly Emitted PM2.5 Emissions: 58 tons/day

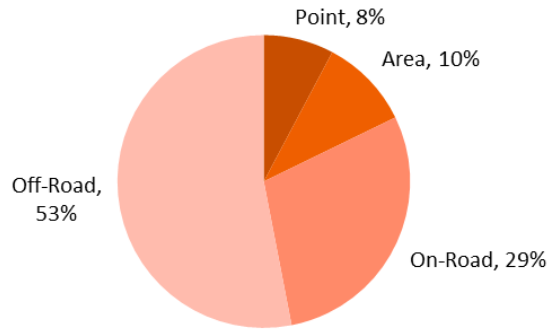
FIGURE III-2-7

2025 EMISSION INVENTORY AGENCY RESPONSIBILITY

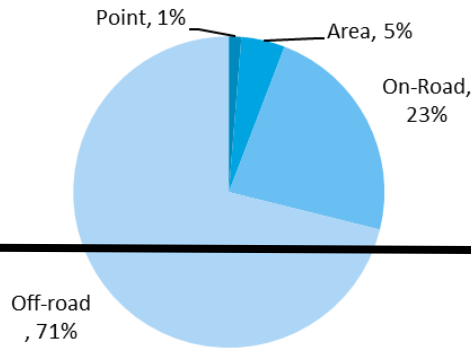
(Summer Planning)



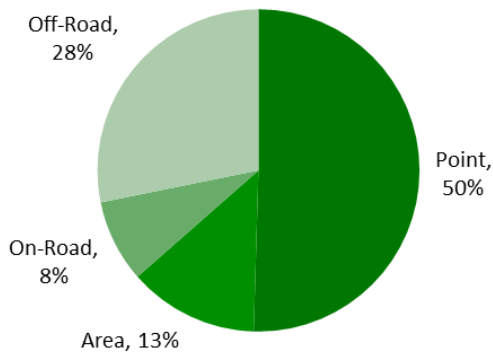
VOC Emissions: 386 tons/day



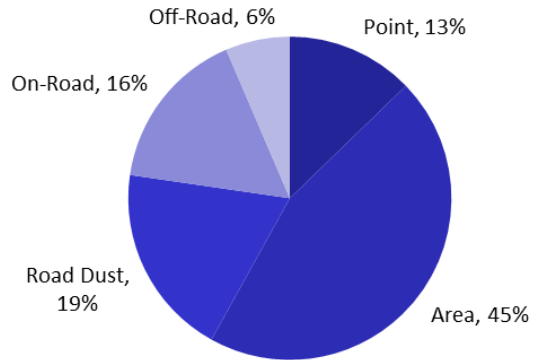
NOx Emissions: 232 tons/day



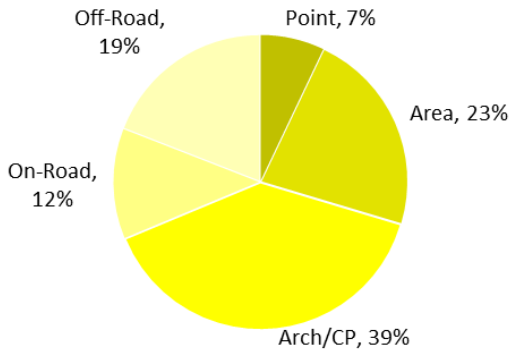
CO Emissions: 1667 tons/day



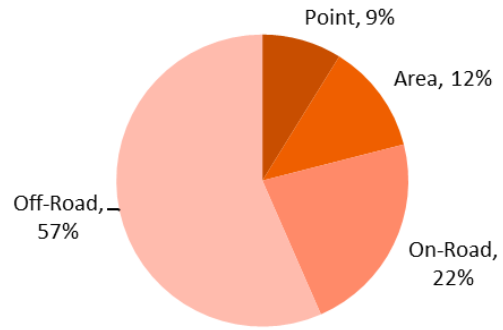
SOx Emissions: 15 tons/day



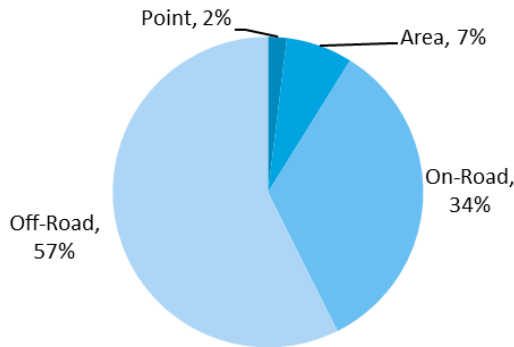
Directly Emitted PM2.5 Emissions: 58 tons/day



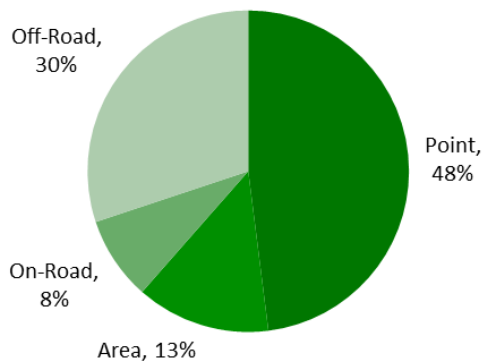
VOC Emissions: 347 tons/day



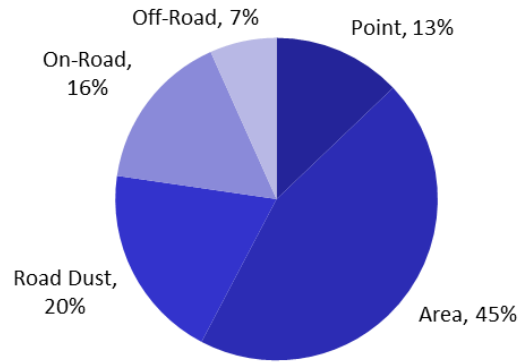
NOx Emissions: 201 tons/day



CO Emissions: 1109 tons/day



SOx Emissions: 15 tons/day



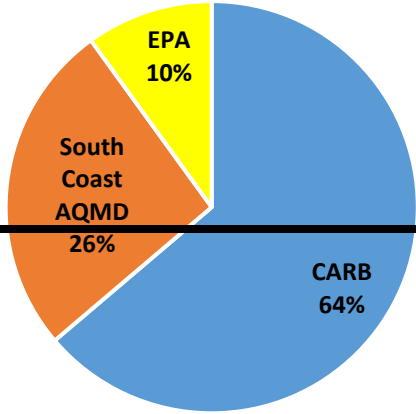
Directly Emitted PM2.5 Emissions: 58 tons/day

FIGURE III-2-8

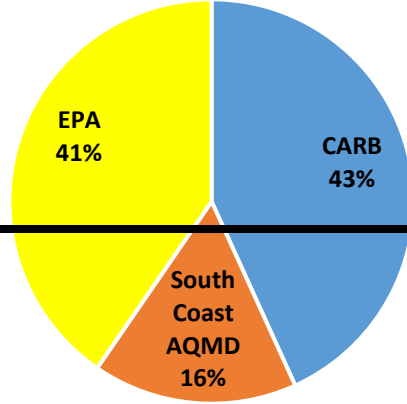
RELATIVE CONTRIBUTION BY SOURCE CATEGORY TO 2031 EMISSION INVENTORY

(Arch = Architectural Coatings, CP = Consumer Products)

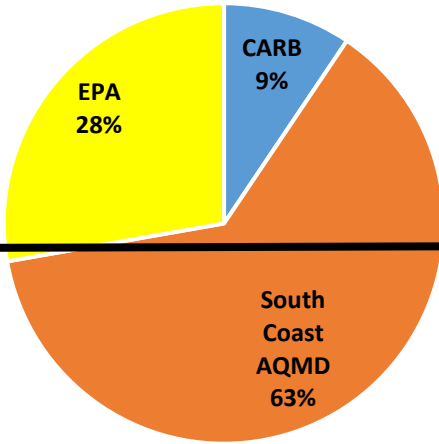
(Summer Planning)



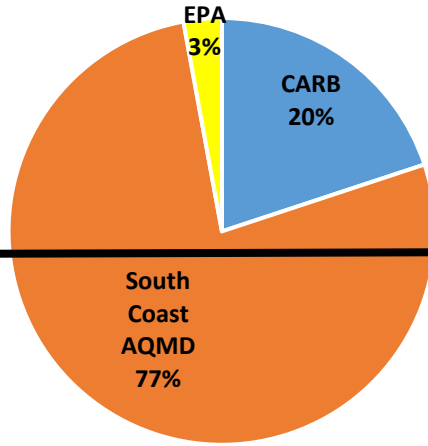
VOC Emissions: 386 tons/day



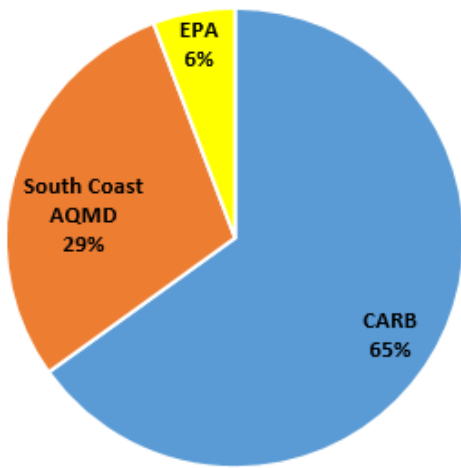
NOx Emissions: 232 tons/day



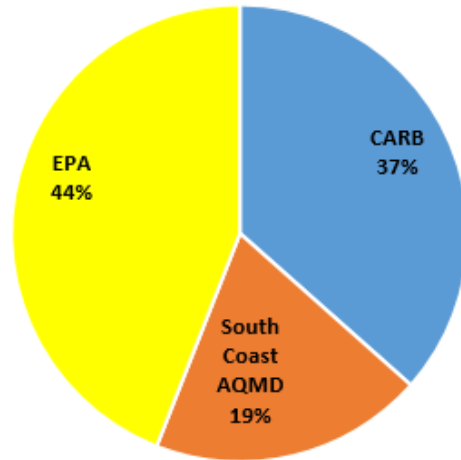
SOx Emissions: 15 tons/day



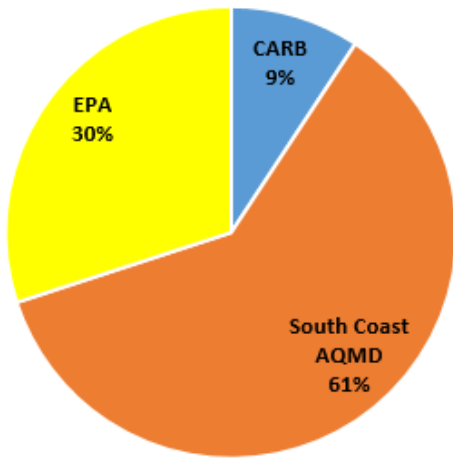
Directly Emitted PM2.5 Emissions: 58 tons/day



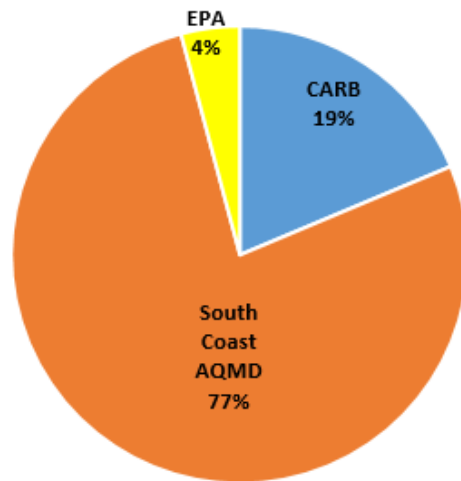
VOC Emissions: 347 tons/day



NOx Emissions: 201 tons/day



SOx Emissions: 15 tons/day

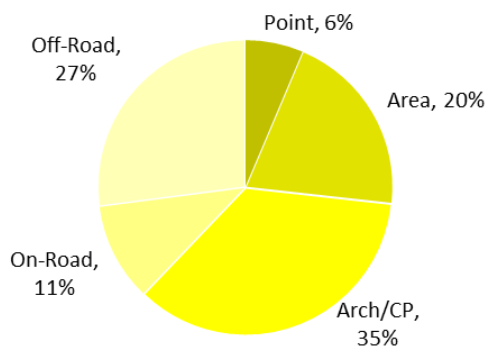


Directly Emitted PM2.5 Emissions: 58 tons/day

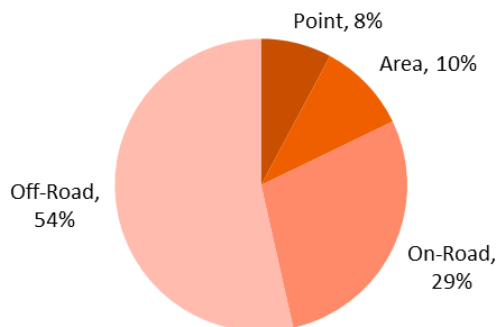
FIGURE III-2-9

2031 EMISSION INVENTORY AGENCY RESPONSIBILITY

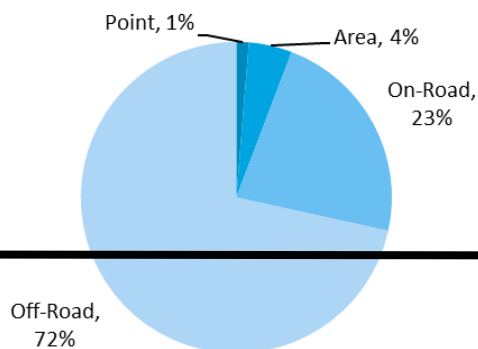
(Summer Planning)



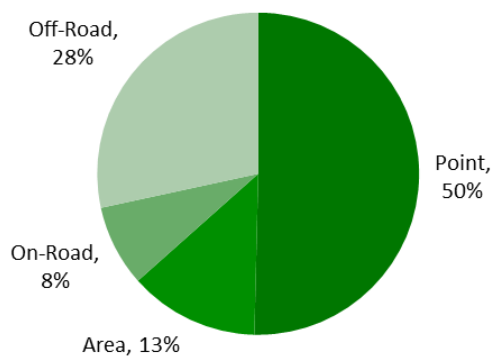
VOC Emissions: 386 tons/day



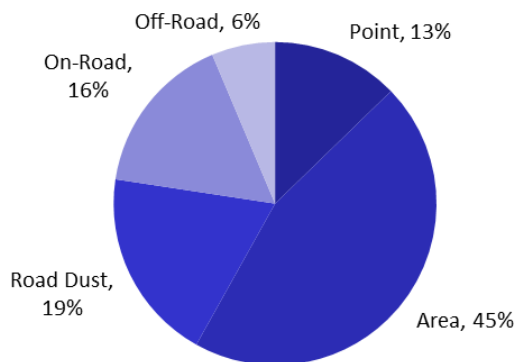
NOx Emissions: 230 tons/day



CO Emissions: 1672 tons/day



SOx Emissions: 15 tons/day



Directly Emitted PM2.5 Emissions: 59 tons/day

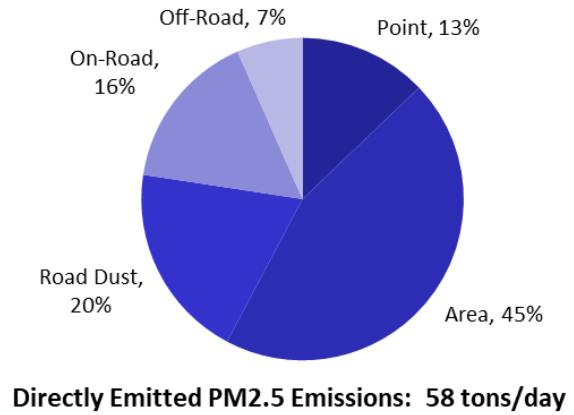
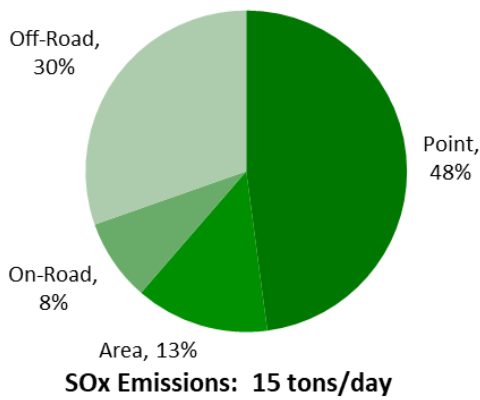
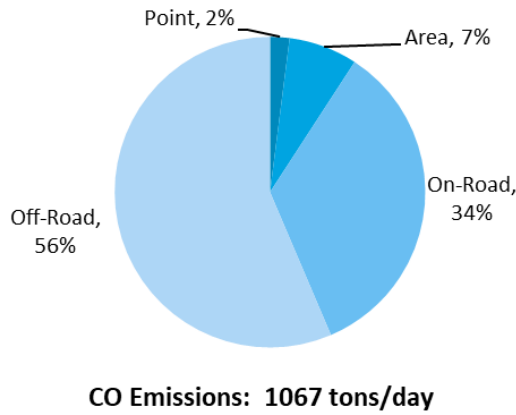
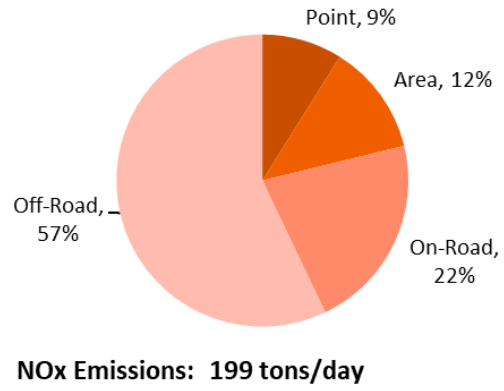
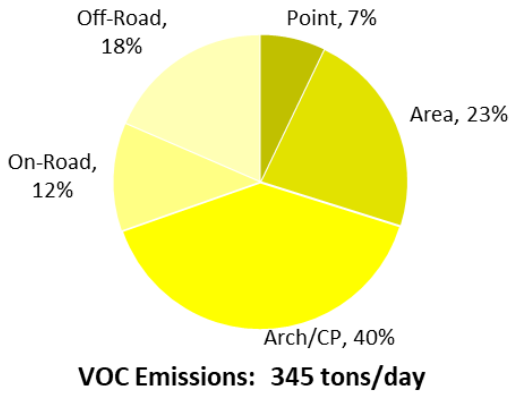
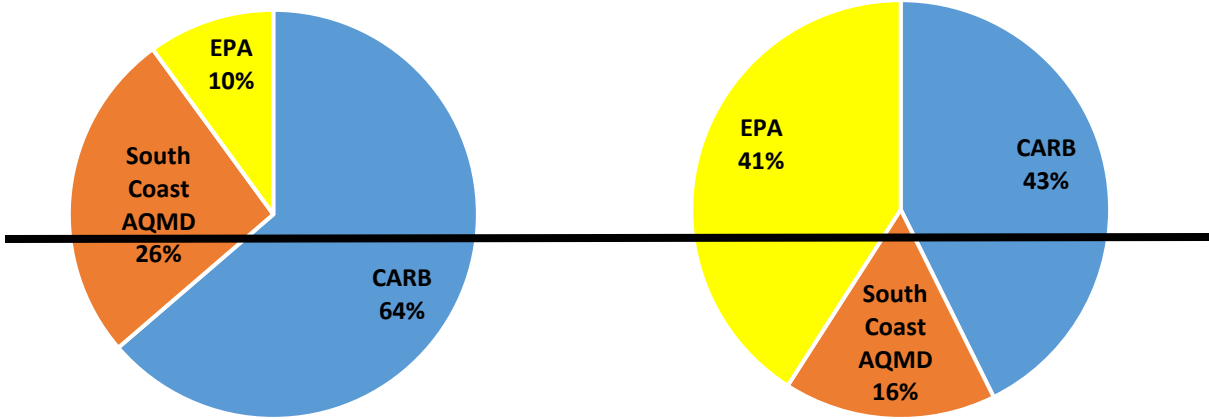


FIGURE III-2-10

RELATIVE CONTRIBUTION BY SOURCE CATEGORY TO 2032 EMISSION INVENTORY

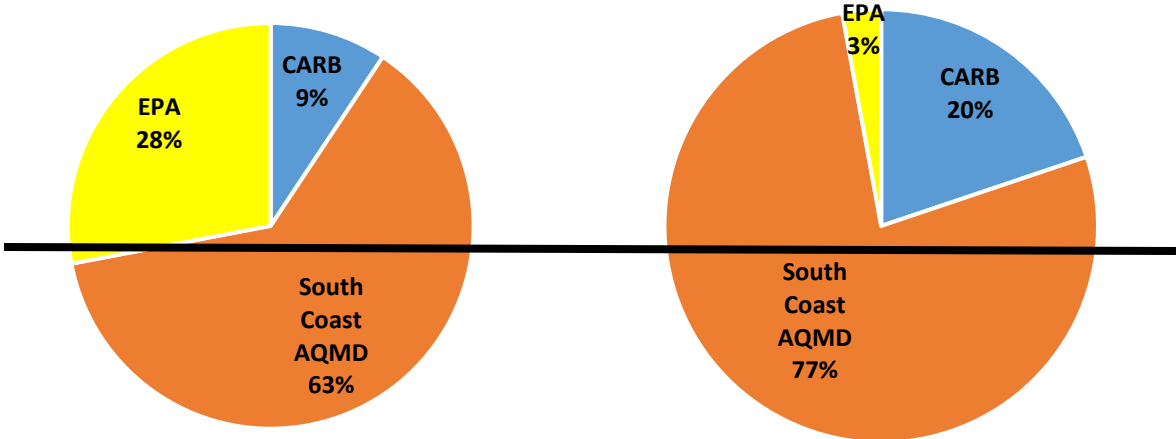
(Arch = Architectural Coatings, CP = Consumer Products)

(Summer Planning)



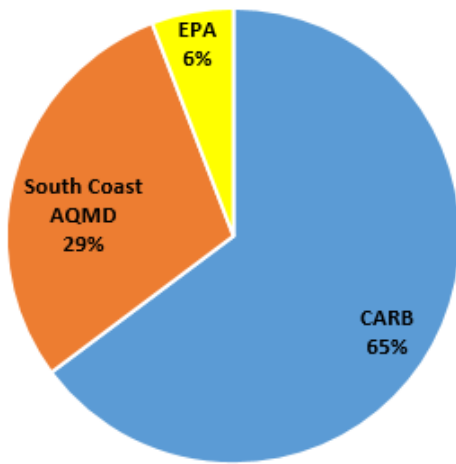
VOC Emissions: 386 tons/day

NOx Emissions: 230 tons/day

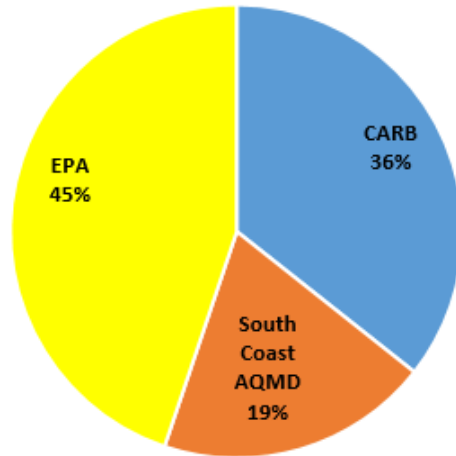


SOX Emissions: 15 tons/day

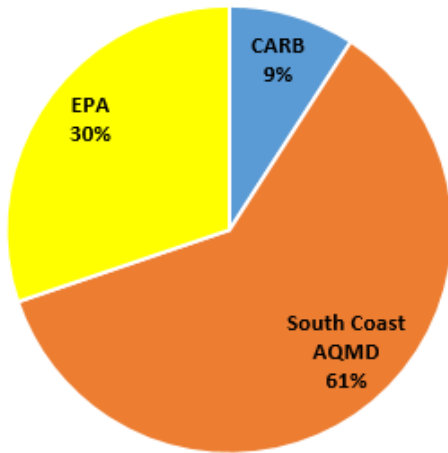
Directly Emitted PM2.5 Emissions: 59 tons/day



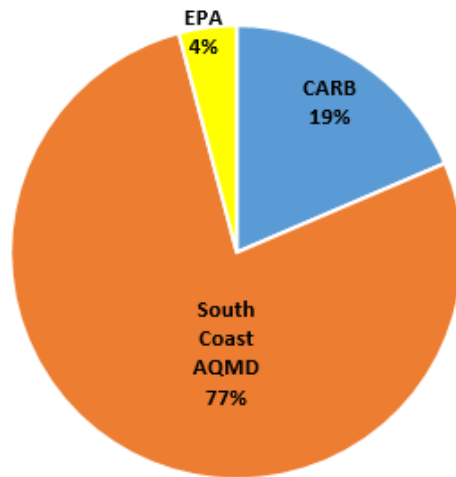
VOC Emissions: 345 tons/day



NOx Emissions: 199 tons/day



SOx Emissions: 15 tons/day

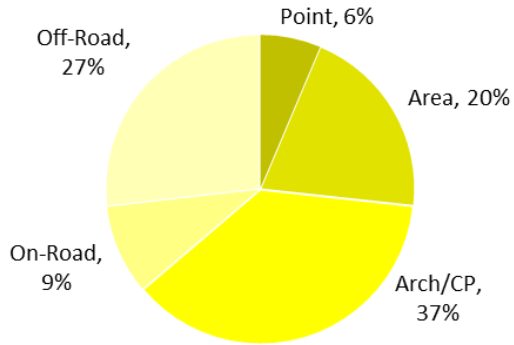


Directly Emitted PM2.5 Emissions: 58 tons/day

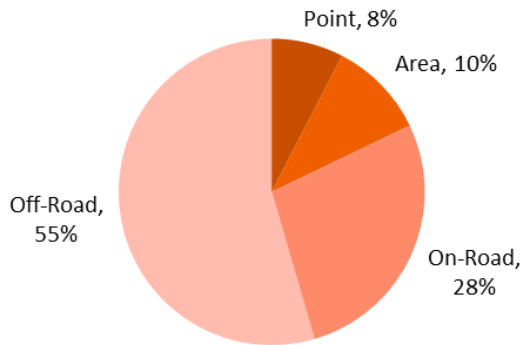
FIGURE III-2-11

2032 EMISSION INVENTORY AGENCY RESPONSIBILITY

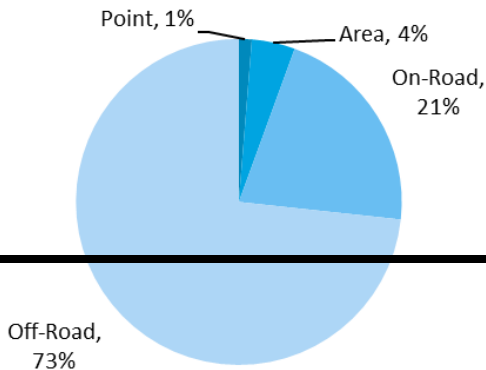
(Summer Planning)



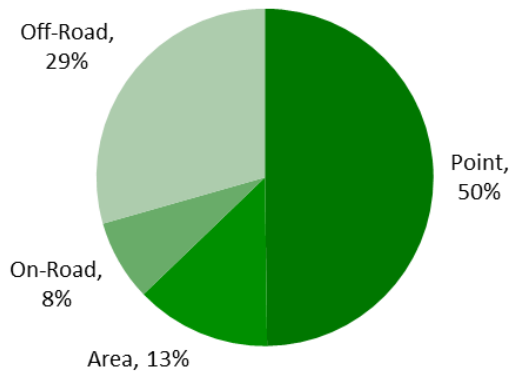
VOC Emissions: 389 tons/day



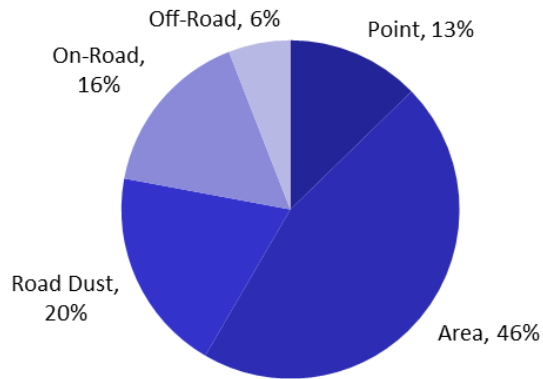
NOx Emissions: 220 tons/day



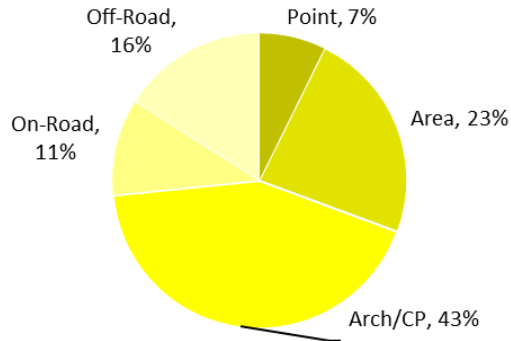
CO Emissions: 1700 tons/day



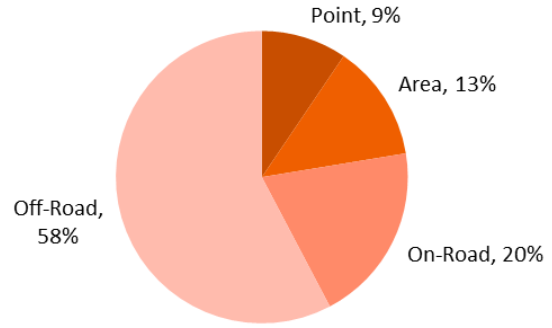
SOx Emissions: 16 tons/day



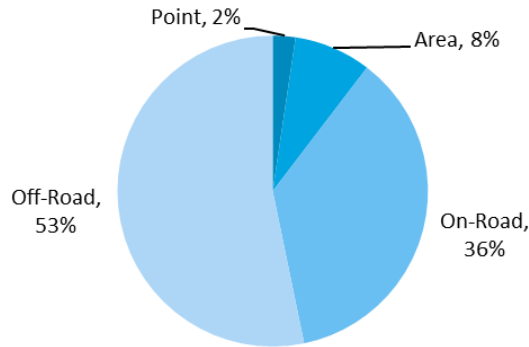
Directly Emitted PM2.5 Emissions: 59 tons/day



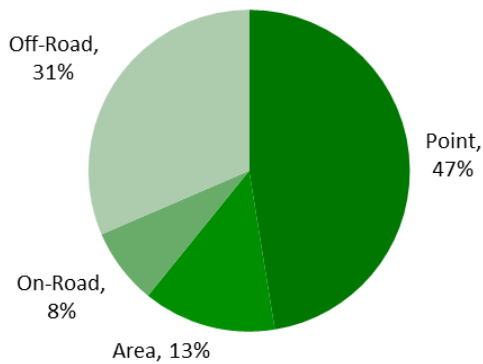
VOC Emissions: 339 tons/day



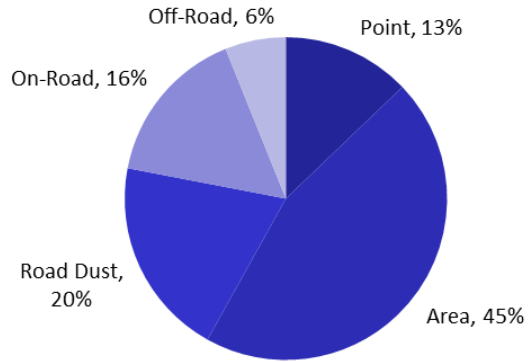
NOx Emissions: 184 tons/day



CO Emissions: 923 tons/day



SOx Emissions: 15 tons/day

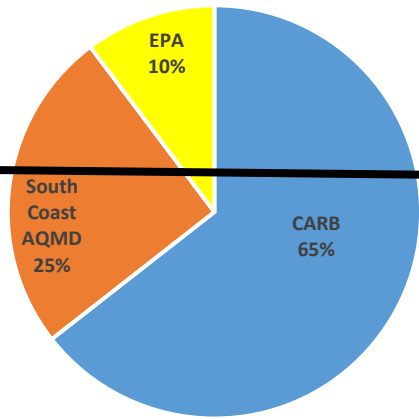


Directly Emitted PM2.5 Emissions: 59 tons/day

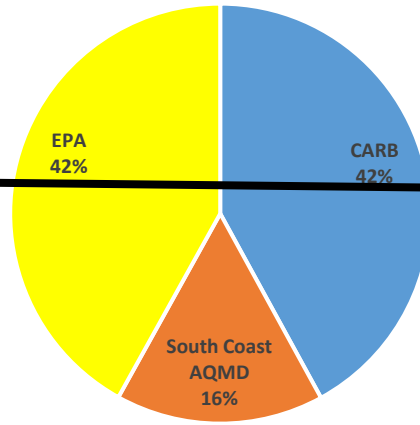
**FIGURE III-2-12
RELATIVE CONTRIBUTION BY SOURCE CATEGORY TO 2037 EMISSIONS INVENTORY**

(Arch = Architectural Coatings, CP = Consumer Products)

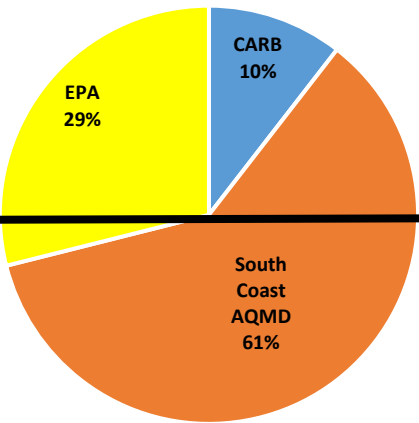
(Summer Planning)



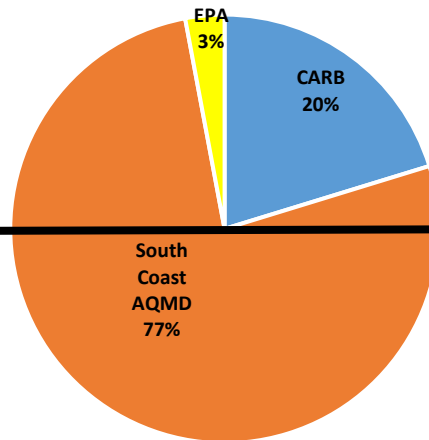
VOC Emissions: 389 tons/day



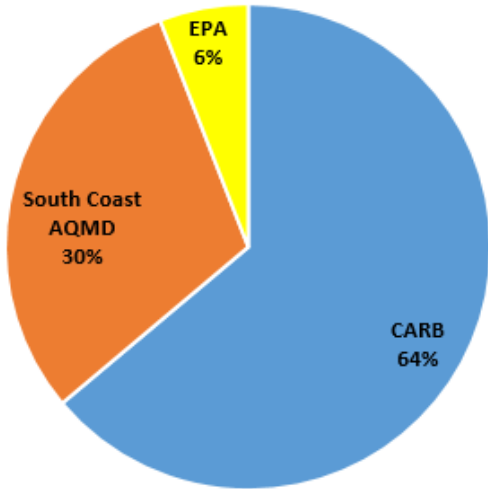
NOx Emissions: 220 tons/day



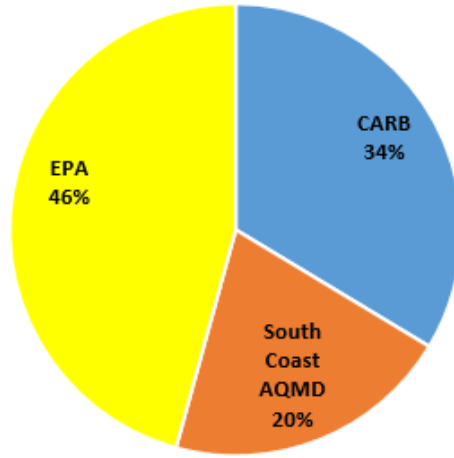
SOx Emissions: 16 tons/day



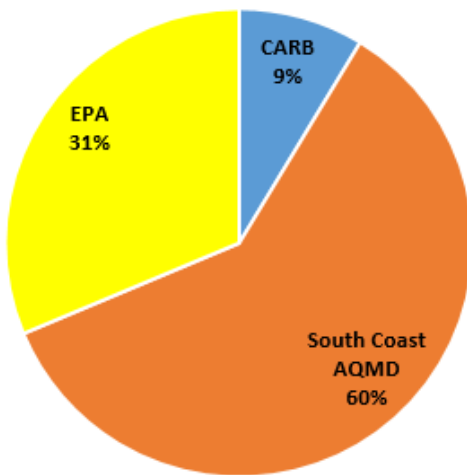
Directly Emitted PM2.5 Emissions: 59 tons/day



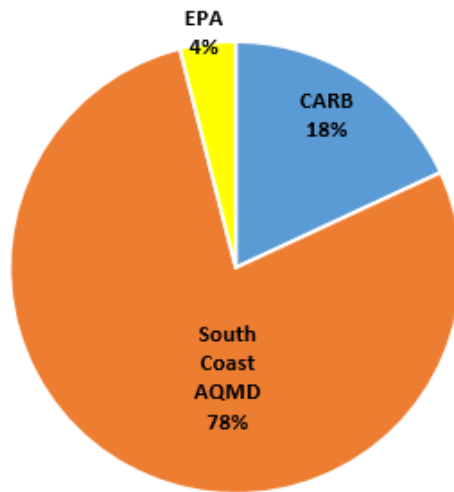
VOC Emissions: 339 tons/day



NOx Emissions: 184 tons/day



SOx Emissions: 15 tons/day



Directly Emitted PM2.5 Emissions: 59 tons/day

FIGURE III-2-13

2037 EMISSION INVENTORY AGENCY RESPONSIBILITY

(Summer Planning)

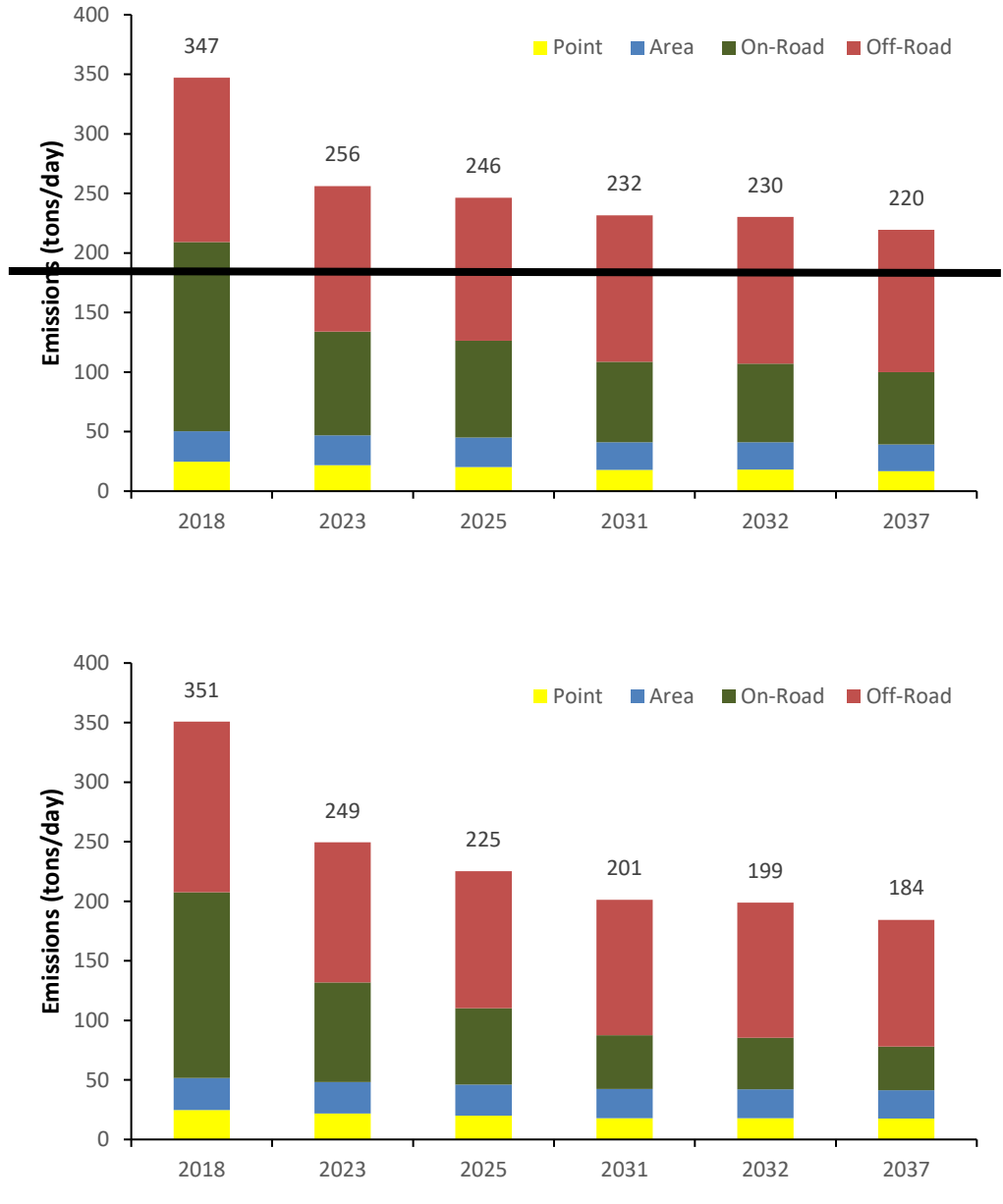


FIGURE III-2-14

NO_x EMISSION TREND BY SOURCE CATEGORY – SUMMER PLANNING

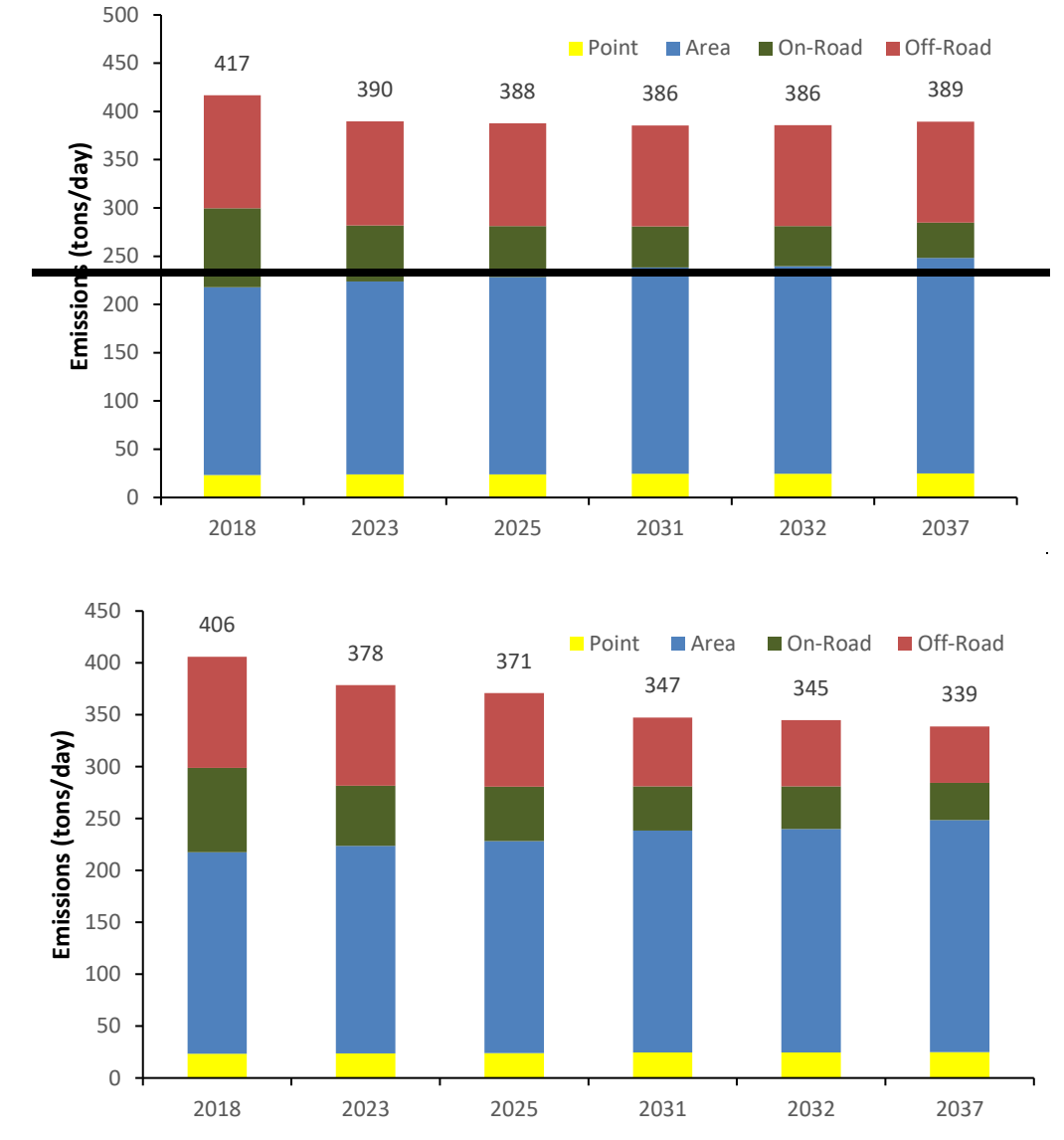


FIGURE III-2-15

VOC EMISSION TREND BY SOURCE CATEGORY – SUMMER PLANNING

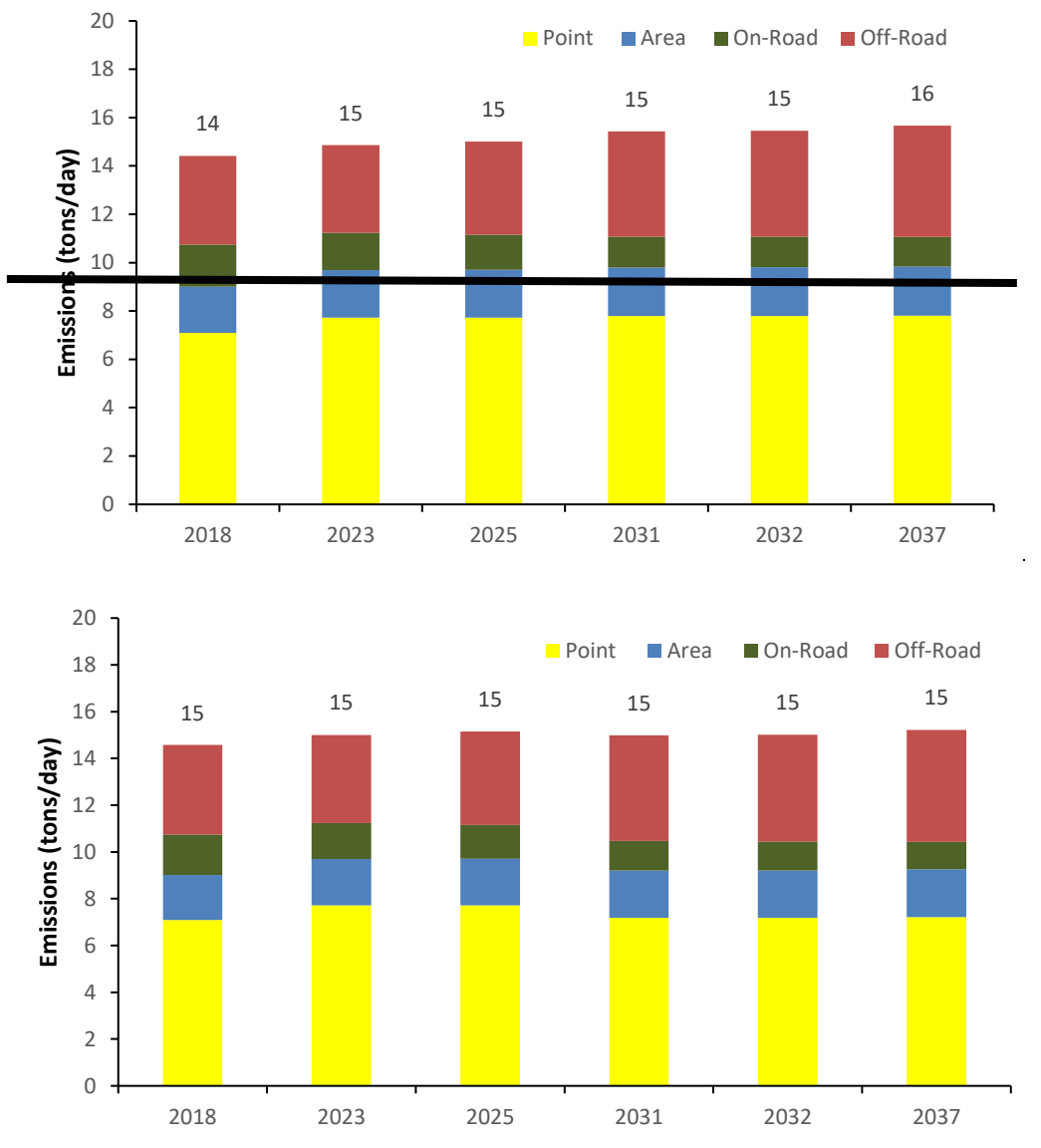


FIGURE III-2-16

SOX EMISSION TREND BY SOURCE CATEGORY – SUMMER PLANNING

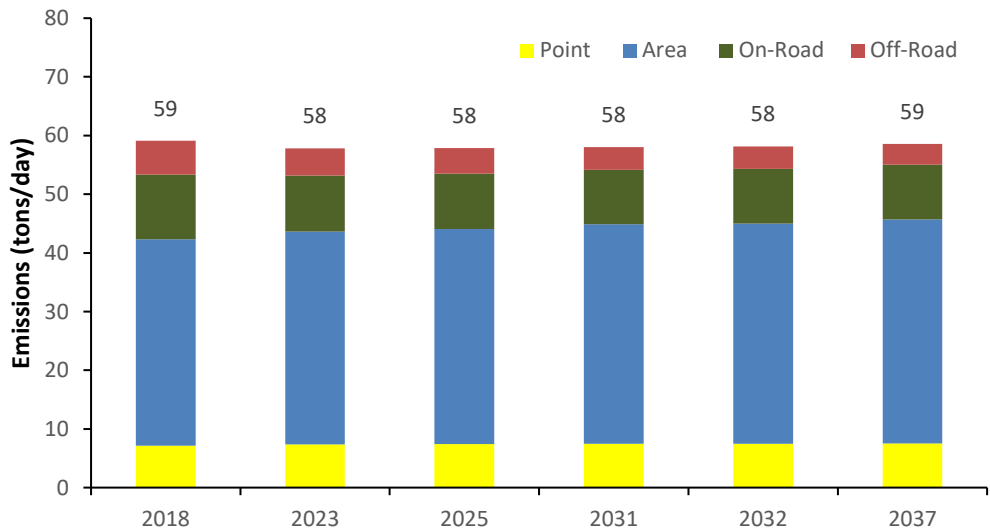
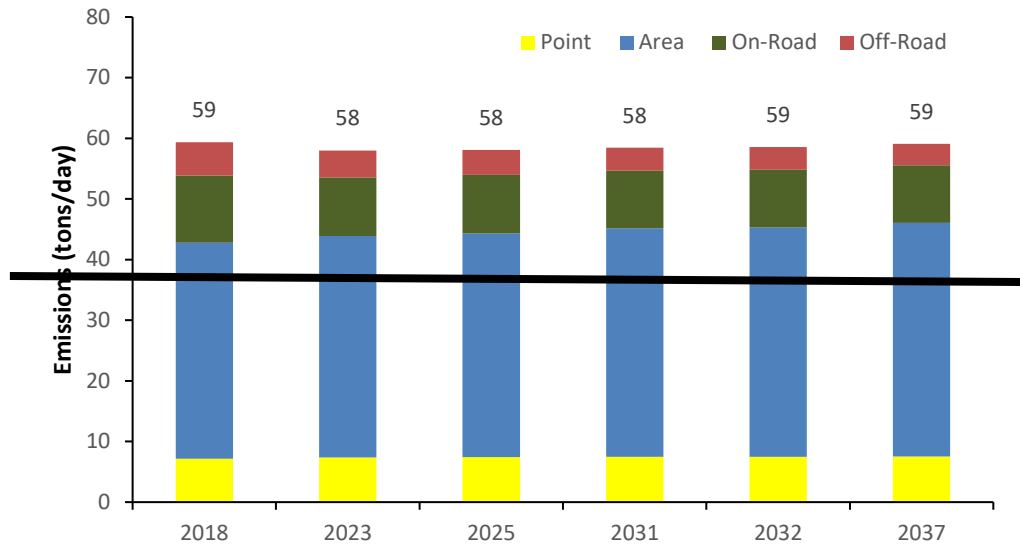


FIGURE III-2-17

PM2.5 EMISSION TREND BY SOURCE CATEGORY – SUMMER PLANNING

NOx Emissions

Figure III-2-14 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 from all major sources with on-road mobile sources having the largest reduction (~~62~~76 percent) from 2018 (~~159~~156 tons per day) to 2037 (~~61~~37 tons per day); off-road mobile, point, and area sources drop by ~~18~~, ~~8~~3~~7~~, ~~7~~, and 3 tons per day, respectively, between 2018 and 2037. Most of the anticipated reductions will occur near future years. CARB's Truck and Bus regulation, which will be fully implemented by 2023 contributes to the near future reductions significantly. The reductions for mobile sources largely reflect the vehicle fleet's turnover to newer vehicles meeting more stringent emissions standards. ~~Off-road sources show a slight increase from 2025 to 2032 driven by increase in aircraft emissions (from 19.6 to 25.7 tons per day) and ocean-going vessels emissions (28.4 to 30.3 tons per day); after 2032 off-road emissions decrease slightly which is consistent with decrease in ocean-going vessels emissions.~~ Projected significant off-road NOx emissions reduction from off-road equipment and off-road portable equipment are tempered by expected NOx increases from aircraft and persistent high level NOx emissions from OGV sources. Area sources decline slightly from the effect of regulation implementation.

VOC Emissions

As shown in Figure III-2-15, area source is the major contributor to base year and future years VOC emissions. VOC emissions from area sources increase over time from ~~195~~194 to ~~200~~204 tons per day between 2018 and ~~2023~~2025 and increase to ~~223~~224 tons per day in 2037. The main portion of area source category VOC emissions comes from consumer products which increases over time due to population growth in the region; coatings and related processes is the second major contributor (to VOC emissions) among area sources. Emissions from on-road mobile sources decrease over time, with the majority of the decrease occurring in near future years (before 2025) with ~~82~~81 and 58 tons per day in 2018 and 2023, respectively. On-road emissions are expected to ~~fall~~drop from ~~58~~53 tons per day to ~~43~~42 tons per day from ~~2023~~2025 to 2031 and ~~fall~~drop to ~~37~~36 tons per day by 2037. Off-road emissions show similar trend dropping from ~~117~~107 to ~~108~~66 tons per day between 2018 and ~~2023~~2031; the rate of reduction is much more modest over the years between ~~2023~~2031 and 2037 compared to the sharp reduction from base year 2018 (~~117~~107 tons per day) to ~~2023~~2031 (~~108~~66 tons per day).

The amount of reduction from 2018 to 2037 for VOC emissions from on-road and off-road sources is expected to be 45 tons per day (~~55~~56 percent) and ~~13~~53 tons per day (~~11~~49 percent), respectively; total VOC emissions reduction is ~~27~~67 tons per day (~~7~~17 percent). Off-road reductions ~~will result~~are primarily from turnover to cleaner off-road equipment such as pleasure craft, small off-road equipment, commercial harbor craft, cargo handling equipment, and off-road recreational vehicles meeting more stringent emissions standards adopted by CARB over the past decade. On-road reductions will also be primarily achieved through turnover to cleaner vehicles required to meet more stringent emissions standards. Since 1990, California's Low Emission Vehicle programs has produced significant emission reductions from on-road passenger vehicles by relying on increasingly more stringent exhaust emission standards. Because of increased activity due to demographic and economic growth, both point and area sources are expected to increase from 23 and ~~195~~194 tons per day in 2018 to 25 and ~~223~~224 tons per day in 2037, respectively.

SOx Emissions

Figure III-2-16 illustrates the SOx emissions trend. Total SOx emissions show a slight increase from 2018 to 2037 due to marginal growth in point and off-road categories. SOx emissions from point sources belong to the emission cap set by SOx RECLAIM program till 2025 and then marginal growth is predicted due to economic growth afterwards. Among off-road sources, ocean going vessels are the primary source of SOx emissions which are expected to grow in future due to the increased ports activities. However, the amount of SOx emissions is an order of magnitude smaller than NOx emissions in the Basin and SOx are ~~is not an ozone forming precursor~~ precursor, so this growth ~~would~~ is not contribute expected to increase increase ozone levels.⁶⁷ SOx emissions from on-road mobile sources is expected to slightly decrease from 2018 to ~~2023~~ 2031 and plateau beyond ~~2023~~ 2031; area sources plateau for all years (2018 through 2037).

PM2.5 Emissions

Figure III-2-17 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 2037 due to increased activity from growth which results in increase in emissions from paved road dust and miscellaneous processes (in particular, commercial cooking). The increase in vehicle miles traveled is the main cause of the increase trend in emissions from paved road dust and tire and brake wear, while PM2.5 emissions from on-road mobile tail pipe emissions decrease due to fleet turnover to cleaner vehicles. Off-road emissions slightly drop from ~~56~~ to ~~34~~ tons per day between 2018 and 2037. Overall PM2.5 emissions begin to increase slightly from 2031 (58 tons per day) to 2037 (59 tons per day).

Impact of Growth – Pre-Base Year Offsets

EPA's implementing regulations at 40 CFR § 51.165(a)(3) provide details regarding the use of offsets. The shutdown or curtailment of existing emissions units that results in offsets must have occurred after the last day of the base year for SIP planning unless the projected emissions inventory used to develop the attainment demonstration explicitly includes the emissions from such previously shut down or curtailed emissions units. Specifically, 40 CFR § 51.165(a)(3)(ii)(C)(1) provides:

Emissions reductions achieved by shutting down an existing emission unit or curtailing production or operating hours may be generally credited for offsets if they meet the requirements in paragraphs (a)(3)(ii)(C)(1)(i) through (ii) of this section.

- (i) Such reductions are surplus, permanent, quantifiable, and federally enforceable.

⁶⁷ Gaseous compounds of SOx emissions contribute to PM formation through chemical reactions in the atmosphere. However, it has minimal impact on ozone. The Revised Draft 2022 AQMP focuses on ozone, and does not include PM strategy.

- (ii) The shutdown or curtailment occurred after the last day of the base year for the SIP planning process. For purposes of this paragraph, a reviewing authority may choose to consider a prior shutdown or curtailment to have occurred after the last day of the base year if the projected emissions inventory used to develop the attainment demonstration explicitly includes the emissions from such previously shutdown or curtailed emission units. However, in no event may credit be given for shutdowns that occurred before August 7, 1977.

The following analysis explains how shutdowns and curtailments that occurred prior to the last day of the base year are explicitly included in the projected emissions inventory as growth. The 2022 AQMP forecasts the 2037 emissions inventories “with growth” through a detailed consultation process with SCAG, who provides detailed demographical information by county, NAICS, year relevant to all emissions sources in the SCAB. SCAG performs an exhaustive analysis of the growth in the inventory of sources that is likely to occur through the planning periods of 2037. The region is likely to see a 12 percent growth in population, 17 percent growth in housing units, 11 percent growth in employment, and 5 percent growth in vehicle miles traveled between 2018 and 2037. Emissions for the year 2037 are projected with growth and without growth, (in which case emissions were estimated by removing the growth factors from the 2037 baseline emissions). Pursuant to 40 CFR 51.165(a)(3)(ii)(C)(1), South Coast AQMD’s growth projections (projected emissions inventories) include the emissions impact of pre-base year offsets. Table III-2-17 presents the comparison of the projected 2037 emissions inventory for all emissions sources for each criteria pollutant with and without growth. The growth impacts to year 2037 for VOC, NOx, CO, SOx and PM2.5 emissions are ~~46, 35, 183, 40.1, 25.5, 82.3, 1.2,~~ and 54.6 tons per day, respectively. The impact of growth increases emissions from all major categories of sources and pollutants, except for NOx and CO emissions from area sources.

**TABLE III-2-17
GROWTH IMPACT TO 2037 EMISSIONS* IN TONS PER DAY**

WITH GROWTH	VOC	NOx	CO	SOx	PM2.5
Point	24.8	16.6	21.8	7.8	7.5
Area	223.48	22.6	72.9	2.0	27.0
Road Dust	0.0	0.0	0.0	0.0	11.5
On-Road	36.7	60.6	359.5	1.2	9.5
Off-Road	104.3	119.7	1245.4	4.6	3.5
Total	389.3	219.1	1699.8	15.7	59.1
NO GROWTH	VOC	NOx	CO	SOx	PM2.5
Point	23.4	16.2	21.2	7.7	7.4
Area	193.85	22.8	81.7	1.9	24.7
Road Dust	0.0	0.0	0.0	0.0	10.7
On-Road	35.5	46.1	357.9	1.1	8.8
Off-Road	90.6	99.5	1056.3	3.9	3.4
Total	343.0	184.6	1517.1	14.6	54.5
IMPACT OF GROWTH	VOC	NOx	CO	SOx	PM2.5
Point	1.78	0.5	0.6	0.12	0.45
Area	29.7	-0.24	-8.89	0.1	2.32
Road Dust	0.0	0.0	0.0	0.0	0.89
On-Road	1.27	14.56	1.6	0.1	0.76
Off-Road	13.76	20.21	189.27	0.78	0.46
Total	46.3	34.9	182.7	1.02	4.68

*Summer Planning Inventory

South Coast AQMD’s growth projections shown in Table III-2-17 include emissions from the pre-base year offsets, consistent with the requirements of 40 CFR 51.165(a)(3)(ii)(C)(1). Table III-2-17 shows that the largest increases in NOx, CO and SOx emissions due to growth occur in mobile sources. Note that on-road and off-road sources as well as road dust are not subject to New Source Review (NSR)⁶⁸ permit requirements and offsets and are not relevant to this calculation. Also, area sources that are not required to obtain permits, e.g.,

⁶⁸ <http://www.aqmd.gov/home/permits/new-source-review>.

architectural coatings, consumer products, residential fuel combustion, are not subject to NSR permit requirements and offsets. The point and area sources subject to NSR are the only sources for which the U.S. EPA's regulations require sufficient emissions to be added to the future year inventory to account for the use of pre-base year emissions reductions from shutdowns.

Table III-2-18 shows the difference between growth and no growth in the future year 2037 emission inventory for both point and area sources. The table also indicates what portion of the growth projections are attributed to the point and area sources subject to NSR offset requirements, which is a subset of the growth difference under "Impact of Growth". The table is extracted from the Revised Draft 2022 AQMP's emission inventories. The detailed inventories in Attachment A and B of this Appendix separate the point and area sources into specific source categories (e.g., refineries, electric utilities, coatings, cooking, paved road dust) so that the emissions with and without growth for each category is included in the base year and future year inventories for 2037.

The growth of point and area sources subject to NSR offset requirements necessarily comes from pre-base year offsets that were shut down before the base year. This is because the emissions offsets derived from sources that shut down after the base year are accounted for in the baseline inventory (i.e., these emissions were "in the air" during the 2018 base year). When those sources shut down, the most their offsets can do is replace the emissions from that shut down source to keep the base year inventory the same. Any growth above that base year, therefore, is necessarily supported from the offsets derived from pre-base year reductions. Thus, if a new source uses offsets based on emissions reductions that occur after the base year, the net result would be no increased emissions at all. Accordingly, the growth projection for point and area sources subject to NSR shown in Table III-2-18 consists of emissions from pre-base year shutdowns.

TABLE III-2-18

**IMPACT OF GROWTH AND POINT AND AREA SOURCES SUBJECT TO NSR OFFSET REQUIREMENTS
(TONS PER DAY)**

(TONS PER DAY)

IMPACT OF GROWTH	VOC	NOX	CO	SOX	PM2.5
Point	1.78	0.15	0.61.7	0.12	0.45
Area	29.730.3	-0.24	-8.89.0	0.1	2.3.0
SUBJECT TO NSR					
Point	1.78	0.15	0.61.7	0.12	0.45
Area	3.3	-0.35	-8.68	0.1	0.54
Total Point and Area Sources	5.01	1.02	-8.07.1	0.23	0.9

The data in Table III-2-18 shows that South Coast AQMD explicitly included 5.0~~1~~ tons per day of VOC and 1.0~~2~~ tons per day of NOx in its future year 2037 inventory for point and area sources subject to South Coast AQMD's NSR program. In addition, South Coast AQMD explicitly included 0.2~~3~~ tons per day of SOx and 0.9 tons per day of PM2.5 in its future year 2037 inventory for area and point sources subject to South Coast AQMD's NSR program.

Table III-2-19A provides the emissions from all the stationary source categories that are subject to NSR assuming "no growth", separated by point and area sources. Table III-2-19B provides the total area and point source emissions from Table III-2-19A. Table III-2-20A provides the emissions from all the stationary source categories that are subject to NSR assuming "growth", separated by point and area sources. Table III-2-20B provides the total area and point source emissions from Table III-2-20A. Table III-2-21 shows the difference between "no growth" and "growth" VOC, CO, NOx, SOx and PM2.5 emissions from area and point sources that are subject to NSR taken from Tables III-2-19B and III-2-20B. In addition, these emissions match the totals provided in Table III-2-18 and Table III-2-22.

**TABLE III-2-19A
2037 STATIONARY SOURCE CATEGORIES FOR AREA AND POINT SOURCES WITH NO GROWTH (TONS PER DAY)**

Source Category	AREA SOURCES					POINT SOURCES				
	VOC	CO	NOx	SOx	PM2.5	VOC	CO	NOx	SOx	PM2.5
Electric Utilities	0.00	0.00	0.00	0.00	0.00	<u>0.3324</u>	<u>4.333.27</u>	<u>3.042.31</u>	<u>0.2719</u>	<u>0.5741</u>
Cogeneration	0.02	0.10	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Oil and Gas Production (combustion)	0.04	0.12	0.50	0.00	0.01	0.08	0.45	<u>0.1617</u>	0.01	0.08
Petroleum Refining (Combustion)	0.00	0.00	0.00	0.00	0.00	<u>1.3338</u>	<u>4.895.18</u>	<u>3.3090</u>	<u>3.5115</u>	<u>1.7780</u>
Manufacturing and Industrial	<u>0.3856</u>	<u>44.2845.86</u>	<u>3.945.70</u>	<u>1.3536</u>	<u>0.7293</u>	<u>0.4039</u>	<u>3.0802</u>	<u>2.5257</u>	<u>0.4184</u>	<u>0.4143</u>
Food and Agricultural Processing	0.00	0.01	0.01	0.00	0.00	<u>0.0304</u>	<u>0.3651</u>	<u>0.2638</u>	<u>0.0201</u>	<u>0.0405</u>
Service and Commercial	<u>1.4948</u>	<u>16.5452</u>	<u>5.9190</u>	0.35	0.64	0.41	3.2104	<u>3.4252</u>	<u>0.3936</u>	<u>0.4642</u>
Other (Fuel Combustion)	0.13	<u>0.7978</u>	<u>2.5654</u>	0.01	0.06	<u>0.5451</u>	<u>0.6744</u>	<u>0.4012</u>	<u>0.1908</u>	<u>0.3937</u>
Sewage Treatment	0.00	0.00	0.00	0.00	0.00	<u>0.2627</u>	0.00	0.00	0.00	0.00
Landfills	8.43	0.00	0.00	0.00	0.00	0.20	0.41	0.39	0.38	0.21
Incineration	0.00	0.00	0.00	0.00	0.00	0.04	0.26	<u>1.1516</u>	<u>0.0807</u>	0.05
Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other (Waste Disposal)	8.06	0.00	0.00	0.00	0.00	<u>0.0908</u>	0.01	0.01	0.00	0.00
Laundering	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Degreasing	10.84	0.00	0.00	0.00	0.00	<u>1.922.14</u>	0.00	0.00	0.00	0.03
Coatings and Related Processes	<u>15.4743</u>	0.00	0.00	0.00	<u>1.1413</u>	<u>2.913.00</u>	0.00	0.00	0.00	<u>0.3638</u>
Printing	0.06	0.00	0.00	0.00	0.00	0.69	0.00	0.00	0.00	0.00
Adhesives and Sealants	4.34	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.03
Other (Cleaning and Surface Coatings)	0.59	0.00	0.00	0.00	0.00	<u>0.3505</u>	<u>0.1211</u>	0.04	<u>0.0701</u>	<u>0.0201</u>
Oil and Gas Production	1.53	0.02	0.00	0.06	0.00	0.82	0.00	<u>0.0100</u>	0.00	0.02
Petroleum Refining	0.00	0.00	0.00	0.00	0.00	4.44	2.40	<u>0.5355</u>	<u>1.7043</u>	0.89
Petroleum Marketing	<u>11.3231</u>	0.00	0.00	0.00	0.00	2.08	0.23	0.02	0.00	0.00
Other (Petroleum Production/Marketing)	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.01	0.00	0.00

*Overall growth in Electric Utilities is projected as a composite factor of employment growth, efficiency improvements and renewable portfolio standards. For this analysis, the growth portion is based on employment growth alone, which is the surrogate for overall electricity demand growth. Proposed control measures promoting zero emissions technology will increase electricity demand significantly, beyond what these baseline projections suggest.

TABLE III-2-19A (CONTINUED)

2037 STATIONARY SOURCE CATEGORIES FOR AREA AND POINT SOURCES WITH NO GROWTH (TONS PER DAY)

Source Category	AREA SOURCES					POINT SOURCES				
	VOC	CO	NOx	SOx	PM2.5	VOC	CO	NOx	SOx	PM2.5
Chemical	2.81	0.00	0.00	0.00	0.20	1.62 64	0.12	0.07	0.20 09	0.21
Food and Agriculture	0.36	0.00	0.00	0.00	0.01	0.14 16	0.01	0.03	0.00 01	0.03 05
Mineral Processes	0.00	0.00	0.00	0.00	0.35	0.39 40	0.36	0.49 45	0.33 20	0.70 75
Metal Processes	0.00	0.00	0.00	0.00	0.00	0.10	0.26	0.27	0.11 19	0.22
Wood and Paper	0.00	0.00	0.00	0.00	2.65	0.20 24	0.00	0.00	0.00	0.05
Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electronics	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Other (Industrial Processes)	1.89	0.00	0.00	0.00	0.00	3.33 18	0.01	0.03	0.00	0.58 53
TOTAL (tons per day)	67.91 8.04	61.86 63.42	12.92 14.65	1.76 77	5.79 99	22.90 75	21.20 .11	16.18 01	7.68 04	7.13 6.99

TABLE III-2-19B

**2037 Stationary Source Categories for Total Area and Point Sources with No Growth
(Tons per Day)**

Source Category	TOTAL AREA AND POINT SOURCES				
	VOC	CO	NO _x	SO _x	PM _{2.5}
Electric Utilities	0.3324	4.333.27	3.042.31	0.2719	0.5741
Cogeneration	0.02	0.11	0.01	0.00	0.01
Oil and Gas Production (combustion)	0.12	0.57	0.6667	0.01	0.09
Petroleum Refining (Combustion)	1.3338	4.895.18	3.3090	3.5115	1.7780
Manufacturing and Industrial	0.7895	47.3748.88	6.458.27	1.762.20	1.1237
Food and Agricultural Processing	0.0305	0.3852	0.2639	0.0201	0.0406
Service and Commercial	1.9089	19.7556	9.3342	0.7371	1.1006
Other (Fuel Combustion)	0.6764	1.4523	2.9666	0.2009	0.4543
Sewage Treatment	0.2627	0.00	0.00	0.00	0.00
Landfills	8.63	0.41	0.39	0.38	0.21
Incineration	0.04	0.26	1.1516	0.0807	0.05
Soil Remediation	0.00	0.00	0.00	0.00	0.00
Other (Waste Disposal)	8.1514	0.01	0.01	0.00	0.00
Laundering	0.17	0.00	0.00	0.00	0.00
Degreasing	12.7698	0.00	0.00	0.00	0.03
Coatings and Related Processes	18.3943	0.00	0.00	0.00	1.5051
Printing	0.75	0.00	0.00	0.00	0.00
Adhesives and Sealants	4.46	0.00	0.00	0.00	0.03
Other (Cleaning and Surface Coatings)	0.9463	0.1211	0.04	0.0701	0.0201
Oil and Gas Production	2.34	0.02	0.01	0.06	0.02
Petroleum Refining	4.44	2.40	0.5355	1.7043	0.89
Petroleum Marketing	13.39	0.23	0.02	0.00	0.00
Other (Petroleum Production/Marketing)	0.04	0.01	0.01	0.00	0.00
Chemical	4.4345	0.12	0.07	0.2009	0.4041
Food and Agriculture	0.5052	0.01	0.03	0.0001	0.0405
Mineral Processes	0.3940	0.36	0.4945	0.3320	1.0610
Metal Processes	0.10	0.26	0.27	0.1119	0.22
Wood and Paper	0.2024	0.00	0.00	0.00	2.70
Glass and Related Products	0.00	0.00	0.00	0.00	0.00
Electronics	0.01	0.00	0.00	0.00	0.00
Other (Industrial Processes)	5.2207	0.01	0.03	0.00	0.5853
TOTAL (tons per day)	90.8279	83.0653	29.1030.66	9.448.82	12.9198

TABLE III-2-20A

2037 Stationary Source Categories for Area and Point Sources with Growth (Tons per Day)

Source Category	AREA SOURCES					POINT SOURCES				
	VOC	CO	NOx	SOx	PM2.5	VOC	CO	NOx	SOx	PM2.5
Electric Utilities	0.00	0.00	0.00	0.00	0.00	0.27	3.6064	2.3556	0.2521	0.46
Cogeneration	0.02	0.10	0.00	0.00	0.00	0.00	0.01	0.0102	0.00	0.01
Oil and Gas Production (combustion)	0.0405	0.12	0.70	0.00	0.01	0.1514	0.73	0.27	0.01	0.11
Petroleum Refining (Combustion)	0.00	0.00	0.00	0.00	0.00	1.3338	4.895.18	3.3090	3.5215	1.7780
Manufacturing and Industrial	0.3851	38.5939.98	3.525.05	1.3435	0.7181	0.4442	3.3736	2.7180	0.4284	0.4447
Food and Agricultural Processing	0.00	0.01	0.01	0.00	0.00	0.0305	0.3952	0.2739	0.0201	0.0406
Service and Commercial	1.4957	13.6564	5.8685	0.41	0.5253	0.47	3.7658	4.0213	0.4239	0.5248
Other (Fuel Combustion)	0.13	0.7978	2.5654	0.01	0.06	0.6056	0.7249	0.4514	0.2109	0.4744
Sewage Treatment	0.00	0.00	0.00	0.00	0.00	0.3031	0.0001	0.00	0.00	0.00
Landfills	8.439.50	0.00	0.00	0.00	0.00	0.23	0.4443	0.42	0.41	0.23
Incineration	0.00	0.00	0.00	0.00	0.00	0.04	0.2829	1.25	0.08	0.05
Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other (Waste Disposal)	8.06	0.00	0.00	0.00	0.00	0.1008	0.01	0.01	0.00	0.00
Laundering	0.1719	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Degreasing	10.8499	0.00	0.00	0.00	0.00	2.2752	0.00	0.00	0.00	0.03
Coatings and Related Processes	15.4717.39	0.00	0.00	0.00	1.2423	3.2939	0.01	0.00	0.00	0.4244
Printing	0.0608	0.00	0.00	0.00	0.00	0.81	0.00	0.00	0.00	0.00
Adhesives and Sealants	4.3448	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.03
Other (Cleaning and Surface Coatings)	0.5960	0.00	0.00	0.00	0.00	0.4005	0.11	0.04	0.0601	0.0301
Oil and Gas Production	1.532.97	0.03	0.01	0.12	0.00	1.4950	0.00	0.0100	0.00	0.0302
Petroleum Refining	0.00	0.00	0.00	0.00	0.00	4.44	2.40	0.5355	1.7043	0.89
Petroleum Marketing	11.329.53	0.00	0.00	0.00	0.00	1.58	0.18	0.02	0.00	0.00
Other (Petroleum Production/Marketing)	0.00	0.00	0.00	0.00	0.00	0.0504	0.01	0.01	0.00	0.00

TABLE III-2-20A (Continued)

2037 Stationary Source Categories for Area and Point Sources with Growth (Tons per Day)

Source Category	AREA SOURCES					POINT SOURCES				
	VOC	CO	NO _x	SO _x	PM _{2.5}	VOC	CO	NO _x	SO _x	PM _{2.5}
Food and Agriculture	<u>0.362.7</u> <u>5</u>	0.00	0.00	0.00	<u>0.0120</u>	<u>0.141.82</u>	<u>0.0111</u>	<u>0.0307</u>	<u>0.0009</u>	<u>0.0422</u>
Mineral Processes Food and Agriculture	<u>0.0042</u>	0.00	0.00	0.00	<u>0.3601</u>	<u>0.4416</u>	<u>0.3901</u>	<u>0.5003</u>	<u>0.3501</u>	<u>0.7605</u>
Mineral Processes	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.36</u>	<u>0.45</u>	<u>0.39</u>	<u>0.47</u>	<u>0.22</u>	<u>0.81</u>
Metal Processes	0.00	0.00	0.00	0.00	0.01	0.12	0.34	<u>0.3134</u>	<u>0.1426</u>	0.28
Wood and Paper	0.00	0.00	0.00	0.00	3.19	<u>0.2226</u>	0.00	0.00	0.00	<u>0.0506</u>
Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electronics	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Other (Industrial Processes)	<u>1.892.1</u> <u>1</u>	0.00	0.00	0.00	0.00	<u>3.4126</u>	0.01	0.03	0.00	<u>0.6157</u>
TOTAL (tons per day)	<u>67.9171</u> <u>.34</u>	<u>53.2954</u> <u>66</u>	<u>12.6514.15</u>	<u>1.8788</u>	<u>6.3141</u>	<u>24.5752</u>	<u>21.7882</u>	<u>16.6317.46</u>	<u>7.7922</u>	<u>7.4952</u>

TABLE III-2-20B
2037 STATIONARY SOURCE CATEGORIES FOR TOTAL AREA AND POINT SOURCES WITH GROWTH
(TONS PER DAY)

Source Category	TOTAL AREA AND POINT SOURCES				
	VOC	CO	NOx	SOx	PM2.5
Electric Utilities	0.27	3.6064	2.3556	0.2521	0.46
Cogeneration	0.02	0.11	0.0102	0.00	0.01
Oil and Gas Production (combustion)	0.19	0.85	0.97	0.0201	0.12
Petroleum Refining (Combustion)	1.3338	4.895.18	3.3090	3.5215	1.7780
Manufacturing and Industrial	0.7893	41.9643.34	6.237.85	1.762.19	1.1528
Food and Agricultural Processing	0.0405	0.4053	0.2840	0.0201	0.0406
Service and Commercial	2.04	17.4022	9.8898	0.8380	1.0401
Other (Fuel Combustion)	0.7369	1.5027	3.012.68	0.2210	0.5350
Sewage Treatment	0.3031	0.0001	0.00	0.00	0.00
Landfills	9.73	0.4443	0.42	0.41	0.23
Incineration	0.04	0.2829	1.25	0.08	0.05
Soil Remediation	0.00	0.00	0.00	0.00	0.00
Other (Waste Disposal)	8.1514	0.01	0.01	0.00	0.00
Laundering	0.19	0.00	0.00	0.00	0.00
Degreasing	13.2651	0.00	0.00	0.00	0.03
Coatings and Related Processes	20.7478	0.01	0.00	0.00	1.6667
Printing	0.89	0.00	0.00	0.00	0.00
Adhesives and Sealants	4.62	0.00	0.00	0.00	0.03
Other (Cleaning and Surface Coatings)	1.000.65	0.11	0.04	0.0601	0.0301
Oil and Gas Production	4.47	0.0403	0.0201	0.12	0.0302
Petroleum Refining	4.44	2.40	0.5355	1.7043	0.89
Petroleum Marketing	11.11	0.18	0.02	0.00	0.00
Other (Petroleum Production/Marketing)	0.0504	0.01	0.01	0.00	0.00
Chemical	4.5657	0.11	0.07	0.1909	0.42
Food and Agriculture	0.5658	0.01	0.03	0.0001	0.0506
Mineral Processes	0.4445	0.39	0.5047	0.3522	1.1217
Metal Processes	0.12	0.34	0.3134	0.1426	0.29
Wood and Paper	0.2226	0.00	0.00	0.00	3.25
Glass and Related Products	0.00	0.00	0.00	0.00	0.00
Electronics	0.02	0.00	0.00	0.00	0.00
Other (Industrial Processes)	5.5137	0.01	0.03	0.00	0.6157
TOTAL (tons per day)	95.8186	75.0676.48	29.2831.61	9.6710	13.8093

TABLE III-2-21

DIFFERENCE IN GROWTH FOR TOTAL AREA AND POINT SOURCES SUBJECT TO NSR (TONS PER DAY)

	TOTAL AREA AND POINT SOURCES				
	VOC	CO	NOx	SOx	PM2.5
Total with Growth (tons per day)	95.89	75.176.5	29.331.6	9.71	13.89
Total with No Growth (tons per day)	90.89	83.15	29.130.7	9.48.8	12.913.0
Difference in Growth (tons per day)	5.01	-87.1	1.0-2	0.23	0.9

A simple check was also conducted to ensure the growth estimate is sufficient to account for the projected demand for offsets. Offsets are obtained either from the open market or the South Coast AQMD internal accounts that provide offsets to small emission sources. The annual average emission reduction credits (ERCs) actually used by sources and obtained from the private market in the past years, was used as an estimate of what could be used annually from the private market in the future. The issuance of offsets from the South Coast AQMD's internal banks, however, are capped based on a maximum cumulative net limit pursuant to Rule 1315 (NSR Tracking System). Since the annual incremental has historically been close to fully used, it was assumed that the maximum annual usage is the incremental change each year capped in Rule 1315. To be conservative, it was assumed that all offsets used in the future, whether from the internal bank or private market ERCs, could have originated before the base year 2018.

Since this exercise is based on the annual increases in inventory due to the potential introduction of pre-base year credits, the annual average was used. Table III-2-22 provides the estimated future demand for each criteria pollutant based on issuance of offsets from the South Coast AQMD's internal banks and from the projected annual usage from non-South Coast AQMD providers. Table III-2-22 demonstrates that the area and point source growth estimate is sufficient to account for the projected demand.

TABLE III-2-22
PROJECTED ANNUAL OFFSET DEMAND (TONS PER DAY)

	VOC	NOx	SOx	PM2.5
South Coast AQMD Internal Banks⁶⁹	1.25	0.11	0.03	0.20
Open Market ERC Use⁷⁰	2.37	0.06	0.05	0.22
Total Projected Annual Demand	3.57	0.17	0.05	0.42
Total Area and Point Sources Subject to NSR	5.0	0.29	0.3	0.9

Uncertainty in the Inventory

An effective AQMP relies on an adequate 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 works with South Coast AQMD to verify these data are accurate. The locations of point sources, including stacks, are checked to ensure they are valid. 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 EMFAC 2017 which estimates emissions from trucks, automobiles and buses. Improvements and updates are included in the off-road models for locomotives, ocean going vessels, commercial harbor craft, pleasure craft and off-road recreational vehicles, cargo handling equipment, and

⁶⁹ The same methodology as the 2016 AQMP is used, *i.e.*, a simple check to estimate the projected demand for offsets from federal offset accounts. As noted in the 2016 AQMP, offsets from the federal accounts are capped based on the cumulative net emission increase, pursuant to Rule 1315 - Table B. <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-iii.pdf>. Estimates are based on projected data from 2022 to 2030.

⁷⁰ ERC use data was obtained from the South Coast AQMD production database for the period of 2012-2022 April as representative of open market ERC activity.

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 Revised Draft 2022 AQMP 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 change and improvement 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 Revised Draft 2022 AQMP are implemented for the years 2032 and 2037. Emission reductions are derived by applying the control efficiency of a control measure to the projected baseline inventories. In addition to the proposed control measures, the impacts of phase-out VOC and SIP Reserve set aside tracking and other budgeted emissions for various South Coast AQMD's programs are also discussed in this section.

To project emission reductions and remaining emissions from the implementation of the proposed control measures, a mathematical algorithm called Controlled Emissions Projection Algorithm (CEPA) was used in previous AQMPs. However, a new in-house algorithm similar to CEPA was primarily utilized to develop controlled emission scenarios for the Revised Draft 2022 AQMP. 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 target 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 steps taken in the calculation are discussed in the "Emission Reduction Calculations" section of this document.

Emission Reductions from the Proposed Control Measures

In order to assess emission reduction potential and remaining emissions from proposed control measures, a control factor profile needs to be developed identifying source category targeted by a 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 Revised Draft 2022 AQMP.

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 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:

$$CF = 1 - (CE/100)$$

The remaining emissions can be calculated as:

$$REM = BE \times CF$$

Where REM is Remaining Emissions, and BE is Baseline Emissions

The Revised Draft 2022 AQMP targets attainment in 2037 for both South Coast Air Basin and Coachella Valley for the 2015 federal 8-hour ozone standard. Year 2032 is the original attainment year for the Coachella Valley based on U.S. EPA's initial "severe" nonattainment classification. However, due to the transport of ozone and its precursor emissions from the South Coast Air Basin and necessity to rely on the flexibility allowed under CAA Section 182(e)(5), the Revised Draft 2022 AQMP includes a request to reclassify the Coachella Valley to "extreme" nonattainment for the 2015 federal 8-hour ozone standard. This sets 2037 as the new attainment year for the Coachella Valley. To discuss Coachella Valley's ozone attainment, control factors for both 2032

and 2037 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 Revised Draft 2022 AQMP 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 phase. 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 Revised Draft 2022 AQMP.

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 and 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.

$$CF = 1 - ((CE / 100) \times IF)$$

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 years 2032 and 2037 for South Coast Air Basin and Coachella Valley are estimated from the control measures provided in the Chapter 4 and Appendix IV of this AQMP.

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:

- Step I. Compile baseline emissions by EIC:
Compile the summer planning baseline emission (BE) by EIC for each pollutant and attainment year: 2032 and 2037. Attachment A and B in Appendix III present the summer planning emission summary tables for the South Coast Air Basin and Coachella Valley by major source categories.

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

- Step II. Compile composite control factors for all measures by EIC:
The control factors by pollutant by 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.

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:

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

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

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

- Step 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*)

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

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

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

- Step 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 2032 and 2037 attainment scenario are presented in the attachment 3 of Appendix V of the Revised Draft 2022 AQMP.

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 named California Emission Inventory Development and Reporting System (CEIDARS), and California Emission Forecasting and Planning Inventory System (CEFIS).

In both systems, emissions are tracked by EIC code. 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 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 Revised Draft 2022 AQMP, all the emission summary reports are based on CARB's EIC codes. Because only the 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)⁷¹ was created to support SIP development, air quality modeling efforts, and the tracking of the progress of SIPs. CEPAM starts with a base year, which is

⁷¹ <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.>

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 OFFROAD⁷² mobile source emission models to provide a comprehensive anthropogenic emission inventory.

The most current publicly available version of CEPAM is CEPAM2019v1.03. It contains backcasts and forecasts from 2000 to 2050, derived from a 2017 base year inventory, chosen because it aligns with the National Emissions Inventory (NEI) reporting year and also represents the base year for the emission projections serving most of the SIPs that are currently underway for the 2015 8-hour ozone standard.

SIP Set Aside Accounts

Background

The Revised Draft 2022 AQMP includes a few accounts to track growth from emission trade-offs from regulatory programs, and a SIP Reserve for potential technology assessments (Table III-2-23). The methodology and assumptions used to develop these tracking accounts for the Revised Draft 2022 AQMP are discussed in detail below. Emission increases or decreases discussed in this section are in reference to the projected AQMP baseline.

General Conformity Budget

The U.S. EPA's General Conformity rule (40 CFR part 93, subpart B, and 40 CFR Part 51, Subpart W, as adopted by reference in South Coast AQMD Rule 1901, September 1994) establishes an applicability test for determining which federal actions are subject to the conformity requirement for the nonattainment or maintenance areas. If a proposed action results in emissions increases which are less than the de minimis thresholds for the relevant pollutants or precursors, then no conformity determination needs to be made. If the emissions from a proposed action exceed the de minimis threshold for any given pollutant (or precursor) for which the area is designated as maintenance or in nonattainment, then the Federal agency must make a positive conformity determination for that pollutant(s) on the basis of one of the criteria listed in 40 CFR 93.158 before the project can proceed. The conformity determination must demonstrate that the emissions from the proposed project are accounted for in the most recently approved SIP. The Basin is designated as an extreme nonattainment area for ozone and as a nonattainment area for PM_{2.5}. The general conformity de minimis threshold is 10 tons per year of VOC and 10 tons per year of NO_x for extreme ozone nonattainment areas; and 100 tons per year of PM_{2.5} for PM_{2.5} nonattainment areas.

None of the projects requiring general conformity determinations received by the South Coast AQMD exceeded the PM_{2.5} threshold. Rather, NO_x is the main pollutant of concern, with emissions occurring

⁷² <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-road-documentation-0>.

primarily during construction and continued operation.⁷³ To streamline the review process and to facilitate the conformity determination, separate VOC and NOx general conformity budgets were established in the 2012 AQMP and revised in the 2016 AQMP. For the Revised Draft 2022 AQMP, control measure EGM-02 seeks to achieve emission reductions by eliminating the set-aside budget for general conformity. Considering the rigorous emission reductions required for attainment of the 2015 8-hour ozone standard of 70 ppb, no new emissions can be accommodated without appropriate mitigation or offset of the increased emissions. All projects that receive a positive conformity determination may be required to undergo a process to demonstrate that the emissions are accounted for in the SIP, therefore the project conforms to the latest approved SIP. South Coast AQMD will consider establishing a new mechanism to offset emission increases, following a pathway that is similar to that in neighboring jurisdictions. Implementation of EGM-02 will follow a rule making process, which will invite stakeholders and the public to participate. Details on EGM-02 are available in Chapter 4 and Appendix IV.

VOC Emissions from Phase-Out of Toxics

Due to an increasing focus on air toxic exposure, a certain amount of conversion from toxics to VOCs may be inevitable in the future. In some situations, to reduce toxic exposure, toxics that do not contribute to ozone formation will be replaced with less toxic VOC compounds that form ozone. For example, para-Chlorobenzo trifluoride (pCBtF) and Tertiary-Butyl Acetate (tBAC) have recently been determined to be carcinogenic by the Office of Environmental Health Hazard Assessment (OEHHA) and may need to phase out of exemption status. Therefore, three tons per day are included for potential VOC emission increases inherent in the reduction of toxics, such as control of methylene chloride in coating stripping applications.

SIP Reserve for Potential Technology Assessments

To achieve air quality goals, adopted and amended rules and regulations that rely on technology forcing emission limits are often needed. Technology forcing emission limits are designed to provide ample time for the development and implementation of new air pollution technologies. In the event, however, that the new air pollution control technology does not come to fruition by the implementation date of the adopted or amended rule, there may be a need to delay or relax the future emission limits. The SIP Reserve is designed to ensure that delaying or relaxing future emission limits for technology forcing rules will not interfere with the Basin's attainment demonstration. In addition, the SIP Reserve allows South Coast AQMD to adopt and amend rules with technology forcing limits, while maintaining SIP approvability if a rule relaxation or delay is needed.

⁷³ General Conformity. <http://www.aqmd.gov/home/rules-compliance/ceqa/general-conformity>

TABLE III-2-23
SUMMARY OF SIP SET-ASIDE ACCOUNTS IN 2032 AND 2037 FOR THE 2022 AQMP
(TONS PER DAY)

	VOC		NOx	
	2032	2037	2032	2037
VOC Emissions from Phase-out of Toxics	3	3	N/A	N/A
SIP Reserve (Technology Assessment)	1.0	1.0	0.5	0.5
Total	4.0	4.0	0.5	0.5

Attachment A:

Annual Average Emissions by Source Category in
South Coast Air Basin and Coachella Valley

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	0.02	0.02	0.11	0	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	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	0.05	0.05	0.05	0.06
60	Service and Commercial	4.89	1.94	10.46	20.67	0.71	1.16	1.16	1.15	2.61
99	Other (Fuel Combustion)	0.82	0.62	2.78	1.27	0.07	0.43	0.41	0.38	0.25
	Total Fuel Combustion	20.40	5.35	21.10	81.04	2.08	5.54	5.42	5.34	7.79
Waste Disposal										
110	Sewage Treatment	0.39	0.28	0	0	0	0.02	0	0	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	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	71.23	5.72	0.01	0.01	0	0	0	0	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	Laundrying	3.41	0.14	0	0	0	0	0	0	0
220	Degreasing	66.82	12.71	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	18.07	17.68	0	0	0	1.51	1.45	1.40	0.09
240	Printing	0.67	0.67	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.79	5.12	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.63	0.62	0.01	0.11	0	0.01	0	0	0
	Total Cleaning and Surface Coatings	95.39	36.93	0.01	0.11	0	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
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	0.23	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	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	0.45	0.39	0.37	0.01
420	Food and Agriculture	0.53	0.51	0	0.01	0.01	0.22	0.11	0.05	0
430	Mineral Processes	0.35	0.31	0.02	0.29	0.04	8.39	3.57	0.94	0.06
440	Metal Processes	0.11	0.09	0.05	0.25	0.03	0.35	0.27	0.20	0
450	Wood and Paper	0.23	0.23	0	0	0	6.43	4.50	2.70	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.01	0.01	0	0	0	0.01	0	0	0
499	Other (Industrial Processes)	5.40	4.86	0.01	0.01	0	1.11	0.73	0.46	8.59
	Total Industrial Processes	10.89	10.16	0.11	0.67	0.14	16.95	9.57	4.73	8.67
Solvent Evaporation										
510	Consumer Products	135.77	107.38	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	10.62	10.62	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.09	1.09	0	0	0	0	0	0	1.23
540	Asphalt Paving/Roofing	1.06	0.98	0	0	0	0.03	0.02	0.02	0
	Total Solvent Evaporation	148.53	120.06	0	0	0	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	0	0	1.66	0.81	0.17	8.17
630	Construction and Demolition	0	0	0	0	0	46.32	22.66	2.27	0
640	Paved Road Dust	0	0	0	0	0	125.15	57.22	8.59	0
645	Unpaved Road Dust	0	0	0	0	0	28.17	16.74	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	3.20	1.62	0.23	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	0	0	11.44	11.44	11.44	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	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	Light Duty Passenger Auto (LDA)	31.55	28.55	23.27	295.59	0.71	11.51	11.27	4.73	7.18
722	Light Duty Trucks 1 (T1)	8.20	7.47	5.91	58.13	0.08	1.16	1.13	0.49	0.86
723	Light Duty Trucks 2 (T2)	15.75	14.28	15.26	136.31	0.30	3.76	3.68	1.55	2.43
724	Medium Duty Trucks (T3)	13.97	12.61	13.85	120.21	0.26	2.64	2.59	1.09	1.72
732	Light Heavy Duty Gas Trucks 1 (T4)	2.67	2.52	2.32	9.88	0.04	0.38	0.37	0.16	0.19
733	Light Heavy Duty Gas Trucks 2 (T5)	0.39	0.37	0.36	1.27	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.58	0.50	1.00	5.73	0.02	0.16	0.16	0.07	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.02	0.01	0.05	0.39	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.30	0.26	8.02	1.72	0.01	0.29	0.29	0.15	0.34
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.10	0.09	2.66	0.58	0.01	0.12	0.12	0.06	0.14
744	Medium Heavy Duty Diesel Truck (T6)	1.30	1.14	24.21	4.14	0.06	1.61	1.59	1.07	0.85
746	Heavy Heavy Duty Diesel Trucks (HHD)	3.46	2.31	61.42	13.04	0.16	2.04	2.02	1.34	1.73
750	Motorcycles (MCY)	8.79	7.75	2.17	42.12	0	0.03	0.03	0.02	0.02
760	Diesel Urban Buses (UB)	5.08	0.24	1.99	24.37	0	0.07	0.07	0.03	0.60
762	Gas Urban Buses (UB)	0.01	0.01	0.03	0.06	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.06	0.04	0.06	0.48	0	0.07	0.07	0.03	0
772	Diesel School Buses (SB)	0.04	0.03	2.23	0.12	0	0.18	0.18	0.08	0.02
777	Gas Other Buses (OB)	0.12	0.11	0.25	1.23	0.01	0.04	0.04	0.02	0.02
778	Motor Coaches	0.05	0.05	0.89	0.20	0	0.04	0.04	0.02	0.02
779	Diesel Other Buses (OB)	0.06	0.06	0.95	0.18	0	0.06	0.06	0.04	0.04
780	Motor Homes (MH)	0.09	0.07	0.77	1.32	0.01	0.09	0.09	0.04	0.03
	Total On-Road Motor Vehicles	92.59	78.48	167.67	717.08	1.67	24.32	23.86	11.02	16.27
Other Mobile Sources										
810	Aircraft	3.66	3.52	17.11	36.58	1.64	0.79	0.76	0.68	0
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	0.25	0.25	0.23	0
840	Recreational Boats	17.12	15.92	3.00	51.77	0	1.00	0.90	0.68	0.01
850	Off-Road Recreational Vehicles	1.32	1.29	0.04	2.12	0	0.01	0.01	0.01	0
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	0.05	0.05	0.04	0
890	Fuel Storage and Handling	5.48	5.48	0	0	0	0	0	0	0
	Total Other Mobile Sources	96.83	89.15	137.05	712.49	3.81	6.17	5.97	5.21	0.15
Total Stationary and Area Sources		1075.62	219.37	59.94	147.78	8.83	251.23	137.09	45.21	58.03
Total On-Road Vehicles		92.59	78.48	167.67	717.08	1.67	24.32	23.86	11.02	16.27
Total Other Mobile		96.83	89.15	137.05	712.49	3.81	6.17	5.97	5.21	0.15
Total		1265.05	386.99	364.66	1577.34	14.31	281.72	166.92	61.45	74.45

Attachment A

2022 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	2.93	0.34	0.68	4.58	0.24	0.58	0.57	0.57	0.74
20	Cogeneration	0.03	0.02	0.02	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.18	0.14	0.65	0.64	0.01	0.10	0.10	0.10	0.20
40	Petroleum Refining (Combustion)	6.55	1.38	0	5.17	0.01	1.80	1.80	1.79	1.54
50	Manufacturing and Industrial	4.19	0.90	6.20	46.88	1.04	1.42	1.35	1.31	2.24
52	Food and Agricultural Processing	0.09	0.04	0.21	0.49	0	0.05	0.05	0.05	0.06
60	Service and Commercial	4.99	1.99	10.41	20.55	0.73	1.16	1.16	1.16	2.54
99	Other (Fuel Combustion)	0.80	0.60	2.32	1.17	0.07	0.43	0.41	0.38	0.27
	Total Fuel Combustion	20.76	5.42	20.50	79.60	2.11	5.58	5.45	5.37	7.77
Waste Disposal										
110	Sewage Treatment	0.40	0.28	0	0	0	0.02	0	0	0.21
120	Landfills	641.30	8.90	0.44	0.40	0.37	0.20	0.20	0.20	4.08
130	Incineration	0.20	0.04	0.99	0.25	0.07	0.12	0.06	0.05	0.23
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	72.37	5.82	0.01	0.01	0	0	0	0	1.43
	Total Waste Disposal	714.27	15.04	1.43	0.66	0.45	0.34	0.26	0.25	5.96
Cleaning and Surface Coatings										
210	Laundrying	3.49	0.15	0	0	0	0	0	0	0
220	Degreasing	67.87	12.95	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	18.71	18.31	0	0	0	1.57	1.50	1.45	0.10
240	Printing	0.71	0.71	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.28	4.66	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.64	0.63	0.01	0.11	0	0.01	0.01	0	0
	Total Cleaning and Surface Coatings	96.70	37.40	0.01	0.12	0	1.62	1.55	1.50	0.15
Petroleum Production and Marketing										
310	Oil and Gas Production	6.11	2.80	0.01	0.02	0.07	0.04	0.03	0.02	0
320	Petroleum Refining	6.35	4.43	0.22	2.39	0.24	1.87	1.25	0.88	0.07
330	Petroleum Marketing	53.62	11.84	0	0.21	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	66.12	19.11	0.24	2.64	0.31	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.33	4.21	0.03	0.12	0.05	0.46	0.40	0.38	0.01
420	Food and Agriculture	0.55	0.53	0	0.01	0.01	0.22	0.11	0.05	0
430	Mineral Processes	0.37	0.32	0.02	0.30	0.05	8.46	3.60	0.95	0.06
440	Metal Processes	0.11	0.10	0.05	0.27	0.03	0.38	0.30	0.21	0
450	Wood and Paper	0.24	0.24	0	0	0	6.88	4.82	2.89	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.01	0.01	0	0	0	0.01	0	0	0
499	Other (Industrial Processes)	5.48	4.93	0.01	0.01	0	1.14	0.75	0.48	8.59
	Total Industrial Processes	11.08	10.34	0.11	0.70	0.14	17.55	9.98	4.97	8.67
Solvent Evaporation										
510	Consumer Products	139.34	110.25	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.14	11.14	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.12	1.12	0	0	0	0	0	0	1.21
540	Asphalt Paving/Roofing	1.10	1.01	0	0	0	0.03	0.02	0.02	0
	Total Solvent Evaporation	152.70	123.51	0	0	0	0.03	0.02	0.02	1.21

Attachment A

(Continued)

2022 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	19.81	8.99	19.58	48.48	0.34	7.34	6.99	6.80	0.11
620	Farming Operations	14.29	1.19	0	0	0	1.50	0.72	0.15	6.54
630	Construction and Demolition	0	0	0	0	0	47.69	23.34	2.33	0
640	Paved Road Dust	0	0	0	0	0	127.57	58.33	8.75	0
645	Unpaved Road Dust	0	0	0	0	0	28.16	16.74	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	3.09	1.57	0.22	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	2.79	1.11	0	0	0	11.71	11.71	11.71	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	26.75
	RECLAIM	0	0	14.28	0	6.08	0	0	0	0
	Total Miscellaneous Processes	37.48	11.79	34.02	54.36	6.45	227.84	120.16	32.33	33.43
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	22.47	20.78	14.41	215.84	0.64	11.51	11.28	4.70	8.14
722	Light Duty Trucks 1 (T1)	5.98	5.53	3.73	40.30	0.08	1.23	1.20	0.51	0.96
723	Light Duty Trucks 2 (T2)	12.07	11.16	9.05	97.88	0.27	3.78	3.71	1.55	2.74
724	Medium Duty Trucks (T3)	10.17	9.34	8.02	78.67	0.22	2.55	2.50	1.05	1.82
732	Light Heavy Duty Gas Trucks 1 (T4)	1.79	1.70	1.45	5.68	0.03	0.30	0.29	0.12	0.15
733	Light Heavy Duty Gas Trucks 2 (T5)	0.27	0.26	0.24	0.78	0.01	0.06	0.06	0.02	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.41	0.36	0.58	3.52	0.02	0.16	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.01	0	0.03	0.23	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.22	0.19	4.73	1.21	0.01	0.29	0.28	0.14	0.46
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.08	0.07	1.59	0.43	0	0.12	0.12	0.06	0.18
744	Medium Heavy Duty Diesel Truck (T6)	0.40	0.35	13.61	1.71	0.06	1.21	1.19	0.63	1.30
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.43	1.26	46.83	12.10	0.17	1.51	1.49	0.75	2.38
750	Motorcycles (MCY)	9.16	7.99	2.30	41.79	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	4.12	0.06	0.31	31.34	0	0.07	0.07	0.03	0.62
762	Gas Urban Buses (UB)	0.01	0.01	0.03	0.06	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.06	0.05	0.06	0.48	0	0.09	0.09	0.04	0
772	Diesel School Buses (SB)	0.03	0.03	1.98	0.12	0	0.18	0.18	0.08	0.02
777	Gas Other Buses (OB)	0.10	0.09	0.16	0.85	0	0.04	0.04	0.02	0.02
778	Motor Coaches	0.02	0.01	0.46	0.10	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0.01	0.01	0.50	0.05	0	0.04	0.04	0.02	0.07
780	Motor Homes (MH)	0.05	0.04	0.61	0.58	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	69.86	59.31	110.67	533.69	1.53	23.29	22.84	9.85	19.03
Other Mobile Sources										
810	Aircraft	3.54	3.39	17.64	34.64	1.56	0.76	0.74	0.66	0
820	Trains	0.81	0.68	15.87	3.83	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.08	9.48	32.24	4.50	2.11	0.72	0.72	0.66	0.02
835	Commercial Harbor Crafts	0.39	0.33	5.76	1.23	0	0.24	0.24	0.23	0
840	Recreational Boats	14.34	13.35	2.85	51.42	0	0.84	0.75	0.57	0.01
850	Off-Road Recreational Vehicles	1.19	1.16	0.04	2.22	0	0.01	0.01	0.01	0
860	Off-Road Equipment	52.66	48.61	36.82	644.43	0.08	2.01	1.94	1.68	0.06
861	Off-Road Equipment (PERP)	0.64	0.54	5.38	4.59	0.01	0.19	0.19	0.17	0.01
870	Farm Equipment	0.27	0.25	0.53	4.19	0	0.04	0.04	0.03	0
890	Fuel Storage and Handling	4.76	4.76	0	0	0	0	0	0	0
	Total Other Mobile Sources	89.67	82.55	117.15	751.07	3.80	5.17	4.99	4.34	0.12
Total Stationary and Area Sources		1099.11	222.60	56.31	138.07	9.46	254.88	138.71	45.36	57.26
Total On-Road Vehicles		69.86	59.31	110.67	533.69	1.53	23.29	22.84	9.85	19.03
Total Other Mobile		89.67	82.55	117.15	751.07	3.80	5.17	4.99	4.34	0.12
Total		1258.65	364.47	284.14	1422.82	14.78	283.34	166.55	59.55	76.4

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	0.02	0.02	0.12	0	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	5.17	0.01	1.80	1.80	1.79	1.54
50	Manufacturing and Industrial	4.20	0.91	6.22	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	0.05	0.05	0.05	0.06
60	Service and Commercial	5.01	2.00	10.40	20.40	0.74	1.16	1.16	1.15	2.50
99	Other (Fuel Combustion)	0.81	0.60	2.32	1.18	0.07	0.44	0.41	0.39	0.27
	Total Fuel Combustion	20.76	5.43	20.51	79.50	2.11	5.57	5.44	5.37	7.73
Waste Disposal										
110	Sewage Treatment	0.40	0.28	0	0.01	0	0.02	0	0	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	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	72.71	5.84	0.01	0.01	0	0	0	0	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	Laundrying	3.52	0.15	0	0	0	0	0	0	0
220	Degreasing	68.38	13.05	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	18.94	18.53	0	0	0	1.59	1.52	1.47	0.10
240	Printing	0.72	0.72	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.15	4.55	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.64	0.64	0.01	0.11	0	0.01	0.01	0	0
	Total Cleaning and Surface Coatings	97.36	37.64	0.01	0.12	0	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
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	0.21	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	65.78	19.02	0.24	2.63	0.31	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.36	4.25	0.03	0.12	0.05	0.46	0.40	0.38	0.01
420	Food and Agriculture	0.55	0.53	0	0.01	0.01	0.23	0.11	0.05	0
430	Mineral Processes	0.37	0.33	0.02	0.30	0.05	8.49	3.62	0.96	0.06
440	Metal Processes	0.11	0.10	0.05	0.27	0.03	0.39	0.31	0.22	0
450	Wood and Paper	0.24	0.24	0	0	0	7.03	4.92	2.95	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.01	0	0	0	0.01	0	0	0
499	Other (Industrial Processes)	5.49	4.95	0.01	0.01	0	1.14	0.76	0.48	8.59
	Total Industrial Processes	11.15	10.41	0.11	0.71	0.14	17.75	10.12	5.05	8.68
Solvent Evaporation										
510	Consumer Products	141.45	111.99	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.23	11.23	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.12	1.12	0	0	0	0	0	0	1.20
540	Asphalt Paving/Roofing	1.11	1.02	0	0	0	0.03	0.03	0.02	0
	Total Solvent Evaporation	154.92	125.36	0	0	0	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	13.54	1.13	0	0	0	1.46	0.71	0.15	6.19
630	Construction and Demolition	0	0	0	0	0	48.22	23.59	2.36	0
640	Paved Road Dust	0	0	0	0	0	128.76	58.87	8.83	0
645	Unpaved Road Dust	0	0	0	0	0	28.16	16.74	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	3.07	1.56	0.22	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	0	0	11.79	11.79	11.79	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	26.90
	RECLAIM	0	0	14.28	0	6.08	0	0	0	0
	Total Miscellaneous Processes	36.71	11.72	33.43	54.22	6.45	229.56	120.99	32.49	33.23
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	21.04	19.54	13.12	204.30	0.62	11.53	11.30	4.70	8.35
722	Light Duty Trucks 1 (T1)	5.58	5.18	3.35	37.22	0.08	1.25	1.22	0.52	0.99
723	Light Duty Trucks 2 (T2)	11.47	10.65	8.09	92.11	0.26	3.80	3.72	1.55	2.81
724	Medium Duty Trucks (T3)	9.49	8.77	7.01	71.72	0.21	2.54	2.49	1.04	1.84
732	Light Heavy Duty Gas Trucks 1 (T4)	1.64	1.56	1.30	5.09	0.03	0.29	0.28	0.12	0.15
733	Light Heavy Duty Gas Trucks 2 (T5)	0.25	0.24	0.22	0.70	0	0.05	0.05	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.38	0.34	0.51	3.20	0.02	0.16	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.01	0	0.03	0.22	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.21	0.18	4.14	1.12	0.01	0.28	0.28	0.14	0.48
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.07	0.07	1.40	0.40	0	0.12	0.12	0.06	0.19
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	9.53	0.69	0.06	1.04	1.02	0.45	1.48
746	Heavy Heavy Duty Diesel Trucks (HHD)	1.90	0.76	34.94	11.81	0.16	1.45	1.43	0.66	2.71
750	Motorcycles (MCY)	9.22	8.03	2.32	41.75	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	4.14	0.06	0.31	31.52	0	0.07	0.07	0.03	0.62
762	Gas Urban Buses (UB)	0.01	0	0.02	0.05	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.07	0.05	0.06	0.48	0	0.09	0.09	0.04	0
772	Diesel School Buses (SB)	0.03	0.03	1.91	0.12	0	0.18	0.18	0.08	0.02
777	Gas Other Buses (OB)	0.10	0.09	0.15	0.79	0	0.04	0.04	0.02	0.02
778	Motor Coaches	0.01	0.01	0.33	0.08	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.37	0.02	0	0.03	0.03	0.01	0.07
780	Motor Homes (MH)	0.05	0.04	0.58	0.48	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	65.72	55.66	89.69	503.89	1.49	23.08	22.63	9.57	19.90
Other Mobile Sources										
810	Aircraft	3.51	3.35	17.77	34.15	1.54	0.76	0.73	0.65	0
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	0.25	0.25	0.23	0
840	Recreational Boats	13.76	12.81	2.82	51.47	0	0.80	0.72	0.55	0.01
850	Off-Road Recreational Vehicles	1.14	1.12	0.04	2.25	0	0.01	0.01	0.01	0
860	Off-Road Equipment	52.28	48.28	34.54	653.99	0.08	1.93	1.86	1.61	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	0.04	0.04	0.03	0
890	Fuel Storage and Handling	4.62	4.62	0	0	0	0	0	0	0
	Total Other Mobile Sources	88.49	81.44	113.87	760.33	3.75	5.03	4.85	4.22	0.12
Total Stationary and Area Sources		1105.48	224.70	55.71	137.85	9.47	256.80	139.69	45.61	57.07
Total On-Road Vehicles		65.72	55.66	89.69	503.89	1.49	23.08	22.63	9.57	19.90
Total Other Mobile		88.49	81.44	113.87	760.33	3.75	5.03	4.85	4.22	0.12
Total		1259.69	361.8	259.27	1402.06	14.7	284.9	167.17	59.4	77.1

Attachment A

2024 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	2.65	0.31	0.57	4.20	0.22	0.52	0.52	0.52	0.66
20	Cogeneration	0.04	0.02	0.01	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.26	0.15	0.70	0.67	0.01	0.10	0.10	0.10	0.21
40	Petroleum Refining (Combustion)	6.55	1.38	0	5.17	0.01	1.80	1.80	1.79	1.54
50	Manufacturing and Industrial	4.22	0.92	6.24	47.19	1.04	1.44	1.36	1.32	2.27
52	Food and Agricultural Processing	0.09	0.04	0.21	0.50	0	0.05	0.05	0.05	0.06
60	Service and Commercial	5.03	2.01	10.33	20.21	0.75	1.16	1.15	1.15	2.46
99	Other (Fuel Combustion)	0.81	0.61	2.32	1.18	0.07	0.45	0.42	0.39	0.27
	Total Fuel Combustion	20.65	5.43	20.39	79.24	2.11	5.54	5.42	5.34	7.66
Waste Disposal										
110	Sewage Treatment	0.40	0.28	0	0.01	0	0.02	0	0	0.21
120	Landfills	650.30	9.02	0.40	0.40	0.37	0.21	0.20	0.20	4.13
130	Incineration	0.20	0.04	0.99	0.26	0.07	0.12	0.06	0.05	0.23
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	73.05	5.87	0.01	0.01	0	0	0	0	1.50
	Total Waste Disposal	723.95	15.21	1.40	0.67	0.45	0.35	0.27	0.25	6.08
Cleaning and Surface Coatings										
210	Laundrying	3.55	0.15	0	0	0	0	0	0	0
220	Degreasing	68.78	13.14	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	19.16	18.75	0	0	0	1.60	1.54	1.48	0.10
240	Printing	0.73	0.73	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.19	4.58	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.64	0.64	0.01	0.11	0	0.01	0.01	0	0
	Total Cleaning and Surface Coatings	98.05	37.99	0.01	0.12	0	1.65	1.59	1.53	0.15
Petroleum Production and Marketing										
310	Oil and Gas Production	6.71	3.07	0.01	0.02	0.08	0.04	0.03	0.02	0
320	Petroleum Refining	6.35	4.43	0.22	2.39	0.24	1.87	1.25	0.88	0.07
330	Petroleum Marketing	52.36	11.40	0	0.21	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	65.46	18.95	0.24	2.63	0.32	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.39	4.28	0.03	0.12	0.05	0.47	0.41	0.38	0.01
420	Food and Agriculture	0.56	0.54	0	0.01	0.01	0.23	0.11	0.05	0
430	Mineral Processes	0.38	0.33	0.02	0.30	0.05	8.52	3.63	0.96	0.06
440	Metal Processes	0.12	0.10	0.05	0.28	0.03	0.40	0.31	0.23	0
450	Wood and Paper	0.24	0.24	0	0	0	7.16	5.01	3.01	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.01	0	0	0	0.01	0	0	0
499	Other (Industrial Processes)	5.51	4.96	0.01	0.01	0	1.14	0.75	0.48	8.59
	Total Industrial Processes	11.22	10.47	0.11	0.72	0.14	17.92	10.23	5.12	8.68
Solvent Evaporation										
510	Consumer Products	143.99	114.08	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.34	11.34	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.13	1.13	0	0	0	0	0	0	1.19
540	Asphalt Paving/Roofing	1.13	1.03	0	0	0	0.03	0.03	0.02	0
	Total Solvent Evaporation	157.58	127.58	0	0	0	0.03	0.03	0.02	1.19

Attachment A

(Continued)

2024 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	19.74	8.96	18.42	48.21	0.33	7.28	6.94	6.75	0.11
620	Farming Operations	13.47	1.12	0	0	0	1.46	0.70	0.14	6.19
630	Construction and Demolition	0	0	0	0	0	48.71	23.83	2.38	0
640	Paved Road Dust	0	0	0	0	0	129.38	59.15	8.88	0
645	Unpaved Road Dust	0	0	0	0	0	28.16	16.74	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	3.05	1.55	0.22	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	2.84	1.12	0	0	0	11.88	11.88	11.88	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	27.07
	RECLAIM	0	0	14.28	0	6.08	0	0	0	0
	Total Miscellaneous Processes	36.63	11.71	32.86	54.08	6.44	230.70	121.56	32.62	33.41
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	19.66	18.33	11.97	192.51	0.60	11.49	11.26	4.67	8.49
722	Light Duty Trucks 1 (T1)	5.18	4.83	3.01	34.37	0.08	1.26	1.23	0.52	1.00
723	Light Duty Trucks 2 (T2)	10.88	10.14	7.25	86.72	0.25	3.79	3.72	1.55	2.86
724	Medium Duty Trucks (T3)	8.81	8.18	6.10	64.95	0.20	2.51	2.46	1.03	1.85
732	Light Heavy Duty Gas Trucks 1 (T4)	1.52	1.45	1.17	4.60	0.02	0.28	0.27	0.11	0.14
733	Light Heavy Duty Gas Trucks 2 (T5)	0.23	0.22	0.20	0.64	0	0.05	0.05	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.36	0.33	0.45	2.92	0.02	0.16	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.01	0	0.03	0.22	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.19	0.17	3.64	1.04	0.01	0.28	0.28	0.13	0.50
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.07	0.06	1.24	0.37	0	0.13	0.12	0.06	0.20
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	8.83	0.71	0.06	1.05	1.03	0.45	1.51
746	Heavy Heavy Duty Diesel Trucks (HHD)	1.95	0.78	29.26	12.30	0.16	1.44	1.43	0.64	2.78
750	Motorcycles (MCY)	9.21	8.02	2.33	41.54	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	4.08	0.06	0.31	31.15	0	0.07	0.07	0.03	0.63
762	Gas Urban Buses (UB)	0.01	0	0.02	0.05	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.07	0.05	0.06	0.49	0	0.09	0.09	0.04	0
772	Diesel School Buses (SB)	0.03	0.03	1.83	0.12	0	0.18	0.18	0.08	0.03
777	Gas Other Buses (OB)	0.10	0.09	0.14	0.68	0	0.04	0.04	0.02	0.02
778	Motor Coaches	0.01	0.01	0.25	0.08	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.34	0.02	0	0.04	0.04	0.02	0.08
780	Motor Homes (MH)	0.04	0.03	0.51	0.45	0.01	0.09	0.09	0.04	0.03
	Total On-Road Motor Vehicles	62.47	52.85	78.94	475.95	1.44	23.01	22.57	9.51	20.26
Other Mobile Sources										
810	Aircraft	3.58	3.42	18.73	34.73	1.60	0.77	0.74	0.66	0
820	Trains	0.83	0.69	16.36	3.98	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.13	9.53	31.44	4.52	2.19	0.72	0.72	0.66	0.03
835	Commercial Harbor Crafts	0.39	0.33	5.79	1.22	0	0.25	0.25	0.23	0
840	Recreational Boats	13.20	12.29	2.79	51.55	0	0.77	0.69	0.52	0.01
850	Off-Road Recreational Vehicles	1.10	1.08	0.04	2.27	0	0.01	0.01	0.01	0
860	Off-Road Equipment	50.71	46.82	32.94	645.81	0.08	1.84	1.77	1.53	0.07
861	Off-Road Equipment (PERP)	0.63	0.53	4.99	4.81	0.02	0.17	0.17	0.16	0.01
870	Farm Equipment	0.24	0.22	0.48	4.01	0	0.04	0.03	0.03	0
890	Fuel Storage and Handling	4.49	4.49	0	0	0	0	0	0	0
	Total Other Mobile Sources	86.29	79.40	113.57	752.88	3.92	4.92	4.75	4.13	0.13
Total Stationary and Area Sources		1113.54	227.34	55.01	137.46	9.47	258.11	140.37	45.79	57.23
Total On-Road Vehicles		62.47	52.85	78.94	475.95	1.44	23.01	22.57	9.51	20.26
Total Other Mobile		86.29	79.40	113.57	752.88	3.92	4.92	4.75	4.13	0.13
Total		1262.31	359.59	247.51	1366.28	14.84	286.04	167.69	59.43	77.62

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	3.06	4.18	0.22	0.52	0.52	0.52	0.66
20	Cogeneration	0.04	0.02	0.02	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.30	0.15	0.87	0.69	0.01	0.11	0.11	0.11	0.22
40	Petroleum Refining (Combustion)	6.55	1.38	5.93	5.17	0.01	1.80	1.80	1.79	1.54
50	Manufacturing and Industrial	4.23	0.92	7.86	47.21	1.04	1.44	1.36	1.33	2.27
52	Food and Agricultural Processing	0.09	0.04	0.39	0.50	0	0.05	0.05	0.05	0.06
60	Service and Commercial	5.04	2.01	11.41	19.93	0.75	1.15	1.14	1.14	2.41
99	Other (Fuel Combustion)	0.82	0.61	2.40	1.19	0.07	0.45	0.43	0.40	0.28
	Total Fuel Combustion	20.71	5.45	31.95	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	0.02	0	0	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	1.16	0.26	0.07	0.12	0.06	0.05	0.23
140	Soil Remediation	0	0	0.00	0	0	0	0	0	0
199	Other (Waste Disposal)	73.39	5.90	0.01	0.01	0	0	0	0	1.54
	Total Waste Disposal	729.03	15.31	1.55	0.67	0.45	0.35	0.27	0.26	6.14
Cleaning and Surface Coatings										
210	Laundrying	3.58	0.15	0.00	0	0	0	0	0	0
220	Degreasing	69.16	13.22	0.00	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	19.38	18.96	0.00	0	0	1.62	1.56	1.50	0.10
240	Printing	0.74	0.74	0.00	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.22	4.61	0.00	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.65	0.64	0.04	0.11	0	0.01	0.01	0	0
	Total Cleaning and Surface Coatings	98.73	38.33	0.04	0.12	0	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
320	Petroleum Refining	6.35	4.43	0.72	2.39	0.24	1.87	1.25	0.88	0.07
330	Petroleum Marketing	51.63	11.17	0.02	0.20	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	65.02	18.85	0.76	2.63	0.32	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.42	4.30	0.07	0.12	0.05	0.47	0.41	0.39	0.01
420	Food and Agriculture	0.57	0.55	0.03	0.01	0.01	0.23	0.11	0.05	0
430	Mineral Processes	0.38	0.34	0.38	0.31	0.05	8.55	3.64	0.97	0.06
440	Metal Processes	0.12	0.10	0.27	0.29	0.03	0.41	0.32	0.23	0
450	Wood and Paper	0.24	0.24	0.00	0	0	7.29	5.10	3.06	0.01
460	Glass and Related Products	0	0	0.00	0	0	0	0	0	0
470	Electronics	0.02	0.01	0.00	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.53	4.98	0.02	0.01	0	1.15	0.76	0.48	8.59
	Total Industrial Processes	11.28	10.52	0.78	0.73	0.15	18.10	10.35	5.19	8.68
Solvent Evaporation										
510	Consumer Products	145.79	115.57	0.00	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.43	11.43	0.00	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.13	1.13	0.00	0	0	0	0	0	1.19
540	Asphalt Paving/Roofing	1.14	1.04	0.00	0	0	0.03	0.03	0.02	0
	Total Solvent Evaporation	159.50	129.17	0.00	0	0	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	0	0	1.46	0.70	0.14	6.19
630	Construction and Demolition	0	0	0	0	0	49.19	24.07	2.41	0
640	Paved Road Dust	0	0	0	0	0	129.93	59.41	8.91	0
645	Unpaved Road Dust	0	0	0	0	0	28.16	16.74	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	3.02	1.54	0.22	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	0	0	11.96	11.96	11.96	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	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	Light Duty Passenger Auto (LDA)	18.49	17.31	11.01	182.06	0.58	11.45	11.22	4.65	8.61
722	Light Duty Trucks 1 (T1)	4.82	4.51	2.71	31.86	0.08	1.26	1.24	0.52	1.02
723	Light Duty Trucks 2 (T2)	10.35	9.68	6.56	82.14	0.24	3.79	3.71	1.54	2.91
724	Medium Duty Trucks (T3)	8.24	7.68	5.36	59.90	0.19	2.49	2.44	1.01	1.86
732	Light Heavy Duty Gas Trucks 1 (T4)	1.42	1.36	1.06	4.19	0.02	0.27	0.26	0.11	0.14
733	Light Heavy Duty Gas Trucks 2 (T5)	0.21	0.20	0.18	0.60	0	0.05	0.05	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.34	0.31	0.41	2.70	0.02	0.16	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.01	0	0.03	0.22	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.18	0.16	3.19	0.96	0.01	0.28	0.28	0.13	0.52
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.07	0.06	1.10	0.35	0	0.13	0.12	0.06	0.20
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	8.20	0.73	0.06	1.06	1.04	0.45	1.55
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.00	0.80	23.31	12.74	0.17	1.43	1.41	0.61	2.86
750	Motorcycles (MCY)	9.20	8.00	2.33	41.26	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	4.05	0.06	0.31	30.95	0	0.07	0.07	0.03	0.63
762	Gas Urban Buses (UB)	0	0	0.02	0.05	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.07	0.05	0.06	0.50	0	0.10	0.10	0.04	0
772	Diesel School Buses (SB)	0.03	0.03	1.74	0.12	0	0.18	0.17	0.08	0.03
777	Gas Other Buses (OB)	0.09	0.09	0.13	0.69	0	0.04	0.04	0.01	0.02
778	Motor Coaches	0.01	0.01	0.23	0.09	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.37	0.03	0	0.03	0.03	0.01	0.08
780	Motor Homes (MH)	0.04	0.03	0.54	0.35	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	59.69	50.41	68.84	452.48	1.40	22.93	22.49	9.42	20.59
Other Mobile Sources										
810	Aircraft	3.65	3.49	19.69	35.30	1.65	0.77	0.75	0.67	0
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	0.25	0.25	0.23	0
840	Recreational Boats	12.68	11.81	2.77	51.68	0	0.74	0.67	0.50	0.01
850	Off-Road Recreational Vehicles	1.07	1.05	0.05	2.32	0	0.01	0.01	0.01	0
860	Off-Road Equipment	47.42	43.78	31.17	623.34	0.08	1.74	1.68	1.45	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	0.03	0.03	0.03	0
890	Fuel Storage and Handling	4.37	4.37	0	0	0	0	0	0	0
	Total Other Mobile Sources	82.33	75.73	111.69	731.11	3.98	4.76	4.60	4.00	0.13
Total Stationary and Area Sources		1120.81	229.32	53.09	137.08	9.48	259.37	141.03	45.99	57.43
Total On-Road Vehicles		59.69	50.41	68.84	452.48	1.40	22.93	22.49	9.42	20.59
Total Other Mobile		82.33	75.73	111.69	731.11	3.98	4.76	4.60	4.00	0.13
Total		1262.84	355.47	233.62	1320.67	14.86	287.06	168.12	59.42	78.14

Attachment A

2026 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	2.61	0.3	3.01	4.14	0.23	0.51	0.51	0.51	0.65
20	Cogeneration	0.04	0.02	0.02	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.35	0.16	0.87	0.72	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	6.55	1.38	5.33	5.17	3.14	1.8	1.8	1.79	1.54
50	Manufacturing and Industrial	4.23	0.92	7.84	47.15	1.82	1.44	1.37	1.33	2.27
52	Food and Agricultural Processing	0.09	0.04	0.39	0.5	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.04	2.02	11.31	19.63	0.76	1.14	1.13	1.13	2.35
99	Other (Fuel Combustion)	0.83	0.62	2.41	1.19	0.08	0.46	0.43	0.41	0.28
	Total Fuel Combustion	20.74	5.46	31.17	78.61	6.06	5.54	5.41	5.33	7.56
Waste Disposal										
110	Sewage Treatment	0.4	0.29	0	0.01	0	0.02	0	0	0.22
120	Landfills	659.11	9.14	0.38	0.4	0.38	0.21	0.21	0.2	4.18
130	Incineration	0.21	0.04	1.16	0.26	0.07	0.12	0.06	0.05	0.23
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	73.66	5.92	0.01	0.01	0	0	0	0	1.56
	Total Waste Disposal	733.37	15.39	1.55	0.68	0.46	0.35	0.27	0.26	6.19
Cleaning and Surface Coatings										
210	Laundrying	3.6	0.15	0	0	0	0	0	0	0
220	Degreasing	69.61	13.32	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	19.56	19.14	0	0	0	1.64	1.57	1.51	0.1
240	Printing	0.75	0.75	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.25	4.64	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.65	0.65	0.04	0.11	0.01	0.01	0.01	0	0
	Total Cleaning and Surface Coatings	99.43	38.65	0.04	0.12	0.01	1.69	1.62	1.56	0.15
Petroleum Production and Marketing										
310	Oil and Gas Production	7.31	3.35	0.01	0.03	0.09	0.04	0.03	0.02	0
320	Petroleum Refining	6.35	4.43	0.68	2.39	1.43	1.87	1.25	0.88	0.07
330	Petroleum Marketing	50.9	10.96	0.02	0.2	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	64.6	18.78	0.72	2.62	1.52	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.45	4.33	0.07	0.12	0.09	0.47	0.41	0.39	0.01
420	Food and Agriculture	0.57	0.55	0.03	0.01	0.01	0.23	0.11	0.06	0
430	Mineral Processes	0.38	0.34	0.38	0.31	0.21	8.57	3.65	0.97	0.06
440	Metal Processes	0.12	0.1	0.28	0.29	0.22	0.42	0.33	0.24	0
450	Wood and Paper	0.24	0.24	0	0	0	7.42	5.19	3.12	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.01	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.55	5	0.02	0.01	0	1.16	0.76	0.49	8.59
	Total Industrial Processes	11.34	10.58	0.78	0.74	0.53	18.27	10.47	5.26	8.68
Solvent Evaporation										
510	Consumer Products	146.73	116.33	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.53	11.53	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.13	1.13	0	0	0	0	0	0	1.18
540	Asphalt Paving/Roofing	1.15	1.05	0	0	0	0.03	0.03	0.02	0
	Total Solvent Evaporation	160.53	130.03	0	0	0	0.03	0.03	0.02	1.18

Attachment A

(Continued)

2026 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	19.66	8.92	17.28	47.92	0.33	7.23	6.88	6.69	0.11
620	Farming Operations	13.35	1.11	0	0	0	1.45	0.7	0.14	6.18
630	Construction and Demolition	0	0	0	0	0	49.54	24.24	2.42	0
640	Paved Road Dust	0	0	0	0	0	130.98	59.89	8.99	0
645	Unpaved Road Dust	0	0	0	0	0	28.16	16.74	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	3	1.53	0.22	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	2.87	1.14	0	0	0	12.03	12.03	12.03	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	27.4
	Total Miscellaneous Processes	36.47	11.67	17.45	53.79	0.36	233.19	122.77	32.86	33.72
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	17.61	16.55	10.32	174.55	0.56	11.46	11.23	4.64	8.76
722	Light Duty Trucks 1 (T1)	4.53	4.25	2.47	29.87	0.07	1.28	1.25	0.52	1.04
723	Light Duty Trucks 2 (T2)	9.95	9.34	6.03	78.87	0.23	3.8	3.73	1.55	2.98
724	Medium Duty Trucks (T3)	7.79	7.3	4.79	56.32	0.19	2.48	2.43	1.01	1.88
732	Light Heavy Duty Gas Trucks 1 (T4)	1.33	1.27	0.96	3.81	0.02	0.26	0.26	0.11	0.13
733	Light Heavy Duty Gas Trucks 2 (T5)	0.19	0.18	0.17	0.55	0	0.05	0.05	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.33	0.3	0.37	2.51	0.02	0.15	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.03	0.22	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.17	0.15	2.77	0.89	0.01	0.28	0.27	0.13	0.53
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.06	0.06	0.97	0.33	0	0.12	0.12	0.06	0.21
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	7.96	0.74	0.06	1.07	1.05	0.46	1.57
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.03	0.8	21.9	13.04	0.17	1.45	1.43	0.61	2.92
750	Motorcycles (MCY)	9.27	8.05	2.35	41.36	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	4.04	0.06	0.31	30.94	0	0.07	0.07	0.03	0.63
762	Gas Urban Buses (UB)	0	0	0.02	0.05	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.07	0.05	0.06	0.51	0	0.1	0.1	0.04	0
772	Diesel School Buses (SB)	0.03	0.02	1.66	0.12	0	0.18	0.18	0.08	0.03
777	Gas Other Buses (OB)	0.09	0.08	0.12	0.65	0	0.04	0.04	0.01	0.02
778	Motor Coaches	0.01	0.01	0.21	0.09	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.37	0.03	0	0.04	0.03	0.01	0.08
780	Motor Homes (MH)	0.03	0.03	0.52	0.3	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	57.63	48.59	64.36	435.73	1.37	22.98	22.54	9.42	20.94
Other Mobile Sources										
810	Aircraft	3.71	3.56	20.66	35.86	1.71	0.78	0.76	0.68	0
820	Trains	0.83	0.7	16.68	4.13	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.21	9.6	31.43	4.57	2.22	0.73	0.73	0.67	0.03
835	Commercial Harbor Crafts	0.39	0.33	5.79	1.21	0	0.25	0.25	0.23	0
840	Recreational Boats	12.17	11.34	2.74	51.84	0	0.71	0.64	0.48	0.01
850	Off-Road Recreational Vehicles	1.03	1.01	0.05	2.34	0	0.01	0.01	0.01	0
860	Off-Road Equipment	43.7	40.29	29.43	599.83	0.08	1.65	1.59	1.37	0.08
861	Off-Road Equipment (PERP)	0.59	0.49	4.16	5	0.02	0.13	0.13	0.12	0.01
870	Farm Equipment	0.21	0.19	0.43	3.58	0	0.03	0.03	0.03	0
890	Fuel Storage and Handling	4.27	4.27	0	0	0	0	0	0	0
	Total Other Mobile Sources	78.11	71.78	111.36	708.37	4.06	4.65	4.49	3.92	0.14
Total Stationary and Area Sources		1126.47	230.56	51.71	136.56	8.93	260.98	141.85	46.21	57.56
Total On-Road Vehicles		57.63	48.59	64.36	435.73	1.37	22.98	22.54	9.42	20.94
Total Other Mobile		78.11	71.78	111.36	708.37	4.06	4.65	4.49	3.92	0.14
Total		1262.22	350.93	227.43	1280.66	14.36	288.61	168.88	59.54	78.64

Attachment A

2027 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	2.49	0.29	2.86	3.98	0.22	0.49	0.49	0.49	0.62
20	Cogeneration	0.04	0.02	0.02	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.41	0.16	0.9	0.74	0.01	0.11	0.11	0.11	0.24
40	Petroleum Refining (Combustion)	6.55	1.38	5	5.17	3.14	1.8	1.8	1.79	1.54
50	Manufacturing and Industrial	4.2	0.92	7.79	46.59	1.82	1.44	1.36	1.32	2.25
52	Food and Agricultural Processing	0.09	0.04	0.39	0.5	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.06	2.02	11.3	19.4	0.76	1.13	1.13	1.12	2.31
99	Other (Fuel Combustion)	0.83	0.62	2.41	1.2	0.08	0.46	0.44	0.41	0.28
	Total Fuel Combustion	20.66	5.47	30.66	77.69	6.06	5.5	5.38	5.3	7.48
Waste Disposal										
110	Sewage Treatment	0.4	0.29	0	0.01	0	0.02	0	0	0.22
120	Landfills	663.52	9.2	0.38	0.41	0.38	0.21	0.21	0.2	4.2
130	Incineration	0.21	0.04	1.17	0.26	0.07	0.12	0.06	0.05	0.23
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	73.92	5.94	0.01	0.01	0	0	0	0	1.59
	Total Waste Disposal	738.05	15.47	1.56	0.68	0.46	0.35	0.27	0.26	6.24
Cleaning and Surface Coatings										
210	Laundering	3.62	0.15	0	0	0	0	0	0	0
220	Degreasing	69.93	13.39	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	19.73	19.3	0	0	0	1.65	1.58	1.53	0.1
240	Printing	0.76	0.76	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.28	4.66	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.66	0.65	0.04	0.11	0.01	0.01	0.01	0	0
	Total Cleaning and Surface Coatings	99.97	38.92	0.04	0.12	0.01	1.7	1.64	1.58	0.16
Petroleum Production and Marketing										
310	Oil and Gas Production	7.7	3.52	0.01	0.03	0.09	0.04	0.03	0.02	0
320	Petroleum Refining	6.35	4.43	0.65	2.39	1.43	1.87	1.25	0.88	0.07
330	Petroleum Marketing	50.04	10.78	0.02	0.19	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	64.13	18.77	0.69	2.62	1.52	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.46	4.34	0.07	0.12	0.09	0.47	0.41	0.39	0.01
420	Food and Agriculture	0.58	0.56	0.03	0.01	0.01	0.23	0.11	0.06	0
430	Mineral Processes	0.39	0.34	0.38	0.31	0.21	8.59	3.66	0.98	0.07
440	Metal Processes	0.12	0.1	0.28	0.3	0.23	0.43	0.33	0.24	0
450	Wood and Paper	0.24	0.24	0	0	0	7.55	5.28	3.17	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.01	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.57	5.02	0.02	0.01	0	1.16	0.76	0.49	8.59
	Total Industrial Processes	11.38	10.62	0.79	0.75	0.54	18.44	10.58	5.33	8.68
Solvent Evaporation										
510	Consumer Products	147.83	117.22	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.61	11.61	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.13	1.13	0	0	0	0	0	0	1.18
540	Asphalt Paving/Roofing	1.16	1.06	0	0	0	0.03	0.03	0.02	0
	Total Solvent Evaporation	161.73	131.02	0	0	0	0.03	0.03	0.02	1.18

Attachment A

(Continued)

2027 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	19.62	8.91	16.74	47.78	0.33	7.2	6.86	6.67	0.11
620	Farming Operations	13.29	1.1	0	0	0	1.45	0.7	0.14	6.17
630	Construction and Demolition	0	0	0	0	0	49.87	24.4	2.44	0
640	Paved Road Dust	0	0	0	0	0	131.64	60.19	9.03	0
645	Unpaved Road Dust	0	0	0	0	0	28.16	16.74	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.98	1.52	0.22	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	2.89	1.14	0	0	0	12.1	12.1	12.1	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	27.57
	Total Miscellaneous Processes	36.38	11.66	16.9	53.66	0.36	234.19	123.26	32.95	33.88
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	16.79	15.82	9.74	167.9	0.55	11.45	11.23	4.63	8.88
722	Light Duty Trucks 1 (T1)	4.25	4	2.26	28.04	0.07	1.29	1.26	0.53	1.05
723	Light Duty Trucks 2 (T2)	9.56	8.99	5.58	75.95	0.23	3.81	3.74	1.55	3.03
724	Medium Duty Trucks (T3)	7.37	6.93	4.31	53.14	0.18	2.47	2.42	1	1.9
732	Light Heavy Duty Gas Trucks 1 (T4)	1.26	1.21	0.88	3.52	0.02	0.25	0.25	0.1	0.13
733	Light Heavy Duty Gas Trucks 2 (T5)	0.18	0.17	0.15	0.51	0	0.05	0.05	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.31	0.29	0.33	2.34	0.02	0.15	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.03	0.22	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.16	0.14	2.41	0.82	0.01	0.28	0.27	0.13	0.54
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.06	0.05	0.85	0.31	0	0.12	0.12	0.06	0.21
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	7.72	0.75	0.06	1.08	1.06	0.46	1.59
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.06	0.81	20.89	13.28	0.16	1.47	1.45	0.62	2.98
750	Motorcycles (MCY)	9.28	8.06	2.36	41.33	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.92	0.06	0.31	30.09	0	0.07	0.07	0.03	0.64
762	Gas Urban Buses (UB)	0	0	0.02	0.05	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.08	0.06	0.06	0.52	0	0.11	0.1	0.04	0
772	Diesel School Buses (SB)	0.03	0.02	1.57	0.12	0	0.18	0.18	0.08	0.03
777	Gas Other Buses (OB)	0.09	0.08	0.11	0.61	0	0.04	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.21	0.09	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.37	0.03	0	0.04	0.04	0.02	0.08
780	Motor Homes (MH)	0.03	0.03	0.5	0.25	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	55.51	46.8	60.66	419.88	1.33	23	22.57	9.41	21.26
Other Mobile Sources										
810	Aircraft	3.79	3.63	21.6	36.44	1.77	0.79	0.77	0.68	0
820	Trains	0.84	0.7	16.97	4.21	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.24	9.62	31.55	4.64	2.25	0.74	0.74	0.68	0.03
835	Commercial Harbor Crafts	0.38	0.32	5.77	1.21	0	0.25	0.25	0.23	0
840	Recreational Boats	11.71	10.91	2.72	52.07	0	0.69	0.62	0.47	0.01
850	Off-Road Recreational Vehicles	0.98	0.96	0.05	2.36	0	0.01	0.01	0.01	0
860	Off-Road Equipment	40	36.88	27.95	576.44	0.08	1.57	1.51	1.3	0.07
861	Off-Road Equipment (PERP)	0.56	0.47	3.65	5.1	0.02	0.1	0.1	0.1	0.01
870	Farm Equipment	0.2	0.18	0.41	3.36	0	0.03	0.03	0.03	0
890	Fuel Storage and Handling	4.17	4.17	0	0	0	0	0	0	0
	Total Other Mobile Sources	73.87	67.85	110.66	685.82	4.15	4.54	4.39	3.83	0.13
Total Stationary and Area Sources		1132.30	231.93	50.64	135.52	8.95	262.12	142.43	46.35	57.69
Total On-Road Vehicles		55.51	46.8	60.66	419.88	1.33	23	22.57	9.41	21.26
Total Other Mobile		73.87	67.85	110.66	685.82	4.15	4.54	4.39	3.83	0.13
Total		1261.67	346.57	221.97	1241.21	14.43	289.66	169.38	59.59	79.07

Attachment A

2029 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	2.31	0.27	2.63	3.74	0.21	0.45	0.45	0.45	0.57
20	Cogeneration	0.04	0.02	0.02	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.48	0.17	0.93	0.77	0.01	0.11	0.11	0.11	0.25
40	Petroleum Refining (Combustion)	6.55	1.38	4.5	5.17	3.14	1.8	1.8	1.79	1.54
50	Manufacturing and Industrial	4.13	0.92	7.68	45.68	1.82	1.42	1.34	1.3	2.22
52	Food and Agricultural Processing	0.09	0.04	0.39	0.5	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.08	2.03	11.28	19.02	0.77	1.12	1.12	1.11	2.24
99	Other (Fuel Combustion)	0.84	0.63	2.41	1.2	0.08	0.47	0.44	0.42	0.28
	Total Fuel Combustion	20.51	5.46	29.84	76.19	6.06	5.44	5.32	5.24	7.33
Waste Disposal										
110	Sewage Treatment	0.41	0.29	0	0.01	0	0.02	0	0	0.22
120	Landfills	671.85	9.32	0.38	0.41	0.38	0.21	0.21	0.2	4.24
130	Incineration	0.21	0.04	1.18	0.27	0.08	0.12	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	74.46	5.99	0.01	0.01	0	0	0	0	1.64
	Total Waste Disposal	746.93	15.63	1.57	0.69	0.46	0.35	0.27	0.26	6.34
Cleaning and Surface Coatings										
210	Laundrying	3.66	0.15	0	0	0	0	0	0	0
220	Degreasing	70.12	13.44	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	19.95	19.52	0	0	0	1.66	1.6	1.54	0.1
240	Printing	0.78	0.78	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.3	4.68	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.66	0.65	0.04	0.11	0.01	0.01	0.01	0	0
	Total Cleaning and Surface Coatings	100.47	39.22	0.04	0.12	0.01	1.72	1.65	1.59	0.16
Petroleum Production and Marketing										
310	Oil and Gas Production	8.23	3.77	0.01	0.03	0.1	0.04	0.03	0.02	0
320	Petroleum Refining	6.35	4.43	0.61	2.39	1.43	1.87	1.25	0.88	0.07
330	Petroleum Marketing	48.59	10.5	0.02	0.19	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	63.21	18.74	0.65	2.62	1.53	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	0.39	0.01
420	Food and Agriculture	0.58	0.56	0.03	0.01	0.01	0.23	0.12	0.06	0
430	Mineral Processes	0.39	0.34	0.38	0.31	0.21	8.61	3.67	0.98	0.07
440	Metal Processes	0.12	0.11	0.29	0.31	0.23	0.44	0.34	0.25	0
450	Wood and Paper	0.25	0.25	0	0	0	7.69	5.38	3.23	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.6	5.05	0.02	0.01	0	1.16	0.77	0.49	8.59
	Total Industrial Processes	11.44	10.67	0.79	0.76	0.54	18.61	10.7	5.4	8.68
Solvent Evaporation										
510	Consumer Products	151.41	120.17	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.78	11.78	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.14	1.14	0	0	0	0	0	0	1.17
540	Asphalt Paving/Roofing	1.17	1.08	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	165.51	134.17	0	0	0	0.03	0.03	0.03	1.17

Attachment A

(Continued)

2029 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	19.54	8.88	15.67	47.5	0.32	7.15	6.8	6.62	0.11
620	Farming Operations	13.15	1.09	0	0	0	1.44	0.69	0.13	6.15
630	Construction and Demolition	0	0	0	0	0	50.57	24.74	2.47	0
640	Paved Road Dust	0	0	0	0	0	132.89	60.76	9.12	0
645	Unpaved Road Dust	0	0	0	0	0	28.16	16.73	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.95	1.51	0.21	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	2.92	1.16	0	0	0	12.23	12.23	12.23	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	27.88
	Total Miscellaneous Processes	36.2	11.62	15.84	53.37	0.35	236.16	124.23	33.15	34.17
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	15.43	14.61	8.92	158.12	0.53	11.45	11.23	4.61	9.12
722	Light Duty Trucks 1 (T1)	3.73	3.53	1.91	25.23	0.07	1.31	1.28	0.53	1.08
723	Light Duty Trucks 2 (T2)	8.84	8.36	4.87	71.64	0.22	3.84	3.76	1.55	3.13
724	Medium Duty Trucks (T3)	6.67	6.31	3.57	48.24	0.17	2.46	2.41	1	1.94
732	Light Heavy Duty Gas Trucks 1 (T4)	1.16	1.12	0.74	2.99	0.02	0.24	0.23	0.1	0.13
733	Light Heavy Duty Gas Trucks 2 (T5)	0.15	0.14	0.13	0.45	0	0.05	0.05	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.29	0.27	0.27	2.08	0.01	0.15	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.03	0.23	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.15	0.13	1.82	0.71	0.01	0.27	0.26	0.12	0.56
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.06	0.05	0.67	0.27	0	0.12	0.12	0.06	0.22
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	7.01	0.76	0.06	1.09	1.07	0.46	1.63
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.11	0.81	18.4	13.65	0.16	1.51	1.49	0.63	3.1
750	Motorcycles (MCY)	9.38	8.14	2.39	41.43	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.52	0.05	0.3	27.06	0	0.07	0.07	0.03	0.65
762	Gas Urban Buses (UB)	0	0	0.02	0.05	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.08	0.06	0.06	0.53	0	0.11	0.11	0.05	0
772	Diesel School Buses (SB)	0.02	0.02	1.38	0.12	0	0.18	0.18	0.08	0.03
777	Gas Other Buses (OB)	0.09	0.08	0.09	0.55	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.19	0.1	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.38	0.03	0	0.04	0.04	0.02	0.08
780	Motor Homes (MH)	0.02	0.02	0.47	0.17	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	51.79	43.78	53.61	394.41	1.28	23.06	22.63	9.39	21.85
Other Mobile Sources										
810	Aircraft	3.92	3.76	23.52	37.6	1.89	0.81	0.78	0.7	0
820	Trains	0.86	0.72	17.54	4.37	0.03	0.38	0.38	0.35	0.01
833	Ocean Going Vessels	11.33	9.7	32.22	4.76	2.31	0.76	0.76	0.7	0.03
835	Commercial Harbor Crafts	0.38	0.32	5.73	1.19	0	0.24	0.24	0.23	0
840	Recreational Boats	10.88	10.14	2.68	52.66	0	0.64	0.58	0.43	0.01
850	Off-Road Recreational Vehicles	0.89	0.87	0.05	2.41	0	0.01	0.01	0.01	0
860	Off-Road Equipment	33.57	30.92	25.05	515.74	0.08	1.43	1.37	1.18	0.06
861	Off-Road Equipment (PERP)	0.57	0.48	3.58	5.3	0.02	0.1	0.1	0.09	0.01
870	Farm Equipment	0.17	0.16	0.36	2.93	0	0.03	0.03	0.02	0
890	Fuel Storage and Handling	4.02	4.02	0	0	0	0	0	0	0
	Total Other Mobile Sources	66.6	61.09	110.74	626.95	4.33	4.38	4.24	3.71	0.12
Total Stationary and Area Sources		1144.26	235.52	48.74	133.74	8.96	264.24	143.48	46.58	57.92
Total On-Road Vehicles		51.79	43.78	53.61	394.41	1.28	23.06	22.63	9.39	21.85
Total Other Mobile		66.6	61.09	110.74	626.95	4.33	4.38	4.24	3.71	0.12
Total		1262.64	340.39	213.08	1155.1	14.57	291.68	170.34	59.67	79.9

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	0.02	0.02	0.12	0	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	1.8	1.8	1.79	1.54
50	Manufacturing and Industrial	4.09	0.91	7.62	45.13	1.82	1.41	1.33	1.29	2.2
52	Food and Agricultural Processing	0.09	0.04	0.39	0.5	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.08	2.04	11.26	18.83	0.77	1.11	1.11	1.11	2.21
99	Other (Fuel Combustion)	0.84	0.63	2.41	1.2	0.08	0.47	0.44	0.42	0.28
	Total Fuel Combustion	20.38	5.44	29.39	75.31	6.06	5.4	5.28	5.2	7.25
Waste Disposal										
110	Sewage Treatment	0.41	0.29	0	0.01	0	0.02	0	0	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	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	74.73	6.01	0.01	0.01	0	0	0	0	1.67
	Total Waste Disposal	751.34	15.72	1.58	0.69	0.46	0.35	0.27	0.26	6.39
Cleaning and Surface Coatings										
210	Laundrying	3.68	0.15	0	0	0	0	0	0	0
220	Degreasing	69.91	13.41	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	20.01	19.57	0	0	0	1.66	1.6	1.54	0.1
240	Printing	0.78	0.78	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.28	4.67	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.66	0.65	0.04	0.11	0.01	0.01	0.01	0	0
	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	0.1	0.04	0.03	0.02	0
320	Petroleum Refining	6.35	4.43	0.59	2.39	1.43	1.87	1.25	0.88	0.07
330	Petroleum Marketing	47.9	10.39	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	62.66	18.69	0.63	2.61	1.53	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.46	4.33	0.07	0.12	0.09	0.47	0.41	0.39	0.01
420	Food and Agriculture	0.58	0.56	0.03	0.01	0.01	0.23	0.12	0.06	0
430	Mineral Processes	0.39	0.35	0.38	0.31	0.21	8.6	3.67	0.98	0.07
440	Metal Processes	0.12	0.11	0.29	0.31	0.24	0.44	0.35	0.25	0
450	Wood and Paper	0.25	0.25	0	0	0	7.69	5.38	3.23	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.61	5.06	0.02	0.01	0	1.16	0.77	0.49	8.59
	Total Industrial Processes	11.44	10.67	0.79	0.76	0.55	18.61	10.7	5.4	8.68
Solvent Evaporation										
510	Consumer Products	153.56	121.94	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.87	11.87	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.14	1.14	0	0	0	0	0	0	1.17
540	Asphalt Paving/Roofing	1.18	1.08	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	167.75	136.04	0	0	0	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	13.07	1.08	0	0	0	1.44	0.69	0.13	6.13
630	Construction and Demolition	0	0	0	0	0	50.91	24.91	2.49	0
640	Paved Road Dust	0	0	0	0	0	132.87	60.75	9.11	0
645	Unpaved Road Dust	0	0	0	0	0	28.16	16.73	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.93	1.5	0.21	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	0	0	12.3	12.3	12.3	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	28.03
	Total Miscellaneous Processes	36.1	11.61	15.33	53.24	0.35	236.51	124.42	33.21	34.3
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	14.73	13.97	8.58	153.47	0.51	11.38	11.16	4.57	9.16
722	Light Duty Trucks 1 (T1)	3.46	3.28	1.74	23.89	0.07	1.31	1.28	0.53	1.09
723	Light Duty Trucks 2 (T2)	8.45	8	4.56	69.52	0.21	3.83	3.75	1.54	3.15
724	Medium Duty Trucks (T3)	6.32	5.99	3.28	46.21	0.17	2.45	2.4	0.99	1.95
732	Light Heavy Duty Gas Trucks 1 (T4)	1.12	1.09	0.68	2.72	0.02	0.23	0.23	0.1	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.14	0.13	0.12	0.42	0	0.05	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.28	0.26	0.25	1.97	0.01	0.15	0.14	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.23	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.14	0.12	1.58	0.66	0.01	0.27	0.26	0.12	0.57
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.05	0.6	0.26	0	0.12	0.12	0.06	0.22
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	6.7	0.76	0.05	1.09	1.07	0.46	1.65
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.13	0.81	17.62	13.77	0.16	1.52	1.51	0.64	3.16
750	Motorcycles (MCY)	9.36	8.12	2.38	41.25	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.16	0.05	0.28	24.39	0	0.07	0.07	0.03	0.65
762	Gas Urban Buses (UB)	0	0	0.02	0.04	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.08	0.06	0.05	0.54	0	0.11	0.11	0.05	0
772	Diesel School Buses (SB)	0.02	0.02	1.29	0.12	0	0.18	0.18	0.08	0.03
777	Gas Other Buses (OB)	0.09	0.08	0.09	0.52	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.18	0.1	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.39	0.03	0	0.04	0.04	0.02	0.08
780	Motor Homes (MH)	0.02	0.02	0.45	0.14	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	49.64	42.13	50.86	381.01	1.25	22.97	22.55	9.34	22.03
Other Mobile Sources										
810	Aircraft	3.99	3.82	24.48	38.17	1.95	0.82	0.79	0.71	0
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	5.7	1.18	0	0.24	0.24	0.23	0
840	Recreational Boats	10.48	9.77	2.66	52.96	0	0.62	0.56	0.42	0.01
850	Off-Road Recreational Vehicles	0.84	0.83	0.05	2.43	0	0.01	0.01	0.01	0
860	Off-Road Equipment	31.09	28.56	24.06	481.33	0.08	1.38	1.32	1.14	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	0.03	0.03	0.02	0
890	Fuel Storage and Handling	3.96	3.96	0	0	0	0	0	0	0
	Total Other Mobile Sources	63.71	58.35	111.07	593.49	4.41	4.33	4.19	3.66	0.14
Total Stationary and Area Sources		1149.97	237.39	47.76	132.74	8.96	264.55	143.63	46.60	58.02
Total On-Road Vehicles		49.64	42.13	50.86	381.01	1.25	22.97	22.55	9.34	22.03
Total Other Mobile		63.71	58.35	111.07	593.49	4.41	4.33	4.19	3.66	0.14
Total		1263.32	337.87	209.69	1107.23	14.62	291.84	170.36	59.59	80.18

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	0.02	0.02	0.12	0	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	1.8	1.8	1.79	1.54
50	Manufacturing and Industrial	4.07	0.91	7.59	44.82	1.82	1.4	1.32	1.28	2.19
52	Food and Agricultural Processing	0.09	0.04	0.39	0.5	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.09	2.04	11.26	18.71	0.78	1.11	1.11	1.1	2.18
99	Other (Fuel Combustion)	0.84	0.63	2.41	1.2	0.08	0.47	0.44	0.42	0.28
	Total Fuel Combustion	20.39	5.45	29.27	74.88	6.06	5.4	5.27	5.19	7.21
Waste Disposal										
110	Sewage Treatment	0.41	0.3	0	0.01	0	0.02	0	0	0.22
120	Landfills	679.57	9.43	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	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	74.86	6.02	0.01	0.01	0	0	0	0	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	Laundrying	3.7	0.16	0	0	0	0	0	0	0
220	Degreasing	69.79	13.39	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	20.07	19.63	0	0	0	1.67	1.6	1.54	0.1
240	Printing	0.78	0.78	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.28	4.66	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.65	0.65	0.04	0.11	0.01	0.01	0.01	0	0
	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	0.1	0.04	0.03	0.02	0
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	10.3	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	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	0.47	0.41	0.39	0.01
420	Food and Agriculture	0.59	0.57	0.03	0.01	0.01	0.23	0.12	0.06	0
430	Mineral Processes	0.39	0.35	0.38	0.31	0.21	8.61	3.68	0.98	0.07
440	Metal Processes	0.12	0.11	0.29	0.31	0.24	0.44	0.35	0.25	0
450	Wood and Paper	0.25	0.25	0	0	0	7.71	5.4	3.24	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.63	5.07	0.02	0.01	0	1.16	0.77	0.49	8.59
	Total Industrial Processes	11.45	10.68	0.79	0.76	0.55	18.64	10.72	5.41	8.68
Solvent Evaporation										
510	Consumer Products	155.67	123.69	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.96	11.96	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.15	1.15	0	0	0	0	0	0	1.16
540	Asphalt Paving/Roofing	1.19	1.09	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	169.96	137.89	0	0	0	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	0	0	1.43	0.69	0.13	6.12
630	Construction and Demolition	0	0	0	0	0	51.26	25.08	2.51	0
640	Paved Road Dust	0	0	0	0	0	132.82	60.72	9.11	0
645	Unpaved Road Dust	0	0	0	0	0	28.16	16.73	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.91	1.49	0.21	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	0	0	12.37	12.37	12.37	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	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	Light Duty Passenger Auto (LDA)	14.08	13.38	8.29	149.34	0.5	11.31	11.1	4.54	9.19
722	Light Duty Trucks 1 (T1)	3.17	3.01	1.58	22.61	0.07	1.31	1.28	0.53	1.09
723	Light Duty Trucks 2 (T2)	8.06	7.64	4.29	67.57	0.21	3.82	3.74	1.54	3.17
724	Medium Duty Trucks (T3)	6	5.7	3.04	44.47	0.16	2.43	2.38	0.98	1.95
732	Light Heavy Duty Gas Trucks 1 (T4)	1	0.98	0.62	2.46	0.02	0.23	0.22	0.09	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.13	0.12	0.11	0.4	0	0.04	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.27	0.25	0.23	1.87	0.01	0.14	0.14	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.24	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.13	0.12	1.37	0.62	0.01	0.26	0.26	0.12	0.58
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.05	0.53	0.24	0	0.12	0.12	0.06	0.23
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	6.39	0.75	0.05	1.09	1.07	0.46	1.66
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.16	0.81	16.96	13.87	0.16	1.54	1.53	0.65	3.22
750	Motorcycles (MCY)	9.36	8.12	2.38	41.12	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.67	0.04	0.23	20.34	0	0.06	0.06	0.02	0.65
762	Gas Urban Buses (UB)	0	0	0.02	0.04	0	0.01	0.01	0	0
771	Gas School Buses (SB)	0.08	0.06	0.05	0.53	0	0.12	0.11	0.05	0
772	Diesel School Buses (SB)	0.02	0.02	1.19	0.12	0	0.18	0.18	0.08	0.04
777	Gas Other Buses (OB)	0.08	0.08	0.08	0.49	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.18	0.1	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.39	0.03	0	0.04	0.04	0.02	0.08
780	Motor Homes (MH)	0.02	0.02	0.44	0.13	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	47.37	40.47	48.41	367.33	1.22	22.88	22.47	9.28	22.18
Other Mobile Sources										
810	Aircraft	4.05	3.9	25.45	38.75	2.01	0.82	0.8	0.72	0
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	4.9	2.37	0.78	0.78	0.72	0.03
835	Commercial Harbor Crafts	0.37	0.31	5.67	1.17	0	0.24	0.24	0.23	0
840	Recreational Boats	10.1	9.42	2.65	53.28	0	0.6	0.54	0.41	0.01
850	Off-Road Recreational Vehicles	0.81	0.79	0.05	2.46	0	0.01	0.01	0.01	0
860	Off-Road Equipment	28.99	26.6	23.07	449.6	0.08	1.34	1.28	1.1	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	0.03	0.03	0.02	0
890	Fuel Storage and Handling	3.91	3.91	0	0	0	0	0	0	0
	Total Other Mobile Sources	61.23	56.04	111.34	562.75	4.5	4.28	4.14	3.62	0.13
Total Stationary and Area Sources		1155.72	239.36	47.31	132.29	8.97	264.90	143.84	46.67	58.15
Total On-Road Vehicles		47.37	40.47	48.41	367.33	1.22	22.88	22.47	9.28	22.18
Total Other Mobile		61.23	56.04	111.34	562.75	4.5	4.28	4.14	3.62	0.13
Total		1264.32	335.86	207.06	1062.37	14.69	292.07	170.45	59.58	80.47

Attachment A

2032 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	2.18	0.25	2.47	3.57	0.21	0.43	0.43	0.42	0.53
20	Cogeneration	0.04	0.02	0.02	0.11	0	0.02	0.01	0.01	0.17
30	Oil and Gas Production (combustion)	1.54	0.18	0.96	0.8	0.01	0.11	0.11	0.11	0.26
40	Petroleum Refining (Combustion)	6.55	1.38	4.14	5.17	3.14	1.8	1.8	1.79	1.54
50	Manufacturing and Industrial	4.05	0.9	7.55	44.48	1.82	1.39	1.31	1.28	2.17
52	Food and Agricultural Processing	0.09	0.04	0.39	0.5	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.1	2.04	11.26	18.59	0.78	1.11	1.1	1.1	2.16
99	Other (Fuel Combustion)	0.84	0.63	2.41	1.2	0.08	0.47	0.44	0.42	0.28
	Total Fuel Combustion	20.39	5.45	29.18	74.41	6.06	5.38	5.26	5.18	7.18
Waste Disposal										
110	Sewage Treatment	0.42	0.3	0	0.01	0	0.02	0	0	0.22
120	Landfills	683.35	9.48	0.39	0.41	0.38	0.21	0.21	0.21	4.31
130	Incineration	0.21	0.04	1.19	0.27	0.08	0.12	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	74.99	6.03	0.01	0.01	0	0	0	0	1.68
	Total Waste Disposal	758.97	15.84	1.59	0.69	0.46	0.36	0.28	0.26	6.46
Cleaning and Surface Coatings										
210	Laundrying	3.72	0.16	0	0	0	0	0	0	0
220	Degreasing	69.55	13.35	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	20.12	19.68	0	0	0	1.66	1.6	1.54	0.1
240	Printing	0.78	0.78	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.26	4.65	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.65	0.65	0.04	0.11	0.01	0.01	0.01	0	0
	Total Cleaning and Surface Coatings	100.08	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	8.74	4	0.01	0.03	0.11	0.04	0.03	0.02	0
320	Petroleum Refining	6.35	4.43	0.57	2.39	1.43	1.87	1.25	0.88	0.07
330	Petroleum Marketing	47.26	10.22	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	62.39	18.68	0.61	2.61	1.53	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.43	4.31	0.07	0.12	0.09	0.47	0.41	0.39	0.01
420	Food and Agriculture	0.59	0.57	0.03	0.01	0.01	0.23	0.12	0.06	0
430	Mineral Processes	0.39	0.35	0.38	0.31	0.21	8.61	3.68	0.99	0.07
440	Metal Processes	0.12	0.11	0.29	0.32	0.24	0.44	0.35	0.25	0
450	Wood and Paper	0.25	0.25	0	0	0	7.71	5.39	3.24	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.64	5.09	0.02	0.01	0	1.17	0.77	0.49	8.59
	Total Industrial Processes	11.45	10.68	0.79	0.76	0.55	18.64	10.72	5.41	8.68
Solvent Evaporation										
510	Consumer Products	157.29	125.02	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	12.04	12.04	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.15	1.15	0	0	0	0	0	0	1.16
540	Asphalt Paving/Roofing	1.2	1.1	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	171.67	139.31	0	0	0	0.03	0.03	0.03	1.16

Attachment A

(Continued)

2032 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	19.5	8.86	14.52	47.35	0.32	7.12	6.77	6.59	0.11
620	Farming Operations	12.96	1.07	0	0	0	1.43	0.69	0.13	6.11
630	Construction and Demolition	0	0	0	0	0	51.62	25.26	2.52	0
640	Paved Road Dust	0	0	0	0	0	133.58	61.07	9.16	0
645	Unpaved Road Dust	0	0	0	0	0	28.16	16.73	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.9	1.48	0.21	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	2.97	1.18	0	0	0	12.43	12.43	12.43	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	28.33
	Total Miscellaneous Processes	36.01	11.61	14.68	53.22	0.35	238.02	125.2	33.41	34.58
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	13.57	12.91	8.11	146.78	0.49	11.33	11.12	4.54	9.27
722	Light Duty Trucks 1 (T1)	2.94	2.8	1.46	21.69	0.07	1.32	1.29	0.53	1.11
723	Light Duty Trucks 2 (T2)	7.73	7.35	4.09	66.32	0.2	3.83	3.76	1.54	3.21
724	Medium Duty Trucks (T3)	5.76	5.48	2.87	43.33	0.16	2.43	2.39	0.98	1.97
732	Light Heavy Duty Gas Trucks 1 (T4)	0.92	0.9	0.58	2.27	0.02	0.22	0.22	0.09	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.12	0.11	0.11	0.38	0	0.04	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.27	0.25	0.21	1.79	0.01	0.14	0.14	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.24	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.13	0.11	1.2	0.58	0.01	0.26	0.26	0.12	0.58
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.04	0.48	0.23	0	0.12	0.12	0.06	0.23
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	6.08	0.74	0.05	1.08	1.06	0.46	1.68
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.18	0.81	16.34	13.93	0.16	1.56	1.54	0.65	3.28
750	Motorcycles (MCY)	9.42	8.17	2.39	41.26	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.55	0.04	0.21	19.46	0	0.06	0.06	0.02	0.66
762	Gas Urban Buses (UB)	0	0	0.02	0.03	0	0.01	0.01	0	0
771	Gas School Buses (SB)	0.09	0.06	0.05	0.53	0	0.12	0.12	0.05	0
772	Diesel School Buses (SB)	0.02	0.02	1.1	0.12	0	0.18	0.18	0.08	0.04
777	Gas Other Buses (OB)	0.08	0.08	0.07	0.47	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.17	0.11	0	0.02	0.02	0.01	0.05
779	Diesel Other Buses (OB)	0	0	0.39	0.03	0	0.04	0.04	0.02	0.09
780	Motor Homes (MH)	0.02	0.02	0.43	0.12	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	45.93	39.22	46.37	360.4	1.2	22.93	22.51	9.29	22.43
Other Mobile Sources										
810	Aircraft	4.05	3.9	25.84	38.81	2.02	0.83	0.8	0.72	0
820	Trains	0.84	0.71	17.74	4.62	0.03	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.46	9.81	33.24	4.97	2.4	0.79	0.79	0.73	0.03
835	Commercial Harbor Crafts	0.36	0.31	5.64	1.15	0	0.24	0.24	0.22	0
840	Recreational Boats	9.78	9.12	2.64	53.68	0	0.58	0.52	0.39	0.01
850	Off-Road Recreational Vehicles	0.77	0.76	0.05	2.49	0	0.01	0.01	0.01	0
860	Off-Road Equipment	27.14	24.88	22.25	418.78	0.08	1.3	1.25	1.07	0.06
861	Off-Road Equipment (PERP)	0.59	0.5	3.48	5.62	0.02	0.09	0.09	0.08	0.02
870	Farm Equipment	0.14	0.13	0.31	2.34	0	0.03	0.02	0.02	0
890	Fuel Storage and Handling	3.87	3.87	0	0	0	0	0	0	0
	Total Other Mobile Sources	59.03	53.98	111.18	532.49	4.54	4.23	4.09	3.58	0.13
Total Stationary and Area Sources		1160.97	240.83	46.90	131.82	8.97	266.07	144.42	46.80	58.28
Total On-Road Vehicles		45.93	39.22	46.37	360.4	1.2	22.93	22.51	9.29	22.43
Total Other Mobile		59.03	53.98	111.18	532.49	4.54	4.23	4.09	3.58	0.13
Total		1265.93	334.04	204.45	1024.7	14.72	293.23	171.02	59.66	80.84

Attachment A

2033 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	2.17	0.25	2.46	3.56	0.21	0.43	0.42	0.42	0.53
20	Cogeneration	0.04	0.02	0.02	0.11	0	0.02	0.01	0.01	0.17
30	Oil and Gas Production (combustion)	1.57	0.18	0.95	0.81	0.01	0.11	0.11	0.11	0.26
40	Petroleum Refining (Combustion)	6.55	1.38	4.08	5.17	3.14	1.8	1.8	1.79	1.54
50	Manufacturing and Industrial	4.02	0.9	7.47	44.16	1.82	1.39	1.31	1.27	2.16
52	Food and Agricultural Processing	0.09	0.04	0.37	0.5	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.11	2.05	11.18	18.47	0.79	1.1	1.1	1.09	2.14
99	Other (Fuel Combustion)	0.84	0.63	2.41	1.2	0.08	0.47	0.44	0.42	0.28
	Total Fuel Combustion	20.4	5.45	28.94	73.97	6.07	5.37	5.25	5.17	7.14
Waste Disposal										
110	Sewage Treatment	0.42	0.3	0	0.01	0	0.02	0	0	0.23
120	Landfills	687.14	9.53	0.39	0.41	0.39	0.21	0.21	0.21	4.33
130	Incineration	0.21	0.04	1.19	0.27	0.08	0.12	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	75.12	6.04	0.01	0.01	0	0	0	0	1.69
	Total Waste Disposal	762.89	15.91	1.59	0.69	0.46	0.36	0.28	0.26	6.49
Cleaning and Surface Coatings										
210	Laundrying	3.74	0.16	0	0	0	0	0	0	0
220	Degreasing	69.32	13.32	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	20.17	19.73	0	0	0	1.66	1.6	1.54	0.1
240	Printing	0.78	0.78	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.25	4.64	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.65	0.65	0.04	0.11	0.01	0.01	0.01	0	0
	Total Cleaning and Surface Coatings	99.91	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	8.94	4.09	0.01	0.03	0.11	0.04	0.03	0.02	0
320	Petroleum Refining	6.35	4.43	0.57	2.39	1.43	1.87	1.25	0.88	0.07
330	Petroleum Marketing	46.95	10.15	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.05	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	62.29	18.71	0.61	2.61	1.54	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.42	4.29	0.07	0.12	0.09	0.47	0.41	0.39	0.01
420	Food and Agriculture	0.59	0.57	0.03	0.01	0.01	0.23	0.12	0.06	0
430	Mineral Processes	0.4	0.35	0.38	0.31	0.21	8.61	3.68	0.99	0.07
440	Metal Processes	0.12	0.11	0.29	0.32	0.24	0.45	0.35	0.25	0
450	Wood and Paper	0.25	0.25	0	0	0	7.71	5.4	3.24	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.66	5.1	0.02	0.01	0	1.17	0.77	0.49	8.59
	Total Industrial Processes	11.45	10.69	0.79	0.76	0.55	18.65	10.73	5.42	8.68
Solvent Evaporation										
510	Consumer Products	158.98	126.41	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	12.12	12.12	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.15	1.15	0	0	0	0	0	0	1.16
540	Asphalt Paving/Roofing	1.21	1.11	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	173.46	140.8	0	0	0	0.03	0.03	0.03	1.16

Attachment A

(Continued)

2033 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	19.5	8.86	14.29	47.34	0.32	7.12	6.77	6.58	0.11
620	Farming Operations	12.9	1.07	0	0	0	1.43	0.68	0.13	6.1
630	Construction and Demolition	0	0	0	0	0	51.96	25.43	2.54	0
640	Paved Road Dust	0	0	0	0	0	134.2	61.36	9.21	0
645	Unpaved Road Dust	0	0	0	0	0	28.15	16.73	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.88	1.48	0.21	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	2.99	1.18	0	0	0	12.5	12.5	12.5	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	28.49
	Total Miscellaneous Processes	35.97	11.61	14.45	53.21	0.35	239.03	125.71	33.54	34.72
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	13.08	12.47	7.96	144.33	0.49	11.33	11.12	4.53	9.33
722	Light Duty Trucks 1 (T1)	2.74	2.62	1.36	20.9	0.07	1.32	1.3	0.53	1.12
723	Light Duty Trucks 2 (T2)	7.4	7.04	3.9	65.07	0.2	3.84	3.76	1.54	3.24
724	Medium Duty Trucks (T3)	5.52	5.26	2.71	42.28	0.16	2.44	2.39	0.98	1.99
732	Light Heavy Duty Gas Trucks 1 (T4)	0.83	0.8	0.55	2.17	0.02	0.22	0.21	0.09	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.11	0.1	0.1	0.37	0	0.04	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.26	0.24	0.2	1.72	0.01	0.14	0.14	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.24	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.12	0.11	1.05	0.55	0.01	0.26	0.25	0.11	0.59
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.04	0.43	0.22	0	0.12	0.12	0.06	0.23
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	5.78	0.73	0.05	1.08	1.06	0.46	1.71
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.2	0.81	15.82	13.99	0.15	1.58	1.56	0.66	3.34
750	Motorcycles (MCY)	9.49	8.23	2.4	41.37	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.43	0.04	0.19	18.5	0	0.06	0.06	0.02	0.66
762	Gas Urban Buses (UB)	0	0	0.02	0.03	0	0.01	0.01	0	0
771	Gas School Buses (SB)	0.08	0.07	0.04	0.51	0	0.12	0.12	0.05	0
772	Diesel School Buses (SB)	0.02	0.01	1.01	0.11	0	0.18	0.18	0.08	0.04
777	Gas Other Buses (OB)	0.08	0.08	0.07	0.46	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.16	0.11	0	0.02	0.02	0.01	0.05
779	Diesel Other Buses (OB)	0	0	0.39	0.03	0	0.04	0.04	0.02	0.09
780	Motor Homes (MH)	0.02	0.02	0.43	0.11	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	44.52	38.01	44.59	353.8	1.18	22.95	22.54	9.28	22.65
Other Mobile Sources										
810	Aircraft	4.05	3.9	26.24	38.88	2.03	0.83	0.8	0.72	0
820	Trains	0.82	0.69	17.41	4.71	0.03	0.36	0.36	0.33	0.01
833	Ocean Going Vessels	11.49	9.83	33.62	5.04	2.43	0.8	0.8	0.74	0.03
835	Commercial Harbor Crafts	0.36	0.3	5.6	1.14	0	0.24	0.24	0.22	0
840	Recreational Boats	9.46	8.83	2.63	54.07	0	0.56	0.51	0.38	0.01
850	Off-Road Recreational Vehicles	0.74	0.73	0.05	2.52	0	0.01	0.01	0.01	0
860	Off-Road Equipment	25.61	23.44	21.33	394.5	0.07	1.26	1.21	1.04	0.06
861	Off-Road Equipment (PERP)	0.6	0.5	3.43	5.73	0.02	0.08	0.08	0.07	0.02
870	Farm Equipment	0.13	0.12	0.29	2.17	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	3.84	3.84	0	0	0	0	0	0	0
	Total Other Mobile Sources	57.12	52.18	110.59	508.77	4.58	4.16	4.03	3.53	0.13
Total Stationary and Area Sources		1166.37	242.43	46.42	131.36	8.99	267.07	144.92	46.91	58.41
Total On-Road Vehicles		44.52	38.01	44.59	353.8	1.18	22.95	22.54	9.28	22.65
Total Other Mobile		57.12	52.18	110.59	508.77	4.58	4.16	4.03	3.53	0.13
Total		1268.01	332.63	201.6	993.93	14.75	294.19	171.49	59.73	81.19

Attachment A

2035 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	2.16	0.25	2.44	3.54	0.21	0.42	0.42	0.42	0.52
20	Cogeneration	0.04	0.02	0.01	0.11	0	0.02	0.01	0.01	0.17
30	Oil and Gas Production (combustion)	1.62	0.19	0.96	0.83	0.01	0.12	0.12	0.12	0.27
40	Petroleum Refining (Combustion)	6.55	1.38	3.89	5.17	3.14	1.8	1.8	1.79	1.54
50	Manufacturing and Industrial	3.98	0.89	7.38	43.5	1.82	1.37	1.29	1.26	2.14
52	Food and Agricultural Processing	0.09	0.04	0.37	0.49	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.14	2.06	11.17	18.23	0.79	1.09	1.09	1.09	2.09
99	Other (Fuel Combustion)	0.84	0.63	2.41	1.19	0.08	0.47	0.44	0.42	0.28
	Total Fuel Combustion	20.42	5.46	28.63	73.05	6.08	5.35	5.23	5.15	7.07
Waste Disposal										
110	Sewage Treatment	0.42	0.3	0	0.01	0	0.02	0	0	0.23
120	Landfills	694.5	9.63	0.39	0.42	0.39	0.22	0.21	0.21	4.37
130	Incineration	0.21	0.04	1.2	0.27	0.08	0.13	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	75.36	6.06	0.01	0.01	0	0	0	0	1.71
	Total Waste Disposal	770.5	16.03	1.6	0.7	0.47	0.36	0.28	0.26	6.55
Cleaning and Surface Coatings										
210	Laundrying	3.79	0.16	0	0	0	0	0	0	0
220	Degreasing	68.91	13.25	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	20.27	19.83	0	0	0	1.66	1.6	1.54	0.1
240	Printing	0.79	0.79	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.23	4.62	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.65	0.64	0.04	0.11	0.01	0.01	0.01	0	0
	Total Cleaning and Surface Coatings	99.63	39.29	0.04	0.11	0.01	1.72	1.65	1.59	0.16
Petroleum Production and Marketing										
310	Oil and Gas Production	9.35	4.27	0.01	0.03	0.11	0.04	0.03	0.02	0
320	Petroleum Refining	6.35	4.43	0.55	2.39	1.43	1.87	1.25	0.88	0.07
330	Petroleum Marketing	46.39	10.06	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.05	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	62.14	18.8	0.59	2.61	1.54	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.39	4.27	0.07	0.12	0.09	0.47	0.41	0.38	0.01
420	Food and Agriculture	0.59	0.57	0.03	0.01	0.01	0.23	0.12	0.06	0
430	Mineral Processes	0.4	0.35	0.37	0.31	0.21	8.62	3.68	0.99	0.06
440	Metal Processes	0.13	0.11	0.29	0.32	0.25	0.45	0.36	0.26	0
450	Wood and Paper	0.25	0.25	0	0	0	7.72	5.4	3.24	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.68	5.13	0.02	0.01	0	1.17	0.78	0.49	8.59
	Total Industrial Processes	11.46	10.69	0.79	0.77	0.55	18.67	10.74	5.43	8.68
Solvent Evaporation										
510	Consumer Products	162.53	129.34	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	12.29	12.29	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.16	1.16	0	0	0	0	0	0	1.15
540	Asphalt Paving/Roofing	1.23	1.13	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	177.2	143.91	0	0	0	0.03	0.03	0.03	1.15

Attachment A

(Continued)

2035 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	19.49	8.85	13.86	47.31	0.32	7.11	6.77	6.58	0.11
620	Farming Operations	12.81	1.06	0	0	0	1.42	0.68	0.13	6.07
630	Construction and Demolition	0	0	0	0	0	52.66	25.77	2.58	0
640	Paved Road Dust	0	0	0	0	0	135.41	61.91	9.29	0
645	Unpaved Road Dust	0	0	0	0	0	28.15	16.73	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.85	1.47	0.21	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	3.02	1.2	0	0	0	12.64	12.64	12.64	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	28.79
	Total Miscellaneous Processes	35.9	11.61	14.02	53.18	0.35	241.03	126.72	33.78	35
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	12.2	11.66	7.73	140.22	0.48	11.34	11.13	4.52	9.42
722	Light Duty Trucks 1 (T1)	2.43	2.33	1.23	19.58	0.07	1.33	1.31	0.53	1.14
723	Light Duty Trucks 2 (T2)	6.75	6.43	3.58	62.88	0.2	3.85	3.78	1.54	3.28
724	Medium Duty Trucks (T3)	5.09	4.86	2.49	40.63	0.15	2.44	2.4	0.98	2.01
732	Light Heavy Duty Gas Trucks 1 (T4)	0.58	0.56	0.49	1.97	0.01	0.21	0.21	0.09	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.09	0.09	0.09	0.34	0	0.04	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.25	0.23	0.18	1.58	0.01	0.14	0.13	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.23	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.12	0.1	0.8	0.49	0.01	0.25	0.25	0.11	0.61
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.04	0.35	0.2	0	0.12	0.12	0.05	0.24
744	Medium Heavy Duty Diesel Truck (T6)	0.06	0.06	5.18	0.69	0.05	1.07	1.05	0.46	1.75
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.25	0.82	14.93	14.09	0.15	1.62	1.6	0.67	3.47
750	Motorcycles (MCY)	9.61	8.35	2.42	41.63	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.94	0.03	0.15	14.79	0	0.06	0.06	0.02	0.67
762	Gas Urban Buses (UB)	0	0	0.01	0.03	0	0.01	0.01	0	0
771	Gas School Buses (SB)	0.08	0.07	0.03	0.49	0	0.12	0.12	0.05	0
772	Diesel School Buses (SB)	0.01	0.01	0.84	0.11	0	0.18	0.18	0.08	0.04
777	Gas Other Buses (OB)	0.08	0.08	0.06	0.43	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.14	0.11	0	0.02	0.02	0.01	0.05
779	Diesel Other Buses (OB)	0	0	0.39	0.03	0	0.04	0.04	0.02	0.09
780	Motor Homes (MH)	0.02	0.02	0.41	0.1	0.01	0.08	0.08	0.03	0.03
	Total On-Road Motor Vehicles	41.64	35.74	41.54	340.63	1.15	23	22.59	9.27	23.03
Other Mobile Sources										
810	Aircraft	4.07	3.91	27.06	39.03	2.07	0.83	0.81	0.72	0
820	Trains	0.8	0.67	16.94	4.9	0.03	0.35	0.35	0.32	0.02
833	Ocean Going Vessels	11.59	9.92	34.43	5.19	2.49	0.82	0.82	0.76	0.03
835	Commercial Harbor Crafts	0.35	0.29	5.53	1.12	0	0.23	0.23	0.22	0
840	Recreational Boats	8.85	8.26	2.6	54.81	0.01	0.53	0.48	0.36	0.01
850	Off-Road Recreational Vehicles	0.69	0.68	0.05	2.59	0	0.01	0.01	0.01	0
860	Off-Road Equipment	22.82	20.79	19.78	352.06	0.07	1.2	1.15	0.98	0.07
861	Off-Road Equipment (PERP)	0.62	0.52	3.4	5.96	0.02	0.08	0.08	0.07	0.02
870	Farm Equipment	0.12	0.11	0.26	1.83	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	3.81	3.81	0	0	0	0	0	0	0
	Total Other Mobile Sources	53.72	48.94	110.06	467.49	4.68	4.07	3.94	3.45	0.14
Total Stationary and Area Sources		1177.24	245.8	45.68	130.42	8.99	269.07	145.91	47.15	58.68
Total On-Road Vehicles		41.64	35.74	41.54	340.63	1.15	23	22.59	9.27	23.03
Total Other Mobile		53.72	48.94	110.06	467.49	4.68	4.07	3.94	3.45	0.14
Total		1272.61	330.49	197.27	938.54	14.83	296.14	172.45	59.87	81.85

Attachment A

2036 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	2.47	3.59	0.21	0.43	0.43	0.43	0.53
20	Cogeneration	0.04	0.02	0.02	0.11	0	0.02	0.01	0.01	0.16
30	Oil and Gas Production (combustion)	1.65	0.19	0.97	0.84	0.01	0.12	0.12	0.12	0.28
40	Petroleum Refining (Combustion)	6.55	1.38	3.89	5.17	3.14	1.8	1.8	1.79	1.54
50	Manufacturing and Industrial	3.95	0.89	7.35	43.19	1.82	1.37	1.29	1.25	2.13
52	Food and Agricultural Processing	0.09	0.04	0.37	0.49	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.15	2.06	11.17	18.12	0.8	1.09	1.09	1.08	2.08
99	Other (Fuel Combustion)	0.84	0.63	2.41	1.19	0.08	0.47	0.45	0.42	0.28
	Total Fuel Combustion	20.46	5.47	28.64	72.69	6.08	5.35	5.23	5.15	7.05
Waste Disposal										
110	Sewage Treatment	0.43	0.3	0	0.01	0	0.02	0	0	0.23
120	Landfills	697.7	9.68	0.39	0.42	0.39	0.22	0.21	0.21	4.39
130	Incineration	0.21	0.04	1.2	0.27	0.08	0.13	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	75.46	6.07	0.01	0.01	0	0	0	0	1.71
	Total Waste Disposal	773.8	16.09	1.61	0.7	0.47	0.36	0.28	0.27	6.57
Cleaning and Surface Coatings										
210	Laundrying	3.81	0.16	0	0	0	0	0	0	0
220	Degreasing	68.71	13.23	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	20.34	19.89	0	0	0	1.66	1.6	1.54	0.1
240	Printing	0.79	0.79	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.21	4.61	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.65	0.64	0.04	0.11	0.01	0.01	0.01	0	0
	Total Cleaning and Surface Coatings	99.5	39.31	0.04	0.11	0.01	1.72	1.65	1.59	0.16
Petroleum Production and Marketing										
310	Oil and Gas Production	9.56	4.37	0.01	0.03	0.12	0.04	0.03	0.02	0
320	Petroleum Refining	6.35	4.43	0.55	2.39	1.43	1.87	1.25	0.88	0.07
330	Petroleum Marketing	46.15	10.03	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.05	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	62.1	18.86	0.59	2.61	1.54	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.38	4.25	0.07	0.12	0.09	0.47	0.41	0.38	0.01
420	Food and Agriculture	0.59	0.57	0.03	0.01	0.01	0.23	0.12	0.06	0
430	Mineral Processes	0.4	0.35	0.37	0.31	0.21	8.62	3.68	0.99	0.06
440	Metal Processes	0.13	0.11	0.29	0.33	0.25	0.45	0.36	0.26	0
450	Wood and Paper	0.25	0.25	0	0	0	7.73	5.41	3.25	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.7	5.14	0.02	0.01	0	1.18	0.78	0.49	8.59
	Total Industrial Processes	11.46	10.69	0.79	0.77	0.55	18.68	10.75	5.43	8.68
Solvent Evaporation										
510	Consumer Products	164.36	130.85	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	12.37	12.37	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.16	1.16	0	0	0	0	0	0	1.15
540	Asphalt Paving/Roofing	1.24	1.13	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	179.13	145.52	0	0	0	0.03	0.03	0.03	1.15

Attachment A

(Continued)

2036 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	19.49	8.85	13.64	47.3	0.32	7.11	6.76	6.58	0.11
620	Farming Operations	12.76	1.05	0	0	0	1.42	0.68	0.13	6.06
630	Construction and Demolition	0	0	0	0	0	53.03	25.95	2.59	0
640	Paved Road Dust	0	0	0	0	0	136.19	62.27	9.34	0
645	Unpaved Road Dust	0	0	0	0	0	28.15	16.73	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.84	1.46	0.21	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	3.03	1.2	0	0	0	12.71	12.71	12.71	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	28.93
	Total Miscellaneous Processes	35.86	11.61	13.81	53.17	0.35	242.23	127.31	33.91	35.13
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	11.82	11.3	7.66	138.75	0.47	11.36	11.15	4.53	9.47
722	Light Duty Trucks 1 (T1)	2.3	2.21	1.19	19.09	0.07	1.34	1.32	0.54	1.15
723	Light Duty Trucks 2 (T2)	6.47	6.17	3.45	61.99	0.19	3.86	3.79	1.54	3.3
724	Medium Duty Trucks (T3)	4.93	4.72	2.41	40.08	0.15	2.45	2.4	0.98	2.03
732	Light Heavy Duty Gas Trucks 1 (T4)	0.56	0.54	0.46	1.88	0.01	0.21	0.2	0.08	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.09	0.09	0.09	0.33	0	0.04	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.24	0.22	0.17	1.51	0.01	0.13	0.13	0.05	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.22	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.11	0.1	0.7	0.46	0.01	0.25	0.25	0.11	0.62
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.04	0.04	0.32	0.19	0	0.12	0.12	0.05	0.24
744	Medium Heavy Duty Diesel Truck (T6)	0.06	0.06	4.91	0.68	0.05	1.07	1.05	0.45	1.78
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.27	0.82	14.64	14.14	0.15	1.64	1.62	0.68	3.54
750	Motorcycles (MCY)	9.69	8.42	2.44	41.83	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.73	0.03	0.14	13.17	0	0.06	0.06	0.02	0.67
762	Gas Urban Buses (UB)	0	0	0.01	0.02	0	0.01	0.01	0	0
771	Gas School Buses (SB)	0.08	0.07	0.03	0.49	0	0.12	0.12	0.05	0
772	Diesel School Buses (SB)	0.01	0.01	0.77	0.11	0	0.18	0.18	0.08	0.04
777	Gas Other Buses (OB)	0.08	0.07	0.06	0.42	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.13	0.11	0	0.02	0.02	0.01	0.05
779	Diesel Other Buses (OB)	0	0	0.38	0.03	0	0.04	0.04	0.02	0.09
780	Motor Homes (MH)	0.02	0.02	0.4	0.1	0.01	0.08	0.08	0.03	0.03
	Total On-Road Motor Vehicles	40.53	34.89	40.39	335.62	1.14	23.06	22.65	9.28	23.24
Other Mobile Sources										
810	Aircraft	4.07	3.91	27.44	39.1	2.08	0.83	0.81	0.73	0
820	Trains	0.75	0.63	16.26	4.99	0.03	0.32	0.32	0.3	0.02
833	Ocean Going Vessels	11.62	9.94	31.82	5.27	2.52	0.83	0.83	0.77	0.03
835	Commercial Harbor Crafts	0.34	0.29	5.49	1.1	0	0.23	0.23	0.22	0
840	Recreational Boats	8.53	7.96	2.6	55.13	0.01	0.51	0.46	0.35	0.01
850	Off-Road Recreational Vehicles	0.67	0.66	0.05	2.62	0	0.01	0.01	0.01	0
860	Off-Road Equipment	21.6	19.69	19.21	334.97	0.07	1.17	1.12	0.96	0.04
861	Off-Road Equipment (PERP)	0.63	0.53	3.42	6.08	0.02	0.07	0.07	0.07	0.02
870	Farm Equipment	0.11	0.1	0.25	1.68	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	3.8	3.8	0	0	0	0	0	0	0
	Total Other Mobile Sources	52.13	47.51	106.53	450.95	4.73	4.01	3.88	3.4	0.11
Total Stationary and Area Sources		1182.32	247.55	45.48	130.06	9.01	270.29	146.52	47.28	58.81
Total On-Road Vehicles		40.53	34.89	40.39	335.62	1.14	23.06	22.65	9.28	23.24
Total Other Mobile		52.13	47.51	106.53	450.95	4.73	4.01	3.88	3.4	0.11
Total		1274.98	329.95	192.4	916.63	14.88	297.36	173.05	59.98	82.16

Attachment A

2037 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	2.18	0.25	2.46	3.57	0.21	0.43	0.43	0.42	0.53
20	Cogeneration	0.04	0.02	0.02	0.11	0	0.02	0.01	0.01	0.16
30	Oil and Gas Production (combustion)	1.68	0.19	0.97	0.85	0.01	0.12	0.12	0.12	0.28
40	Petroleum Refining (Combustion)	6.55	1.38	3.89	5.17	3.14	1.8	1.8	1.79	1.54
50	Manufacturing and Industrial	3.93	0.89	7.32	42.87	1.82	1.36	1.28	1.24	2.11
52	Food and Agricultural Processing	0.09	0.04	0.37	0.49	0.01	0.05	0.05	0.05	0.06
60	Service and Commercial	5.16	2.07	11.17	18.01	0.8	1.09	1.09	1.08	2.05
99	Other (Fuel Combustion)	0.84	0.63	2.41	1.19	0.08	0.47	0.45	0.42	0.28
	Total Fuel Combustion	20.47	5.47	28.6	72.26	6.09	5.34	5.22	5.14	7.02
Waste Disposal										
110	Sewage Treatment	0.43	0.31	0	0.01	0	0.02	0	0	0.23
120	Landfills	700.89	9.72	0.39	0.42	0.39	0.22	0.21	0.21	4.41
130	Incineration	0.21	0.04	1.21	0.27	0.08	0.13	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	75.57	6.08	0.01	0.01	0	0	0	0	1.72
	Total Waste Disposal	777.1	16.14	1.61	0.7	0.47	0.36	0.28	0.27	6.6
Cleaning and Surface Coatings										
210	Laundrying	3.83	0.16	0	0	0	0	0	0	0
220	Degreasing	68.46	13.19	0	0	0	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	20.39	19.94	0	0	0	1.66	1.6	1.54	0.1
240	Printing	0.79	0.79	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.2	4.59	0	0	0	0.02	0.02	0.02	0
299	Other (Cleaning and Surface Coatings)	0.64	0.64	0.04	0.11	0.01	0.01	0.01	0	0
	Total Cleaning and Surface Coatings	99.3	39.31	0.04	0.11	0.01	1.72	1.65	1.59	0.16
Petroleum Production and Marketing										
310	Oil and Gas Production	9.77	4.46	0.01	0.03	0.12	0.04	0.03	0.02	0
320	Petroleum Refining	6.35	4.43	0.55	2.39	1.43	1.87	1.25	0.88	0.07
330	Petroleum Marketing	45.9	10	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.05	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	62.06	18.93	0.59	2.61	1.55	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.36	4.24	0.07	0.11	0.09	0.46	0.4	0.38	0.01
420	Food and Agriculture	0.59	0.57	0.03	0.01	0.01	0.23	0.12	0.06	0
430	Mineral Processes	0.4	0.36	0.37	0.31	0.21	8.62	3.68	0.99	0.06
440	Metal Processes	0.13	0.11	0.29	0.33	0.25	0.46	0.36	0.26	0
450	Wood and Paper	0.25	0.25	0	0	0	7.73	5.41	3.25	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.71	5.15	0.02	0.01	0	1.18	0.78	0.5	8.59
	Total Industrial Processes	11.46	10.69	0.79	0.77	0.55	18.69	10.76	5.44	8.68
Solvent Evaporation										
510	Consumer Products	166.26	132.42	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	12.44	12.44	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.16	1.16	0	0	0	0	0	0	1.14
540	Asphalt Paving/Roofing	1.24	1.14	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	181.11	147.17	0	0	0	0.03	0.03	0.03	1.14

Attachment A

(Continued)

2037 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	19.49	8.85	13.43	47.29	0.32	7.11	6.76	6.57	0.11
620	Farming Operations	12.71	1.05	0	0	0	1.41	0.68	0.13	6.05
630	Construction and Demolition	0	0	0	0	0	53.37	26.12	2.61	0
640	Paved Road Dust	0	0	0	0	0	136.93	62.61	9.39	0
645	Unpaved Road Dust	0	0	0	0	0	28.15	16.73	1.67	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.83	1.45	0.21	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
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	3.05	1.21	0	0	0	12.77	12.77	12.77	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	29.06
	Total Miscellaneous Processes	35.83	11.61	13.59	53.16	0.35	243.36	127.88	34.04	35.26
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	11.5	11.01	7.63	137.68	0.47	11.38	11.17	4.53	9.51
722	Light Duty Trucks 1 (T1)	2.2	2.11	1.16	18.73	0.07	1.35	1.33	0.54	1.16
723	Light Duty Trucks 2 (T2)	6.22	5.94	3.35	61.3	0.19	3.87	3.8	1.54	3.32
724	Medium Duty Trucks (T3)	4.79	4.59	2.35	39.64	0.15	2.46	2.41	0.98	2.04
732	Light Heavy Duty Gas Trucks 1 (T4)	0.53	0.51	0.44	1.8	0.01	0.2	0.2	0.08	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.08	0.08	0.08	0.32	0	0.04	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.23	0.22	0.16	1.45	0.01	0.13	0.13	0.05	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.22	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.11	0.1	0.6	0.44	0.01	0.25	0.24	0.11	0.63
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.04	0.04	0.29	0.19	0	0.12	0.11	0.05	0.24
744	Medium Heavy Duty Diesel Truck (T6)	0.06	0.06	4.66	0.66	0.04	1.07	1.05	0.45	1.8
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.29	0.83	14.4	14.19	0.15	1.67	1.65	0.69	3.6
750	Motorcycles (MCY)	9.77	8.49	2.45	42.02	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.37	0.02	0.11	10.43	0	0.06	0.06	0.02	0.68
762	Gas Urban Buses (UB)	0	0	0.01	0.02	0	0.01	0.01	0	0
771	Gas School Buses (SB)	0.08	0.07	0.03	0.49	0	0.12	0.12	0.05	0
772	Diesel School Buses (SB)	0.01	0.01	0.71	0.11	0	0.18	0.18	0.08	0.04
777	Gas Other Buses (OB)	0.08	0.07	0.06	0.4	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.12	0.11	0	0.02	0.02	0.01	0.05
779	Diesel Other Buses (OB)	0	0	0.38	0.03	0	0.04	0.04	0.02	0.09
780	Motor Homes (MH)	0.02	0.01	0.4	0.1	0.01	0.08	0.08	0.03	0.03
	Total On-Road Motor Vehicles	39.41	34.17	39.4	330.32	1.13	23.12	22.71	9.3	23.43
Other Mobile Sources										
810	Aircraft	4.08	3.91	27.85	39.19	2.09	0.84	0.81	0.73	0
820	Trains	0.72	0.61	15.5	5.09	0.03	0.31	0.31	0.28	0.02
833	Ocean Going Vessels	11.65	9.97	30.65	5.35	2.56	0.85	0.85	0.78	0.03
835	Commercial Harbor Crafts	0.34	0.28	5.45	1.09	0	0.23	0.23	0.21	0
840	Recreational Boats	8.2	7.66	2.59	55.41	0.01	0.5	0.45	0.34	0.01
850	Off-Road Recreational Vehicles	0.65	0.63	0.05	2.66	0	0.01	0.01	0.01	0
860	Off-Road Equipment	20.69	18.74	18.7	320.89	0.07	1.15	1.1	0.94	0.07
861	Off-Road Equipment (PERP)	0.64	0.54	3.43	6.2	0.02	0.07	0.07	0.07	0.02
870	Farm Equipment	0.1	0.09	0.23	1.53	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	3.81	3.81	0	0	0	0	0	0	0
	Total Other Mobile Sources	50.88	46.25	104.45	437.41	4.78	3.97	3.84	3.37	0.14
Total Stationary and Area Sources		1187.34	249.33	45.23	129.62	9.01	271.42	147.09	47.41	58.93
Total On-Road Vehicles		39.41	34.17	39.4	330.32	1.13	23.12	22.71	9.3	23.43
Total Other Mobile		50.88	46.25	104.45	437.41	4.78	3.97	3.84	3.37	0.14
Total		1277.63	329.74	189.09	897.34	14.93	298.51	173.63	60.08	82.5

Attachment A

(Continued)

2018 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.95	0.43	0.51	2.18	0.01	0.31	0.29	0.28	0
620	Farming Operations	0.64	0.05	0	0	0	0.92	0.42	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	22.43	10.98	1.1	0
640	Paved Road Dust	0	0	0	0	0	10.49	4.79	0.72	0
645	Unpaved Road Dust	0	0	0	0	0	4.71	2.8	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.73	0.92	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
690	Cooking	0.06	0.03	0	0	0	0.26	0.26	0.26	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.81
	RECLAIM			0.11		0				
	Total Miscellaneous Processes	1.67	0.52	0.63	2.34	0.01	40.87	20.48	2.85	1.07
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.93	0.86	0.56	7.13	0.02	0.29	0.28	0.12	0.18
722	Light Duty Trucks 1 (T1)	0.3	0.28	0.21	2.08	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.52	0.48	0.49	4.33	0.01	0.11	0.11	0.05	0.07
724	Medium Duty Trucks (T3)	0.52	0.47	0.5	4.17	0.01	0.1	0.09	0.04	0.06
732	Light Heavy Duty Gas Trucks 1 (T4)	0.09	0.08	0.07	0.3	0	0.01	0.01	0.01	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0.02	0.02	0.02	0.05	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.03	0.02	0.06	0.27	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.02	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.36	0.08	0	0.01	0.01	0.01	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.14	0.03	0	0.01	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0.05	0.04	0.99	0.17	0	0.07	0.07	0.05	0.03
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.27	0.23	6.49	1.47	0.02	0.26	0.26	0.17	0.24
750	Motorcycles (MCY)	0.33	0.29	0.09	1.87	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.09	0.01	0.04	0.46	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.09	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0.01	0.03	0	0	0	0	0
778	Motor Coaches	0	0	0.02	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.02	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.03	0.03	0	0	0	0	0
	Total On-Road Motor Vehicles	3.17	2.8	10.18	22.51	0.07	0.92	0.91	0.46	0.66
Other Mobile Sources										
810	Aircraft	0.1	0.1	0.33	1.23	0.03	0.03	0.03	0.02	0
820	Trains	0.21	0.18	3.77	0.85	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.54	0.5	0.09	1.5	0	0.03	0.03	0.02	0
850	Off-Road Recreational Vehicles	0.1	0.1	0	0.21	0	0	0	0	0
860	Off-Road Equipment	1.75	1.62	2.21	18.65	0	0.14	0.13	0.11	0
861	Off-Road Equipment (PERP)	0.05	0.04	0.5	0.27	0	0.02	0.02	0.02	0
870	Farm Equipment	0.11	0.09	0.38	0.73	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	0.17	0.17	0	0	0	0	0	0	0
	Total Other Mobile Sources	3.02	2.8	7.29	23.46	0.04	0.34	0.33	0.29	0.01
Total Stationary and Area Sources		11.22	6.58	1.63	3.99	0.18	41.49	20.89	3.14	1.74
Total On-Road Vehicles		3.17	2.80	10.18	22.51	0.07	0.92	0.91	0.46	0.66
Total Other Mobile		3.02	2.80	7.29	23.46	0.04	0.34	0.33	0.29	0.01
Total		17.41	12.18	19.1	49.96	0.29	42.75	22.12	3.89	2.41

Attachment A

(Continued)

2022 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.54	2.21	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.9	0.41	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	24.74	12.11	1.21	0
640	Paved Road Dust	0	0	0	0	0	11	5.03	0.75	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.8	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.72	0.92	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.09	0	0.01	0.01	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.28	0.28	0.28	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.86
	RECLAIM			0.24		0				
	Total Miscellaneous Processes	1.69	0.53	0.79	2.37	0.01	43.68	21.86	3.02	1.12
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.69	0.65	0.37	5.56	0.02	0.3	0.29	0.12	0.21
722	Light Duty Trucks 1 (T1)	0.22	0.21	0.13	1.42	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.43	0.4	0.31	3.23	0.01	0.12	0.12	0.05	0.09
724	Medium Duty Trucks (T3)	0.4	0.37	0.3	2.82	0.01	0.09	0.09	0.04	0.07
732	Light Heavy Duty Gas Trucks 1 (T4)	0.06	0.05	0.05	0.17	0	0.01	0.01	0	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.03	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.04	0.19	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.21	0.05	0	0.01	0.01	0.01	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.08	0.02	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0.02	0.01	0.54	0.07	0	0.05	0.05	0.03	0.05
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.17	0.13	4.85	1.48	0.02	0.19	0.19	0.1	0.31
750	Motorcycles (MCY)	0.35	0.31	0.1	1.86	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.08	0	0.01	0.59	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.08	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.02	0	0	0	0	0
778	Motor Coaches	0	0	0.01	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0.01	0	0	0	0	0
	Total On-Road Motor Vehicles	2.47	2.19	7.14	17.56	0.06	0.85	0.84	0.38	0.81
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.39	1.22	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.18	4	0.93	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.45	0.42	0.08	1.49	0	0.02	0.02	0.02	0
850	Off-Road Recreational Vehicles	0.09	0.09	0	0.21	0	0	0	0	0
860	Off-Road Equipment	1.53	1.43	0.65	19.37	0	0.06	0.06	0.04	0
861	Off-Road Equipment (PERP)	0.04	0.03	0.3	0.26	0	0.01	0.01	0.01	0
870	Farm Equipment	0.08	0.07	0.3	0.71	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	0.15	0.15	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.65	2.46	5.73	24.2	0.04	0.24	0.23	0.2	0.01
Total Stationary and Area Sources		11.94	7.01	1.86	4.11	0.20	44.38	22.32	3.35	1.79
Total On-Road Vehicles		2.47	2.19	7.14	17.56	0.06	0.85	0.84	0.38	0.81
Total Other Mobile		2.65	2.46	5.73	24.20	0.04	0.24	0.23	0.20	0.01
Total		17.05	11.67	14.73	45.86	0.31	45.47	23.38	3.92	2.61

Attachment A

(Continued)

2023 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.53	2.21	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.9	0.41	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	25.19	12.33	1.23	0
640	Paved Road Dust	0	0	0	0	0	11.51	5.26	0.79	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.8	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.72	0.92	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.09	0	0.01	0.01	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.28	0.28	0.28	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.88
	RECLAIM			0.24		0				
	Total Miscellaneous Processes	1.69	0.53	0.78	2.37	0.01	44.65	22.31	3.08	1.14
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.68	0.64	0.35	5.5	0.02	0.31	0.3	0.12	0.23
722	Light Duty Trucks 1 (T1)	0.21	0.2	0.12	1.35	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.42	0.4	0.29	3.17	0.01	0.13	0.12	0.05	0.09
724	Medium Duty Trucks (T3)	0.39	0.36	0.27	2.68	0.01	0.1	0.09	0.04	0.07
732	Light Heavy Duty Gas Trucks 1 (T4)	0.05	0.05	0.04	0.15	0	0.01	0.01	0	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.03	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.04	0.18	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.18	0.05	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.07	0.02	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.39	0.03	0	0.04	0.04	0.02	0.06
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.15	0.12	4.07	1.53	0.02	0.19	0.19	0.09	0.33
750	Motorcycles (MCY)	0.37	0.32	0.1	1.92	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.08	0	0.01	0.59	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.08	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.02	0	0	0	0	0
778	Motor Coaches	0	0	0.01	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0.01	0	0	0	0	0
	Total On-Road Motor Vehicles	2.41	2.14	6.08	17.25	0.06	0.86	0.85	0.37	0.87
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.4	1.21	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.18	4.07	0.95	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.43	0.41	0.08	1.5	0	0.02	0.02	0.02	0
850	Off-Road Recreational Vehicles	0.09	0.09	0	0.22	0	0	0	0	0
860	Off-Road Equipment	1.53	1.43	0.64	19.71	0	0.06	0.06	0.04	0
861	Off-Road Equipment (PERP)	0.04	0.03	0.29	0.27	0	0.01	0.01	0.01	0
870	Farm Equipment	0.08	0.07	0.28	0.71	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	0.15	0.15	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.62	2.43	5.77	24.55	0.04	0.24	0.23	0.2	0.01
Total Stationary and Area Sources		12.12	7.14	1.84	4.12	0.20	45.36	22.78	3.42	1.80
Total On-Road Vehicles		2.41	2.14	6.08	17.25	0.06	0.86	0.85	0.37	0.87
Total Other Mobile		2.62	2.43	5.77	24.55	0.04	0.24	0.23	0.2	0.01
Total		17.15	11.71	13.68	45.93	0.31	46.46	23.86	3.98	2.68

Attachment A

(Continued)

2024 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.52	2.21	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.9	0.41	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	25.66	12.56	1.26	0
640	Paved Road Dust	0	0	0	0	0	11.52	5.27	0.79	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.8	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.71	0.92	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.09	0	0.01	0.01	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.29	0.29	0.29	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.89
	RECLAIM			0.24		0				
	Total Miscellaneous Processes	1.69	0.53	0.77	2.37	0.01	45.12	22.55	3.11	1.15
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.63	0.59	0.32	5.13	0.02	0.3	0.3	0.12	0.23
722	Light Duty Trucks 1 (T1)	0.19	0.18	0.11	1.21	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.4	0.38	0.26	2.94	0.01	0.12	0.12	0.05	0.09
724	Medium Duty Trucks (T3)	0.36	0.34	0.23	2.38	0.01	0.09	0.09	0.04	0.07
732	Light Heavy Duty Gas Trucks 1 (T4)	0.05	0.05	0.04	0.14	0	0.01	0.01	0	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.03	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.04	0.18	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.16	0.04	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.07	0.02	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.35	0.03	0	0.05	0.04	0.02	0.06
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.16	0.12	3.25	1.58	0.02	0.19	0.19	0.09	0.34
750	Motorcycles (MCY)	0.36	0.32	0.1	1.87	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.08	0	0.01	0.58	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.08	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.02	0	0	0	0	0
778	Motor Coaches	0	0	0.01	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0.01	0	0	0	0	0
	Total On-Road Motor Vehicles	2.27	2.02	5.06	16.17	0.06	0.85	0.84	0.36	0.89
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.42	1.21	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.18	4.12	0.97	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.42	0.39	0.08	1.5	0	0.02	0.02	0.02	0
850	Off-Road Recreational Vehicles	0.08	0.08	0	0.22	0	0	0	0	0
860	Off-Road Equipment	1.49	1.39	0.63	19.55	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.04	0.03	0.28	0.27	0	0.01	0.01	0.01	0
870	Farm Equipment	0.08	0.07	0.27	0.68	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	0.15	0.15	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.55	2.37	5.81	24.4	0.04	0.23	0.22	0.19	0.01
Total Stationary and Area Sources		12.30	7.27	1.78	4.13	0.19	45.84	23.02	3.45	1.81
Total On-Road Vehicles		2.27	2.02	5.06	16.17	0.06	0.85	0.84	0.36	0.89
Total Other Mobile		2.55	2.37	5.81	24.4	0.04	0.23	0.22	0.19	0.01
Total		17.12	11.66	12.66	44.7	0.29	46.93	24.09	4	2.7

Attachment A

(Continued)

2025 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.5	2.21	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.89	0.41	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	26.13	12.79	1.28	0
640	Paved Road Dust	0	0	0	0	0	11.51	5.26	0.79	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.79	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.71	0.91	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.29	0.29	0.29	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.91
	RECLAIM			0		0				
	Total Miscellaneous Processes	1.69	0.53	0.51	2.37	0.01	45.58	22.78	3.14	1.17
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.58	0.55	0.29	4.82	0.02	0.3	0.29	0.12	0.23
722	Light Duty Trucks 1 (T1)	0.18	0.17	0.1	1.1	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.38	0.36	0.23	2.75	0.01	0.12	0.12	0.05	0.09
724	Medium Duty Trucks (T3)	0.33	0.31	0.2	2.17	0.01	0.09	0.09	0.04	0.07
732	Light Heavy Duty Gas Trucks 1 (T4)	0.05	0.04	0.04	0.13	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.03	0.17	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.14	0.04	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.06	0.02	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.33	0.03	0	0.05	0.04	0.02	0.07
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.16	0.13	2.29	1.63	0.02	0.18	0.18	0.08	0.35
750	Motorcycles (MCY)	0.36	0.31	0.1	1.84	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.08	0	0.01	0.58	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.08	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.02	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0.01	0	0	0	0	0
	Total On-Road Motor Vehicles	2.16	1.92	3.95	15.35	0.06	0.84	0.83	0.35	0.9
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.44	1.21	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.17	4.13	0.99	0	0.09	0.09	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.4	0.38	0.08	1.5	0	0.02	0.02	0.01	0
850	Off-Road Recreational Vehicles	0.08	0.08	0	0.22	0	0	0	0	0
860	Off-Road Equipment	1.4	1.31	0.62	18.97	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.24	0.28	0	0.01	0.01	0.01	0
870	Farm Equipment	0.07	0.06	0.25	0.65	0	0.02	0.02	0.01	0
890	Fuel Storage and Handling	0.14	0.14	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.43	2.25	5.76	23.83	0.04	0.23	0.22	0.19	0.01
Total Stationary and Area Sources		12.47	7.40	1.79	4.14	0.19	46.32	23.27	3.48	1.83
Total On-Road Vehicles		2.16	1.92	3.95	15.35	0.06	0.84	0.83	0.35	0.9
Total Other Mobile		2.43	2.25	5.76	23.83	0.04	0.23	0.22	0.19	0.01
Total		17.06	11.57	11.49	43.32	0.3	47.39	24.31	4.02	2.73

Attachment A

(Continued)

2026 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.49	2.21	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.89	0.41	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	26.36	12.9	1.29	0
640	Paved Road Dust	0	0	0	0	0	12.01	5.49	0.82	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.79	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.71	0.91	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.3	0.3	0.3	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.92
	Total Miscellaneous Processes	1.69	0.53	0.5	2.37	0.01	46.3	23.12	3.19	1.18
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.58	0.56	0.29	4.86	0.02	0.31	0.31	0.13	0.24
722	Light Duty Trucks 1 (T1)	0.17	0.16	0.09	1.07	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.38	0.36	0.22	2.78	0.01	0.13	0.13	0.05	0.1
724	Medium Duty Trucks (T3)	0.33	0.31	0.19	2.14	0.01	0.1	0.09	0.04	0.07
732	Light Heavy Duty Gas Trucks 1 (T4)	0.04	0.04	0.03	0.12	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.03	0.16	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.13	0.04	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.05	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.32	0.03	0	0.05	0.05	0.02	0.07
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.16	0.13	2.12	1.66	0.02	0.18	0.18	0.08	0.36
750	Motorcycles (MCY)	0.38	0.33	0.11	1.92	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.08	0	0.01	0.58	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.07	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0.01	0	0	0	0	0
	Total On-Road Motor Vehicles	2.18	1.94	3.7	15.44	0.06	0.87	0.86	0.36	0.93
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.45	1.21	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.18	4.19	1.02	0	0.09	0.09	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.38	0.36	0.08	1.51	0	0.02	0.02	0.01	0
850	Off-Road Recreational Vehicles	0.08	0.08	0	0.22	0	0	0	0	0
860	Off-Road Equipment	1.29	1.21	0.6	18.31	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.23	0.28	0	0.01	0.01	0.01	0
870	Farm Equipment	0.07	0.06	0.24	0.63	0	0.02	0.02	0.01	0
890	Fuel Storage and Handling	0.14	0.14	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.29	2.13	5.81	23.18	0.05	0.22	0.22	0.19	0.01
Total Stationary and Area Sources		12.57	7.47	1.77	4.13	0.19	47.05	23.61	3.53	1.84
Total On-Road Vehicles		2.18	1.94	3.7	15.44	0.06	0.87	0.86	0.36	0.93
Total Other Mobile		2.29	2.13	5.81	23.18	0.05	0.22	0.22	0.19	0.01
Total		17.04	11.54	11.27	42.75	0.3	48.15	24.68	4.08	2.78

Attachment A

(Continued)

2027 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.48	2.2	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.89	0.4	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	26.63	13.03	1.3	0
640	Paved Road Dust	0	0	0	0	0	12.18	5.57	0.84	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.79	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.71	0.91	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.3	0.3	0.3	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.94
	Total Miscellaneous Processes	1.69	0.53	0.49	2.37	0.01	46.74	23.32	3.21	1.2
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.56	0.54	0.28	4.74	0.02	0.32	0.31	0.13	0.25
722	Light Duty Trucks 1 (T1)	0.16	0.15	0.08	1.01	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.37	0.36	0.21	2.71	0.01	0.13	0.13	0.05	0.1
724	Medium Duty Trucks (T3)	0.32	0.3	0.17	2.04	0.01	0.1	0.09	0.04	0.07
732	Light Heavy Duty Gas Trucks 1 (T4)	0.04	0.04	0.03	0.11	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.03	0.15	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.11	0.03	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.05	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.31	0.03	0	0.05	0.05	0.02	0.07
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.17	0.13	2.02	1.69	0.02	0.19	0.19	0.08	0.37
750	Motorcycles (MCY)	0.39	0.33	0.11	1.93	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.07	0	0.01	0.57	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.07	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0.01	0	0	0	0	0
	Total On-Road Motor Vehicles	2.13	1.9	3.51	15.09	0.06	0.88	0.87	0.37	0.96
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.47	1.22	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.18	4.26	1.04	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.37	0.35	0.08	1.51	0	0.02	0.02	0.01	0
850	Off-Road Recreational Vehicles	0.07	0.07	0	0.23	0	0	0	0	0
860	Off-Road Equipment	1.18	1.11	0.59	17.65	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.21	0.29	0	0.01	0.01	0.01	0
870	Farm Equipment	0.06	0.06	0.22	0.6	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.14	0.14	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.16	2.01	5.84	22.52	0.05	0.22	0.21	0.18	0.01
Total Stationary and Area Sources		12.67	7.55	1.71	4.11	0.19	47.5	23.82	3.56	1.85
Total On-Road Vehicles		2.13	1.9	3.51	15.09	0.06	0.88	0.87	0.37	0.96
Total Other Mobile		2.16	2.01	5.84	22.52	0.05	0.22	0.21	0.18	0.01
Total		16.96	11.46	11.07	41.72	0.29	48.6	24.9	4.11	2.81

Attachment A

(Continued)

2029 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.45	2.2	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.88	0.4	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	27.1	13.26	1.33	0
640	Paved Road Dust	0	0	0	0	0	12.5	5.72	0.86	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.79	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.7	0.91	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.3	0.3	0.3	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.97
	Total Miscellaneous Processes	1.69	0.53	0.46	2.36	0.01	47.53	23.7	3.26	1.22
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.53	0.5	0.26	4.54	0.01	0.32	0.32	0.13	0.26
722	Light Duty Trucks 1 (T1)	0.14	0.14	0.07	0.91	0	0.04	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.35	0.34	0.18	2.59	0.01	0.14	0.13	0.05	0.11
724	Medium Duty Trucks (T3)	0.29	0.28	0.14	1.86	0.01	0.1	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.04	0.04	0.03	0.1	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.02	0.14	0	0.01	0.01	0.01	0
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0	0.08	0.03	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.04	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.29	0.03	0	0.05	0.05	0.02	0.07
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.17	0.13	1.79	1.74	0.02	0.19	0.19	0.08	0.38
750	Motorcycles (MCY)	0.4	0.34	0.11	1.95	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.07	0	0.01	0.52	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.06	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0	0	0	0	0	0
	Total On-Road Motor Vehicles	2.04	1.82	3.11	14.5	0.06	0.9	0.89	0.37	1
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.51	1.22	0.04	0.03	0.03	0.02	0
820	Trains	0.22	0.18	4.41	1.08	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.34	0.32	0.08	1.53	0	0.02	0.02	0.01	0
850	Off-Road Recreational Vehicles	0.07	0.06	0.01	0.23	0	0	0	0	0
860	Off-Road Equipment	1	0.93	0.57	15.88	0	0.05	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.2	0.3	0	0.01	0.01	0	0
870	Farm Equipment	0.06	0.05	0.2	0.54	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.14	0.14	0	0	0	0	0	0	0
	Total Other Mobile Sources	1.94	1.8	5.97	20.79	0.05	0.22	0.21	0.18	0.01
Total Stationary and Area Sources		12.88	7.74	1.64	4.08	0.18	48.3	24.2	3.61	1.88
Total On-Road Vehicles		2.04	1.82	3.11	14.5	0.06	0.9	0.89	0.37	1
Total Other Mobile		1.94	1.8	5.97	20.79	0.05	0.22	0.21	0.18	0.01
Total		16.86	11.35	10.72	39.36	0.28	49.41	25.3	4.17	2.88

Attachment A

(Continued)

2030 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.44	2.2	0.01	0.31	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.88	0.4	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	27.34	13.38	1.34	0
640	Paved Road Dust	0	0	0	0	0	12.61	5.77	0.87	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.79	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.7	0.91	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.3	0.3	0.3	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.98
	Total Miscellaneous Processes	1.69	0.53	0.45	2.36	0.01	47.88	23.87	3.28	1.24
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.51	0.49	0.25	4.45	0.01	0.32	0.32	0.13	0.26
722	Light Duty Trucks 1 (T1)	0.13	0.13	0.06	0.86	0	0.04	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.34	0.33	0.17	2.53	0.01	0.14	0.13	0.05	0.11
724	Medium Duty Trucks (T3)	0.28	0.27	0.13	1.79	0.01	0.1	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.04	0.04	0.03	0.1	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.02	0.14	0	0.01	0.01	0.01	0
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.07	0.03	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.03	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.27	0.03	0	0.05	0.05	0.02	0.07
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.17	0.13	1.74	1.76	0.02	0.2	0.19	0.08	0.39
750	Motorcycles (MCY)	0.4	0.34	0.11	1.96	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.06	0	0.01	0.47	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0	0	0
772	Diesel School Buses (SB)	0	0	0.06	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0	0	0	0	0	0
	Total On-Road Motor Vehicles	1.98	1.77	3	14.18	0.06	0.91	0.89	0.37	1.01
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.52	1.22	0.04	0.03	0.03	0.02	0
820	Trains	0.22	0.18	4.49	1.11	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.33	0.31	0.08	1.54	0	0.02	0.02	0.01	0
850	Off-Road Recreational Vehicles	0.06	0.06	0.01	0.23	0	0	0	0	0
860	Off-Road Equipment	0.93	0.86	0.56	14.87	0	0.05	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.2	0.31	0	0.01	0.01	0	0
870	Farm Equipment	0.06	0.05	0.19	0.52	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.14	0.14	0	0	0	0	0	0	0
	Total Other Mobile Sources	1.85	1.72	6.05	19.79	0.05	0.22	0.21	0.18	0.01
Total Stationary and Area Sources		12.98	7.83	1.58	4.05	0.17	48.65	24.38	3.63	1.89
Total On-Road Vehicles		1.98	1.77	3	14.18	0.06	0.91	0.89	0.37	1.01
Total Other Mobile		1.85	1.72	6.05	19.79	0.05	0.22	0.21	0.18	0.01
Total		16.81	11.32	10.62	38.02	0.27	49.78	25.48	4.19	2.91

Attachment A

(Continued)

2031 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.43	2.2	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.88	0.4	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	27.59	13.5	1.35	0
640	Paved Road Dust	0	0	0	0	0	12.72	5.81	0.87	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.79	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.7	0.91	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.31	0.31	0.31	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	1
	Total Miscellaneous Processes	1.69	0.53	0.44	2.36	0.01	48.23	24.04	3.3	1.25
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.49	0.47	0.24	4.37	0.01	0.32	0.32	0.13	0.26
722	Light Duty Trucks 1 (T1)	0.12	0.12	0.06	0.82	0	0.04	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.33	0.32	0.16	2.48	0.01	0.14	0.13	0.06	0.11
724	Medium Duty Trucks (T3)	0.27	0.26	0.12	1.74	0.01	0.1	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.04	0.04	0.02	0.09	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.02	0.13	0	0.01	0.01	0.01	0
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.06	0.02	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.03	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.26	0.03	0	0.05	0.05	0.02	0.07
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.17	0.13	1.7	1.77	0.02	0.2	0.2	0.09	0.4
750	Motorcycles (MCY)	0.4	0.35	0.11	1.96	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.05	0	0	0.39	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0.01	0	0
772	Diesel School Buses (SB)	0	0	0.05	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	1.92	1.72	2.89	13.88	0.06	0.91	0.9	0.37	1.03
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.54	1.22	0.04	0.03	0.03	0.02	0
820	Trains	0.22	0.18	4.5	1.13	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.32	0.3	0.08	1.55	0	0.02	0.02	0.01	0
850	Off-Road Recreational Vehicles	0.06	0.06	0.01	0.23	0	0	0	0	0
860	Off-Road Equipment	0.86	0.81	0.55	13.95	0	0.05	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.2	0.31	0	0	0	0	0
870	Farm Equipment	0.05	0.05	0.18	0.5	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.14	0.14	0	0	0	0	0	0	0
	Total Other Mobile Sources	1.77	1.64	6.06	18.89	0.05	0.21	0.21	0.18	0.01
Total Stationary and Area Sources		13.12	7.94	1.57	4.05	0.17	49.01	24.55	3.65	1.91
Total On-Road Vehicles		1.92	1.72	2.89	13.88	0.06	0.91	0.9	0.37	1.03
Total Other Mobile		1.77	1.64	6.06	18.89	0.05	0.21	0.21	0.18	0.01
Total		16.81	11.3	10.53	36.82	0.27	50.13	25.65	4.21	2.94

Attachment A

(Continued)

2032 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.43	2.2	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.88	0.4	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	27.84	13.62	1.36	0
640	Paved Road Dust	0	0	0	0	0	12.88	5.89	0.88	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.79	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.7	0.91	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.31	0.31	0.31	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	1.01
	Total Miscellaneous Processes	1.69	0.53	0.43	2.37	0.01	48.64	24.24	3.33	1.27
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.47	0.46	0.24	4.33	0.01	0.33	0.32	0.13	0.27
722	Light Duty Trucks 1 (T1)	0.12	0.11	0.05	0.78	0	0.05	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.32	0.31	0.16	2.45	0.01	0.14	0.14	0.06	0.12
724	Medium Duty Trucks (T3)	0.26	0.25	0.12	1.7	0.01	0.1	0.1	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.04	0.03	0.02	0.09	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.02	0.13	0	0.01	0.01	0.01	0
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.02	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.06	0.02	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.03	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.25	0.03	0	0.05	0.05	0.02	0.08
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.18	0.13	1.67	1.78	0.02	0.2	0.2	0.09	0.4
750	Motorcycles (MCY)	0.41	0.35	0.11	1.97	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.05	0	0	0.37	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0.01	0	0
772	Diesel School Buses (SB)	0	0	0.05	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	1.88	1.69	2.81	13.74	0.06	0.92	0.91	0.38	1.05
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.55	1.22	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.18	4.47	1.16	0	0.09	0.09	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.31	0.29	0.08	1.56	0	0.02	0.02	0.01	0
850	Off-Road Recreational Vehicles	0.06	0.06	0.01	0.24	0	0	0	0	0
860	Off-Road Equipment	0.81	0.76	0.55	13.12	0	0.05	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.2	0.32	0	0	0	0	0
870	Farm Equipment	0.05	0.04	0.17	0.47	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.14	0.14	0	0	0	0	0	0	0
	Total Other Mobile Sources	1.7	1.57	6.02	18.08	0.05	0.21	0.2	0.18	0.01
Total Stationary and Area Sources		13.22	8.02	1.58	4.05	0.17	49.42	24.75	3.68	1.92
Total On-Road Vehicles		1.88	1.69	2.81	13.74	0.06	0.92	0.91	0.38	1.05
Total Other Mobile		1.7	1.57	6.02	18.08	0.05	0.21	0.2	0.18	0.01
Total		16.8	11.29	10.4	35.87	0.27	50.55	25.86	4.24	2.97

Attachment A

(Continued)

2033 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.42	2.21	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.88	0.4	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	28.08	13.74	1.37	0
640	Paved Road Dust	0	0	0	0	0	12.88	5.89	0.88	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.79	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.7	0.91	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.31	0.31	0.31	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	1.03
	Total Miscellaneous Processes	1.69	0.53	0.43	2.37	0.01	48.88	24.36	3.34	1.29
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.45	0.44	0.23	4.22	0.01	0.32	0.32	0.13	0.27
722	Light Duty Trucks 1 (T1)	0.11	0.1	0.05	0.74	0	0.04	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.31	0.29	0.15	2.37	0.01	0.14	0.14	0.06	0.12
724	Medium Duty Trucks (T3)	0.25	0.24	0.11	1.64	0.01	0.1	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.03	0.03	0.02	0.08	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.02	0.13	0	0.01	0.01	0.01	0
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.02	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.05	0.02	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.02	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.24	0.03	0	0.05	0.05	0.02	0.08
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.18	0.14	1.65	1.81	0.02	0.21	0.2	0.09	0.41
750	Motorcycles (MCY)	0.41	0.35	0.11	1.96	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.05	0	0	0.35	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0.01	0	0
772	Diesel School Buses (SB)	0	0	0.04	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	1.82	1.63	2.74	13.43	0.05	0.92	0.9	0.38	1.06
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.56	1.22	0.05	0.03	0.03	0.02	0
820	Trains	0.21	0.17	4.43	1.18	0	0.09	0.09	0.08	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.3	0.28	0.08	1.57	0	0.02	0.01	0.01	0
850	Off-Road Recreational Vehicles	0.05	0.05	0.01	0.24	0	0	0	0	0
860	Off-Road Equipment	0.77	0.71	0.54	12.38	0	0.05	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.19	0.32	0	0	0	0	0
870	Farm Equipment	0.05	0.04	0.16	0.45	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.14	0.14	0	0	0	0	0	0	0
	Total Other Mobile Sources	1.64	1.52	5.98	17.36	0.05	0.21	0.2	0.17	0.01
Total Stationary and Area Sources		13.34	8.12	1.57	4.04	0.17	49.66	24.87	3.69	1.94
Total On-Road Vehicles		1.82	1.63	2.74	13.43	0.05	0.92	0.9	0.38	1.06
Total Other Mobile		1.64	1.52	5.98	17.36	0.05	0.21	0.2	0.17	0.01
Total		16.8	11.27	10.28	34.85	0.27	50.79	25.98	4.25	3

Attachment A

(Continued)

2035 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.42	2.21	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.87	0.4	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	28.6	13.99	1.4	0
640	Paved Road Dust	0	0	0	0	0	12.87	5.88	0.88	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.79	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.69	0.91	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.32	0.32	0.32	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	1.06
	Total Miscellaneous Processes	1.7	0.53	0.42	2.37	0.01	49.39	24.61	3.37	1.32
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.41	0.4	0.22	4.03	0.01	0.32	0.31	0.13	0.26
722	Light Duty Trucks 1 (T1)	0.09	0.09	0.04	0.68	0	0.04	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.27	0.26	0.13	2.24	0.01	0.14	0.13	0.05	0.11
724	Medium Duty Trucks (T3)	0.23	0.22	0.1	1.54	0.01	0.09	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.02	0.02	0.02	0.08	0	0.01	0.01	0	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0	0	0	0.01	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.02	0.12	0	0.01	0.01	0.01	0
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.02	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.04	0.02	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.02	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.22	0.03	0	0.05	0.05	0.02	0.08
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.18	0.14	1.65	1.86	0.02	0.21	0.21	0.09	0.43
750	Motorcycles (MCY)	0.4	0.35	0.11	1.92	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.04	0	0	0.28	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0.01	0	0
772	Diesel School Buses (SB)	0	0	0.03	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	1.7	1.53	2.63	12.88	0.05	0.92	0.9	0.37	1.08
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.59	1.23	0.05	0.03	0.03	0.02	0
820	Trains	0.2	0.17	4.23	1.23	0	0.09	0.09	0.08	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.28	0.26	0.08	1.59	0	0.02	0.01	0.01	0
850	Off-Road Recreational Vehicles	0.05	0.05	0.01	0.25	0	0	0	0	0
860	Off-Road Equipment	0.69	0.64	0.54	11.14	0	0.05	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.19	0.34	0	0	0	0	0
870	Farm Equipment	0.04	0.04	0.14	0.41	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.14	0.14	0	0	0	0	0	0	0
	Total Other Mobile Sources	1.52	1.41	5.78	16.19	0.05	0.2	0.19	0.17	0.01
Total Stationary and Area Sources		13.57	8.31	1.56	4.05	0.17	50.18	25.13	3.74	1.96
Total On-Road Vehicles		1.7	1.53	2.63	12.88	0.05	0.92	0.9	0.37	1.08
Total Other Mobile		1.52	1.41	5.78	16.19	0.05	0.2	0.19	0.17	0.01
Total		16.8	11.24	9.97	33.11	0.27	51.3	26.22	4.27	3.05

Attachment A

(Continued)

2036 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.43	0.41	2.21	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.87	0.4	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	28.8	14.09	1.41	0
640	Paved Road Dust	0	0	0	0	0	13.02	5.95	0.89	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.79	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.69	0.91	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.32	0.32	0.32	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	1.07
	Total Miscellaneous Processes	1.7	0.53	0.42	2.38	0.01	49.74	24.78	3.4	1.33
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.41	0.39	0.22	4.02	0.01	0.32	0.31	0.13	0.27
722	Light Duty Trucks 1 (T1)	0.09	0.09	0.04	0.66	0	0.05	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.27	0.26	0.13	2.22	0.01	0.14	0.13	0.05	0.12
724	Medium Duty Trucks (T3)	0.22	0.21	0.09	1.53	0.01	0.1	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.02	0.02	0.02	0.08	0	0.01	0.01	0	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0	0	0	0.01	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.01	0.12	0	0.01	0.01	0.01	0.01
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.02	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.03	0.02	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.02	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.21	0.03	0	0.05	0.05	0.02	0.08
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.19	0.14	1.65	1.89	0.02	0.22	0.21	0.09	0.44
750	Motorcycles (MCY)	0.41	0.36	0.11	1.94	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.03	0	0	0.25	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0.01	0	0
772	Diesel School Buses (SB)	0	0	0.03	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	1.68	1.51	2.61	12.83	0.05	0.93	0.91	0.38	1.1
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.6	1.23	0.05	0.03	0.03	0.02	0
820	Trains	0.18	0.15	3.98	1.26	0	0.08	0.08	0.07	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.27	0.26	0.08	1.6	0	0.01	0.01	0.01	0
850	Off-Road Recreational Vehicles	0.05	0.05	0.01	0.25	0	0	0	0	0
860	Off-Road Equipment	0.66	0.61	0.54	10.66	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.04	0.03	0.19	0.34	0	0	0	0	0
870	Farm Equipment	0.04	0.04	0.14	0.39	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.14	0.14	0	0	0	0	0	0	0
	Total Other Mobile Sources	1.47	1.36	5.54	15.73	0.05	0.19	0.18	0.16	0.01
Total Stationary and Area Sources		13.69	8.4	1.56	4.05	0.17	50.53	25.3	3.76	1.98
Total On-Road Vehicles		1.68	1.51	2.61	12.83	0.05	0.93	0.91	0.38	1.1
Total Other Mobile		1.47	1.36	5.54	15.73	0.05	0.19	0.18	0.16	0.01
Total		16.84	11.27	9.7	32.61	0.27	51.65	26.4	4.29	3.08

Attachment A

(Continued)

2037 Annual Average Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.96	0.44	0.41	2.22	0.01	0.32	0.3	0.29	0
620	Farming Operations	0.64	0.05	0	0	0	0.87	0.4	0.06	0.25
630	Construction and Demolition	0	0	0	0	0	29	14.19	1.42	0
640	Paved Road Dust	0	0	0	0	0	13.17	6.02	0.9	0
645	Unpaved Road Dust	0	0	0	0	0	4.7	2.79	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	1.69	0.91	0.13	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.32	0.32	0.32	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	1.09
	Total Miscellaneous Processes	1.7	0.53	0.41	2.38	0.01	50.09	24.95	3.42	1.35
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.4	0.38	0.22	4.02	0.01	0.32	0.32	0.13	0.27
722	Light Duty Trucks 1 (T1)	0.09	0.08	0.04	0.65	0	0.05	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.26	0.25	0.12	2.21	0.01	0.14	0.14	0.06	0.12
724	Medium Duty Trucks (T3)	0.22	0.21	0.09	1.52	0.01	0.1	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.02	0.02	0.02	0.08	0	0.01	0.01	0	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0	0	0	0.01	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.01	0.11	0	0.01	0.01	0.01	0.01
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.02	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.03	0.02	0	0.01	0.01	0	0.03
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.02	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.2	0.03	0	0.05	0.05	0.02	0.09
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.19	0.15	1.67	1.93	0.02	0.22	0.22	0.09	0.45
750	Motorcycles (MCY)	0.42	0.36	0.12	1.96	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.03	0	0	0.2	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0.01	0	0
772	Diesel School Buses (SB)	0	0	0.02	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	1.66	1.49	2.6	12.8	0.05	0.94	0.92	0.38	1.12
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.61	1.23	0.05	0.03	0.03	0.02	0
820	Trains	0.17	0.14	3.71	1.29	0.01	0.07	0.07	0.07	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.26	0.25	0.08	1.61	0	0.01	0.01	0.01	0
850	Off-Road Recreational Vehicles	0.05	0.05	0.01	0.25	0	0	0	0	0
860	Off-Road Equipment	0.63	0.58	0.54	10.25	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.04	0.03	0.19	0.35	0	0	0	0	0
870	Farm Equipment	0.04	0.03	0.13	0.37	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.14	0.14	0	0	0	0	0	0	0
	Total Other Mobile Sources	1.42	1.31	5.27	15.36	0.06	0.18	0.18	0.15	0.01
Total Stationary and Area Sources		13.82	8.49	1.55	4.04	0.17	50.89	25.47	3.79	1.99
Total On-Road Vehicles		1.66	1.49	2.6	12.8	0.05	0.94	0.92	0.38	1.12
Total Other Mobile		1.42	1.31	5.27	15.36	0.06	0.18	0.18	0.15	0.01
Total		16.89	11.3	9.42	32.19	0.27	52.01	26.57	4.31	3.11

Attachment B:

Summer Planning Emissions by Source Category in
South Coast Air Basin and Coachella Valley

Attachment B

2018 Summer Planning 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	2.89	0.33	0.64	4.38	0.23	0.57	0.57	0.57	0.74
20	Cogeneration	0.03	0.02	0.02	0.11	0	0.02	0.01	0.01	0.17
30	Oil and Gas Production (combustion)	1.02	0.12	0.58	0.57	0.01	0.09	0.09	0.09	0.17
40	Petroleum Refining (Combustion)	6.57	1.38	0	5.18	0.01	1.81	1.80	1.80	1.54
50	Manufacturing and Industrial	4.37	0.95	6.80	48.88	1.41	1.48	1.40	1.37	2.34
52	Food and Agricultural Processing	0.10	0.05	0.22	0.52	0	0.06	0.06	0.05	0.06
60	Service and Commercial	4.78	1.89	8.71	19.56	0.70	1.06	1.06	1.06	2.63
99	Other (Fuel Combustion)	0.90	0.68	3.10	1.36	0.08	0.51	0.48	0.45	0.27
	Total Fuel Combustion	20.65	5.42	20.08	80.57	2.46	5.60	5.47	5.39	7.93
Waste Disposal										
110	Sewage Treatment	0.39	0.28	0	0	0	0.02	0	0	0.21
120	Landfills	621.99	8.64	0.48	0.41	0.38	0.22	0.22	0.21	3.97
130	Incineration	0.21	0.04	1.02	0.26	0.07	0.12	0.06	0.05	0.23
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	95.37	7.67	0.01	0.01	0	0	0	0	1.79
	Total Waste Disposal	717.96	16.63	1.51	0.68	0.46	0.36	0.28	0.27	6.20
Cleaning and Surface Coatings										
210	Laundering	3.43	0.17	0	0	0	0	0	0	0
220	Degreasing	67.36	12.98	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	18.84	18.43	0	0	0	1.63	1.57	1.51	0.13
240	Printing	0.75	0.75	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.82	5.14	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.64	0.63	0.01	0.11	0	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	96.84	38.09	0.01	0.12	0	1.70	1.63	1.57	0.18
Petroleum Production and Marketing										
310	Oil and Gas Production	5.10	2.35	0.01	0.02	0.06	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.23	2.40	0.24	1.87	1.25	0.89	0.07
330	Petroleum Marketing	54.79	13.78	0	0.23	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	66.31	20.61	0.25	2.66	0.30	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.59	4.45	0.03	0.12	0.05	0.50	0.43	0.41	0.01
420	Food and Agriculture	0.55	0.52	0.01	0.01	0.01	0.25	0.12	0.05	0
430	Mineral Processes	0.44	0.40	0.02	0.36	0.05	9.37	3.87	1.10	0.06
440	Metal Processes	0.12	0.10	0.06	0.26	0.03	0.38	0.30	0.22	0
450	Wood and Paper	0.24	0.24	0	0	0	6.43	4.50	2.70	0.01
460	Glass and Related Products	0	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.01	0	0	0	0.01	0	0	0
499	Other (Industrial Processes)	5.68	5.07	0.01	0.01	0	1.27	0.83	0.53	8.59
	Total Industrial Processes	11.65	10.80	0.12	0.75	0.15	18.22	10.06	5.02	8.68
Solvent Evaporation										
510	Consumer Products	135.77	107.38	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	10.62	10.62	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.12	1.12	0	0	0	0	0	0	1.23
540	Asphalt Paving/Roofing	1.30	1.20	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	148.81	120.32	0	0	0	0.03	0.03	0.03	1.23

Attachment B

(Continued)

2018 Summer Planning 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	4.94	2.25	11.35	13.58	0.13	2.26	2.20	2.16	0.02
620	Farming Operations	22.24	1.86	0	0	0	1.58	0.79	0.18	10.26
630	Construction and Demolition	0	0	0	0	0	72.15	35.31	3.53	0
640	Paved Road Dust	0	0	0	0	0	133.09	60.85	9.13	0
645	Unpaved Road Dust	0	0	0	0	0	28.47	16.92	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.60	2.27	0.33	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.21	0.05	2.88	0.02	0.31	0.30	0.26	0.03
690	Cooking	2.73	1.08	0	0	0	11.44	11.44	11.44	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	25.98
	RECLAIM	0	0	18.15	0	5.50	0	0	0	0
	Total Miscellaneous Processes	30.50	5.69	29.62	19.49	5.65	254.36	130.51	29.14	36.30
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	32.9	29.85	20.88	311.78	0.75	11.51	11.27	4.73	7.18
722	Light Duty Trucks 1 (T1)	8.56	7.82	5.25	61.96	0.08	1.16	1.13	0.49	0.86
723	Light Duty Trucks 2 (T2)	16.17	14.68	13.63	143.23	0.31	3.76	3.68	1.55	2.43
724	Medium Duty Trucks (T3)	14.29	12.92	12.38	124.99	0.27	2.64	2.59	1.09	1.72
732	Light Heavy Duty Gas Trucks 1 (T4)	2.65	2.5	2.12	9.82	0.04	0.38	0.37	0.16	0.19
733	Light Heavy Duty Gas Trucks 2 (T5)	0.39	0.37	0.33	1.26	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.57	0.5	0.89	5.61	0.02	0.16	0.16	0.07	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.02	0.01	0.05	0.39	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.3	0.26	7.61	1.72	0.01	0.29	0.29	0.15	0.34
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.1	0.09	2.52	0.58	0.01	0.12	0.12	0.06	0.14
744	Medium Heavy Duty Diesel Truck (T6)	1.29	1.14	22.99	4.11	0.06	1.6	1.58	1.07	0.85
746	Heavy Heavy Duty Diesel Trucks (HHD)	3.47	2.32	58.41	12.86	0.16	2.04	2.02	1.34	1.73
750	Motorcycles (MCY)	9.18	8.17	1.9	40.51	0	0.03	0.03	0.02	0.02
760	Diesel Urban Buses (UB)	5.08	0.24	1.99	24.37	0	0.07	0.07	0.03	0.6
762	Gas Urban Buses (UB)	0.01	0.01	0.03	0.05	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.06	0.04	0.05	0.47	0	0.07	0.07	0.03	0
772	Diesel School Buses (SB)	0.04	0.03	2.14	0.12	0	0.18	0.18	0.08	0.02
777	Gas Other Buses (OB)	0.12	0.1	0.23	1.22	0.01	0.04	0.04	0.02	0.02
778	Motor Coaches	0.05	0.05	0.85	0.19	0	0.04	0.04	0.02	0.02
779	Diesel Other Buses (OB)	0.06	0.06	0.9	0.18	0	0.06	0.06	0.04	0.04
780	Motor Homes (MH)	0.1	0.08	0.71	1.35	0.01	0.09	0.09	0.04	0.03
	Total On-Road Motor Vehicles	95.41	81.22	155.85	746.78	1.73	24.32	23.86	11.02	16.27
Other Mobile Sources										
810	Aircraft	3.67	3.53	17.16	36.69	1.64	0.79	0.76	0.68	0
820	Trains	0.82	0.69	15.1	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	0.25	0.25	0.23	0
840	Recreational Boats	24.14	22.49	3.86	67.11	0.01	1.48	1.33	1	0.01
850	Off-Road Recreational Vehicles	1.64	1.62	0.03	1.54	0	0.01	0.01	0	0
860	Off-Road Equipment	64.2	59.5	59.48	681.15	0.1	2.96	2.88	2.54	0.1
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	0.45	0.41	0.81	6.09	0	0.06	0.05	0.05	0
890	Fuel Storage and Handling	8.48	8.48	0	0	0	0	0	0	0
	Total Other Mobile Sources	115.62	107.16	143.35	806.5	3.83	6.93	6.68	5.78	0.16
Total Stationary and Area Sources		1092.72	217.56	51.59	104.26	9.01	282.18	149.26	42.32	60.59
Total On-Road Vehicles		95.41	81.22	155.85	746.78	1.73	24.32	23.86	11.02	16.27
Total Other Mobile		115.62	107.16	143.35	806.5	3.83	6.93	6.68	5.78	0.16
Total		1303.75	405.94	350.78	1657.54	14.57	313.43	179.79	59.13	77.02

Attachment B

2022 Summer Planning 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	3.12	0.36	0.69	4.66	0.24	0.62	0.62	0.62	0.81
20	Cogeneration	0.03	0.02	0.02	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.18	0.14	0.65	0.64	0.01	0.10	0.10	0.10	0.20
40	Petroleum Refining (Combustion)	6.57	1.38	0	5.18	0.01	1.81	1.80	1.80	1.54
50	Manufacturing and Industrial	4.27	0.94	6.59	47.31	1.41	1.46	1.38	1.34	2.29
52	Food and Agricultural Processing	0.10	0.05	0.23	0.53	0	0.06	0.06	0.06	0.06
60	Service and Commercial	4.89	1.94	8.74	19.47	0.73	1.07	1.07	1.06	2.56
99	Other (Fuel Combustion)	0.88	0.66	2.59	1.25	0.08	0.51	0.48	0.45	0.28
	Total Fuel Combustion	21.04	5.49	19.50	79.16	2.49	5.65	5.52	5.44	7.92
Waste Disposal										
110	Sewage Treatment	0.40	0.29	0	0	0	0.02	0	0	0.21
120	Landfills	641.46	8.90	0.47	0.41	0.39	0.22	0.22	0.22	4.08
130	Incineration	0.22	0.04	1.02	0.27	0.07	0.12	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	96.90	7.80	0.01	0.01	0	0	0	0	1.92
	Total Waste Disposal	738.98	17.02	1.50	0.69	0.46	0.37	0.29	0.27	6.45
Cleaning and Surface Coatings										
210	Laundrying	3.52	0.17	0	0	0	0	0	0	0
220	Degreasing	68.45	13.24	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	19.51	19.09	0	0	0	1.69	1.62	1.56	0.13
240	Printing	0.79	0.79	0	0	0	0	0	0	0.04
250	Adhesives and Sealants	5.30	4.69	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.65	0.64	0.01	0.11	0	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	98.22	38.61	0.01	0.12	0	1.76	1.69	1.63	0.19
Petroleum Production and Marketing										
310	Oil and Gas Production	6.12	2.81	0.01	0.02	0.07	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.22	2.40	0.24	1.87	1.25	0.89	0.07
330	Petroleum Marketing	54.64	12.85	0	0.21	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	67.17	20.14	0.25	2.64	0.31	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.68	4.53	0.03	0.12	0.05	0.51	0.44	0.41	0.01
420	Food and Agriculture	0.56	0.54	0.01	0.01	0.01	0.26	0.12	0.06	0
430	Mineral Processes	0.46	0.41	0.02	0.37	0.06	9.46	3.92	1.12	0.06
440	Metal Processes	0.13	0.11	0.06	0.28	0.03	0.42	0.33	0.24	0
450	Wood and Paper	0.24	0.24	0	0	0	6.89	4.82	2.89	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.01	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.76	5.14	0.01	0.01	0	1.31	0.85	0.55	8.59
	Total Industrial Processes	11.85	10.99	0.12	0.78	0.15	18.84	10.49	5.27	8.68
Solvent Evaporation										
510	Consumer Products	139.34	110.25	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.14	11.14	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.16	1.16	0	0	0	0	0	0	1.20
540	Asphalt Paving/Roofing	1.35	1.24	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	152.98	123.78	0	0	0	0.03	0.03	0.03	1.20

Attachment B

(Continued)

2022 Summer Planning 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	5.11	2.32	11.94	14.18	0.14	2.35	2.29	2.25	0.02
620	Farming Operations	17.85	1.49	0	0	0	1.39	0.69	0.16	8.22
630	Construction and Demolition	0	0	0	0	0	74.29	36.35	3.63	0
640	Paved Road Dust	0	0	0	0	0	135.66	62.02	9.31	0
645	Unpaved Road Dust	0	0	0	0	0	28.47	16.92	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.42	2.19	0.31	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.23	0.10	3.03	0.03	0.36	0.35	0.30	0.03
690	Cooking	2.79	1.11	0	0	0	11.71	11.71	11.71	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	26.75
	RECLAIM	0	0	15.05	0	6.10	0	0	0	0
	Total Miscellaneous Processes	26.35	5.44	27.16	20.24	6.27	259.09	132.95	29.78	35.02
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	23.35	21.65	12.99	224.76	0.67	11.51	11.28	4.7	8.14
722	Light Duty Trucks 1 (T1)	6.25	5.79	3.32	42.63	0.08	1.23	1.2	0.51	0.96
723	Light Duty Trucks 2 (T2)	12.44	11.52	8.11	101.85	0.28	3.78	3.71	1.55	2.74
724	Medium Duty Trucks (T3)	10.5	9.67	7.19	81.56	0.23	2.55	2.5	1.05	1.82
732	Light Heavy Duty Gas Trucks 1 (T4)	1.77	1.68	1.34	5.64	0.03	0.3	0.29	0.12	0.15
733	Light Heavy Duty Gas Trucks 2 (T5)	0.27	0.26	0.22	0.76	0.01	0.06	0.06	0.02	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.4	0.36	0.52	3.38	0.02	0.16	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.01	0	0.03	0.23	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.22	0.19	4.49	1.21	0.01	0.29	0.28	0.14	0.46
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.08	0.07	1.51	0.43	0	0.12	0.12	0.06	0.18
744	Medium Heavy Duty Diesel Truck (T6)	0.4	0.35	12.99	1.7	0.06	1.21	1.19	0.63	1.3
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.45	1.28	44.57	11.96	0.17	1.51	1.49	0.75	2.38
750	Motorcycles (MCY)	9.63	8.49	2.02	40.22	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	4.12	0.06	0.31	31.34	0	0.07	0.07	0.03	0.62
762	Gas Urban Buses (UB)	0.01	0.01	0.03	0.06	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.06	0.05	0.05	0.46	0	0.09	0.09	0.04	0
772	Diesel School Buses (SB)	0.03	0.03	1.9	0.12	0	0.18	0.18	0.08	0.02
777	Gas Other Buses (OB)	0.1	0.09	0.15	0.83	0	0.04	0.04	0.02	0.02
778	Motor Coaches	0.02	0.01	0.44	0.1	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0.01	0.01	0.47	0.05	0	0.04	0.04	0.02	0.07
780	Motor Homes (MH)	0.06	0.05	0.57	0.59	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	72.17	61.62	103.2	549.88	1.58	23.29	22.84	9.85	19.03
Other Mobile Sources										
810	Aircraft	3.55	3.4	17.69	34.75	1.56	0.76	0.74	0.66	0
820	Trains	0.81	0.68	15.88	3.83	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.08	9.48	32.24	4.5	2.11	0.72	0.72	0.66	0.02
835	Commercial Harbor Crafts	0.39	0.33	5.76	1.23	0	0.24	0.24	0.23	0
840	Recreational Boats	20.23	18.86	3.68	66.37	0.01	1.24	1.11	0.84	0.01
850	Off-Road Recreational Vehicles	1.48	1.46	0.03	1.59	0	0.01	0.01	0	0
860	Off-Road Equipment	60.36	56	39.91	729.55	0.09	2.19	2.11	1.84	0.06
861	Off-Road Equipment (PERP)	0.64	0.54	5.38	4.59	0.01	0.19	0.19	0.17	0.01
870	Farm Equipment	0.35	0.32	0.64	6.12	0	0.05	0.05	0.04	0
890	Fuel Storage and Handling	7.38	7.38	0	0	0	0	0	0	0
	Total Other Mobile Sources	106.26	98.45	121.22	852.54	3.81	5.76	5.54	4.78	0.12
Total Stationary and Area Sources		1116.60	221.48	48.54	103.64	9.69	287.65	152.24	43.33	59.54
Total On-Road Vehicles		72.17	61.62	103.2	549.88	1.58	23.29	22.84	9.85	19.03
Total Other Mobile		106.26	98.45	121.22	852.54	3.81	5.76	5.54	4.78	0.12
Total		1295.04	381.54	272.96	1506.05	15.08	316.71	180.62	57.96	78.69

Attachment B

2023 Summer Planning 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	3.02	0.35	0.67	4.53	0.24	0.60	0.60	0.60	0.78
20	Cogeneration	0.04	0.02	0.02	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.23	0.14	0.67	0.66	0.01	0.10	0.10	0.10	0.21
40	Petroleum Refining (Combustion)	6.57	1.38	0	5.18	0.01	1.81	1.80	1.80	1.54
50	Manufacturing and Industrial	4.29	0.95	6.61	47.47	1.41	1.47	1.39	1.35	2.30
52	Food and Agricultural Processing	0.10	0.05	0.23	0.53	0	0.06	0.06	0.06	0.06
60	Service and Commercial	4.91	1.95	8.74	19.34	0.73	1.07	1.07	1.06	2.52
99	Other (Fuel Combustion)	0.89	0.66	2.59	1.26	0.08	0.52	0.49	0.46	0.28
	Total Fuel Combustion	21.04	5.51	19.53	79.08	2.49	5.64	5.51	5.43	7.88
Waste Disposal										
110	Sewage Treatment	0.40	0.28	0	0.01	0	0.02	0	0	0.21
120	Landfills	645.65	8.96	0.45	0.41	0.39	0.22	0.22	0.22	4.11
130	Incineration	0.22	0.04	1.02	0.27	0.07	0.12	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	97.36	7.83	0.01	0.01	0	0	0	0	1.97
	Total Waste Disposal	743.63	17.12	1.48	0.70	0.47	0.37	0.29	0.27	6.52
Cleaning and Surface Coatings										
210	Laundrying	3.55	0.17	0	0	0	0	0	0	0
220	Degreasing	68.96	13.35	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	19.75	19.32	0	0	0	1.71	1.65	1.58	0.13
240	Printing	0.81	0.81	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.18	4.58	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.65	0.65	0.01	0.11	0	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	98.90	38.87	0.01	0.12	0	1.78	1.71	1.65	0.19
Petroleum Production and Marketing										
310	Oil and Gas Production	6.42	2.95	0.01	0.02	0.08	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.22	2.40	0.24	1.87	1.25	0.89	0.07
330	Petroleum Marketing	54.01	12.63	0	0.21	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	66.84	20.06	0.24	2.64	0.31	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.72	4.57	0.03	0.12	0.05	0.51	0.44	0.42	0.01
420	Food and Agriculture	0.57	0.54	0.01	0.01	0.01	0.26	0.13	0.06	0
430	Mineral Processes	0.46	0.42	0.02	0.37	0.06	9.50	3.93	1.13	0.07
440	Metal Processes	0.13	0.11	0.06	0.28	0.03	0.43	0.34	0.25	0
450	Wood and Paper	0.25	0.25	0	0	0	7.03	4.92	2.95	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.78	5.16	0.01	0.01	0	1.31	0.86	0.55	8.59
	Total Industrial Processes	11.93	11.06	0.12	0.80	0.15	19.04	10.62	5.35	8.68
Solvent Evaporation										
510	Consumer Products	141.45	111.99	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.24	11.24	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.16	1.16	0	0	0	0	0	0	1.20
540	Asphalt Paving/Roofing	1.36	1.26	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	155.21	125.64	0	0	0	0.03	0.03	0.03	1.20

Attachment B

(Continued)

2023 Summer Planning 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	5.08	2.31	11.69	14.09	0.14	2.33	2.27	2.23	0.02
620	Farming Operations	16.92	1.42	0	0	0	1.35	0.67	0.15	7.78
630	Construction and Demolition	0	0	0	0	0	75.11	36.75	3.67	0
640	Paved Road Dust	0	0	0	0	0	136.92	62.60	9.39	0
645	Unpaved Road Dust	0	0	0	0	0	28.47	16.92	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.38	2.17	0.31	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.23	0.10	3.03	0.03	0.36	0.35	0.30	0.03
690	Cooking	2.82	1.12	0	0	0	11.79	11.79	11.79	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	26.90
	RECLAIM	0	0	15.05	0	6.10	0	0	0	0
	Total Miscellaneous Processes	25.41	5.36	26.91	20.14	6.27	261.15	133.96	29.97	34.73
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	21.85	20.34	11.84	212.29	0.66	11.53	11.3	4.7	8.35
722	Light Duty Trucks 1 (T1)	5.82	5.41	2.99	39.29	0.08	1.25	1.22	0.52	0.99
723	Light Duty Trucks 2 (T2)	11.83	11	7.25	95.64	0.27	3.8	3.72	1.55	2.81
724	Medium Duty Trucks (T3)	9.82	9.1	6.29	74.25	0.22	2.54	2.49	1.04	1.84
732	Light Heavy Duty Gas Trucks 1 (T4)	1.63	1.55	1.2	5.04	0.03	0.29	0.28	0.12	0.15
733	Light Heavy Duty Gas Trucks 2 (T5)	0.24	0.23	0.2	0.69	0	0.05	0.05	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.38	0.34	0.46	3.06	0.02	0.16	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.01	0	0.03	0.23	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.21	0.18	3.93	1.12	0.01	0.28	0.28	0.14	0.48
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.07	0.07	1.33	0.4	0	0.12	0.12	0.06	0.19
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	9.13	0.68	0.06	1.04	1.02	0.45	1.48
746	Heavy Heavy Duty Diesel Trucks (HHD)	1.93	0.79	33.23	11.71	0.16	1.45	1.43	0.66	2.71
750	Motorcycles (MCY)	9.7	8.54	2.04	40.19	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	4.14	0.06	0.31	31.52	0	0.07	0.07	0.03	0.62
762	Gas Urban Buses (UB)	0.01	0	0.02	0.05	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.07	0.05	0.05	0.47	0	0.09	0.09	0.04	0
772	Diesel School Buses (SB)	0.03	0.03	1.83	0.12	0	0.18	0.18	0.08	0.02
777	Gas Other Buses (OB)	0.1	0.09	0.14	0.77	0	0.04	0.04	0.02	0.02
778	Motor Coaches	0.01	0.01	0.31	0.08	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.35	0.02	0	0.03	0.03	0.01	0.07
780	Motor Homes (MH)	0.05	0.04	0.54	0.49	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	67.94	57.89	83.48	518.12	1.54	23.08	22.63	9.57	19.9
Other Mobile Sources										
810	Aircraft	3.52	3.36	17.82	34.26	1.54	0.76	0.73	0.65	0
820	Trains	0.83	0.69	16.13	3.91	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.07	9.47	31.12	4.42	2.08	0.7	0.7	0.65	0.03
835	Commercial Harbor Crafts	0.39	0.33	5.77	1.22	0	0.25	0.25	0.23	0
840	Recreational Boats	19.4	18.1	3.64	66.37	0.01	1.19	1.07	0.81	0.01
850	Off-Road Recreational Vehicles	1.42	1.41	0.03	1.6	0	0.01	0.01	0	0
860	Off-Road Equipment	59.94	55.61	37.41	740.82	0.09	2.1	2.02	1.75	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	0.33	0.3	0.61	6.13	0	0.04	0.04	0.04	0
890	Fuel Storage and Handling	7.17	7.17	0	0	0	0	0	0	0
	Total Other Mobile Sources	104.69	96.98	117.71	863.45	3.76	5.59	5.37	4.63	0.13
Total Stationary and Area Sources		1122.96	223.61	48.30	103.48	9.70	289.94	153.40	43.62	59.28
Total On-Road Vehicles		67.94	57.89	83.48	518.12	1.54	23.08	22.63	9.57	19.9
Total Other Mobile		104.69	96.98	117.71	863.45	3.76	5.59	5.37	4.63	0.13
Total		1295.6	378.48	249.49	1485.05	15	318.6	181.39	57.82	79.31

Attachment B

2024 Summer Planning 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	2.82	0.33	0.57	4.27	0.23	0.56	0.56	0.56	0.72
20	Cogeneration	0.04	0.02	0.01	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.26	0.15	0.70	0.68	0.01	0.10	0.10	0.10	0.21
40	Petroleum Refining (Combustion)	6.57	1.38	0	5.18	0.01	1.81	1.80	1.80	1.54
50	Manufacturing and Industrial	4.31	0.96	6.63	47.64	1.41	1.48	1.40	1.36	2.31
52	Food and Agricultural Processing	0.10	0.05	0.23	0.54	0	0.06	0.06	0.06	0.06
60	Service and Commercial	4.94	1.96	8.70	19.17	0.74	1.06	1.06	1.06	2.48
99	Other (Fuel Combustion)	0.90	0.67	2.59	1.26	0.08	0.53	0.50	0.47	0.29
	Total Fuel Combustion	20.93	5.51	19.45	78.84	2.49	5.61	5.49	5.40	7.80
Waste Disposal										
110	Sewage Treatment	0.40	0.29	0	0.01	0	0.02	0	0	0.21
120	Landfills	650.46	9.03	0.42	0.42	0.39	0.22	0.22	0.22	4.13
130	Incineration	0.22	0.04	1.03	0.28	0.07	0.12	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	97.81	7.87	0.01	0.01	0	0	0	0	2.02
	Total Waste Disposal	748.89	17.22	1.46	0.70	0.47	0.37	0.29	0.28	6.60
Cleaning and Surface Coatings										
210	Laundrying	3.57	0.17	0	0	0	0	0	0	0
220	Degreasing	69.38	13.44	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	19.98	19.55	0	0.01	0	1.73	1.66	1.60	0.13
240	Printing	0.82	0.82	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.21	4.61	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.66	0.65	0.01	0.11	0	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	99.62	39.23	0.01	0.12	0	1.80	1.73	1.67	0.19
Petroleum Production and Marketing										
310	Oil and Gas Production	6.71	3.08	0.01	0.02	0.08	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.22	2.40	0.24	1.87	1.25	0.89	0.07
330	Petroleum Marketing	53.40	12.44	0	0.21	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	66.53	19.99	0.24	2.64	0.32	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.76	4.60	0.03	0.12	0.05	0.51	0.45	0.42	0.01
420	Food and Agriculture	0.57	0.55	0.01	0.01	0.01	0.26	0.13	0.06	0
430	Mineral Processes	0.47	0.42	0.02	0.38	0.06	9.53	3.95	1.13	0.07
440	Metal Processes	0.13	0.11	0.06	0.29	0.03	0.44	0.34	0.25	0
450	Wood and Paper	0.25	0.25	0	0	0	7.16	5.01	3.01	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.80	5.18	0.01	0.01	0	1.31	0.86	0.55	8.59
	Total Industrial Processes	12.00	11.13	0.12	0.81	0.15	19.22	10.74	5.42	8.68
Solvent Evaporation										
510	Consumer Products	143.99	114.08	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.34	11.34	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.16	1.16	0	0	0	0	0	0	1.19
540	Asphalt Paving/Roofing	1.38	1.27	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	157.87	127.86	0	0	0	0.03	0.03	0.03	1.19

Attachment B

(Continued)

2024 Summer Planning 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	5.06	2.30	11.45	14.00	0.14	2.31	2.25	2.22	0.02
620	Farming Operations	16.81	1.41	0	0	0	1.35	0.67	0.15	7.77
630	Construction and Demolition	0	0	0	0	0	75.88	37.13	3.71	0
640	Paved Road Dust	0	0	0	0	0	137.57	62.90	9.44	0
645	Unpaved Road Dust	0	0	0	0	0	28.46	16.92	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.34	2.15	0.31	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.23	0.10	3.03	0.03	0.36	0.35	0.30	0.03
690	Cooking	2.84	1.12	0	0	0	11.88	11.88	11.88	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	27.07
	RECLAIM	0	0	15.05	0	6.10	0	0	0	0
	Total Miscellaneous Processes	25.30	5.35	26.67	20.05	6.27	262.60	134.68	30.12	34.90
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	20.4	19.08	10.81	199.67	0.63	11.49	11.26	4.67	8.49
722	Light Duty Trucks 1 (T1)	5.4	5.05	2.68	36.19	0.08	1.26	1.23	0.52	1
723	Light Duty Trucks 2 (T2)	11.23	10.48	6.5	89.85	0.26	3.79	3.72	1.55	2.86
724	Medium Duty Trucks (T3)	9.14	8.5	5.48	67.14	0.21	2.51	2.46	1.03	1.85
732	Light Heavy Duty Gas Trucks 1 (T4)	1.5	1.44	1.09	4.55	0.02	0.28	0.27	0.11	0.14
733	Light Heavy Duty Gas Trucks 2 (T5)	0.22	0.21	0.18	0.63	0	0.05	0.05	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.35	0.32	0.41	2.78	0.02	0.16	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.01	0	0.03	0.23	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.19	0.17	3.46	1.04	0.01	0.28	0.28	0.13	0.5
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.07	0.06	1.18	0.37	0	0.13	0.12	0.06	0.2
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	8.46	0.71	0.06	1.05	1.03	0.45	1.51
746	Heavy Heavy Duty Diesel Trucks (HHD)	1.98	0.81	27.84	12.2	0.16	1.44	1.43	0.64	2.78
750	Motorcycles (MCY)	9.71	8.55	2.04	39.98	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	4.08	0.06	0.31	31.15	0	0.07	0.07	0.03	0.63
762	Gas Urban Buses (UB)	0	0	0.02	0.05	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.07	0.05	0.05	0.48	0	0.09	0.09	0.04	0
772	Diesel School Buses (SB)	0.03	0.03	1.75	0.12	0	0.18	0.18	0.08	0.03
777	Gas Other Buses (OB)	0.09	0.08	0.12	0.67	0	0.04	0.04	0.02	0.02
778	Motor Coaches	0.01	0.01	0.24	0.08	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.33	0.02	0	0.04	0.04	0.02	0.08
780	Motor Homes (MH)	0.04	0.04	0.47	0.46	0.01	0.09	0.09	0.04	0.03
	Total On-Road Motor Vehicles	64.61	55.01	73.46	488.36	1.49	23.01	22.57	9.5	20.26
Other Mobile Sources										
810	Aircraft	3.59	3.44	18.78	34.84	1.6	0.77	0.74	0.66	0
820	Trains	0.83	0.69	16.36	3.98	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.13	9.53	31.44	4.52	2.19	0.72	0.72	0.66	0.03
835	Commercial Harbor Crafts	0.39	0.33	5.79	1.22	0	0.25	0.25	0.23	0
840	Recreational Boats	18.6	17.36	3.61	66.4	0.01	1.14	1.03	0.78	0.01
850	Off-Road Recreational Vehicles	1.37	1.36	0.03	1.61	0	0.01	0.01	0	0
860	Off-Road Equipment	58.13	53.93	35.6	732.11	0.09	1.99	1.92	1.66	0.07
861	Off-Road Equipment (PERP)	0.63	0.53	4.99	4.81	0.02	0.17	0.17	0.16	0.01
870	Farm Equipment	0.31	0.28	0.58	5.85	0	0.04	0.04	0.04	0
890	Fuel Storage and Handling	6.97	6.97	0	0	0	0	0	0	0
	Total Other Mobile Sources	101.95	94.41	117.19	855.34	3.94	5.45	5.24	4.52	0.14
Total Stationary and Area Sources		1131.14	226.30	47.95	103.16	9.70	291.57	154.24	43.83	59.44
Total On-Road Vehicles		64.61	55.01	73.46	488.36	1.49	23.01	22.57	9.5	20.26
Total Other Mobile		101.95	94.41	117.19	855.34	3.94	5.45	5.24	4.52	0.14
Total		1297.71	375.71	238.61	1446.86	15.13	320.03	182.05	57.86	79.84

Attachment B

2025 Summer Planning 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	2.82	0.32	3.17	4.25	0.23	0.56	0.56	0.55	0.72
20	Cogeneration	0.04	0.02	0.02	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.31	0.15	0.87	0.7	0.01	0.11	0.11	0.11	0.22
40	Petroleum Refining (Combustion)	6.57	1.38	5.94	5.18	0.01	1.81	1.8	1.8	1.54
50	Manufacturing and Industrial	4.32	0.96	8.4	47.66	1.41	1.48	1.4	1.36	2.32
52	Food and Agricultural Processing	0.1	0.05	0.42	0.54	0	0.06	0.06	0.06	0.06
60	Service and Commercial	4.95	1.97	9.88	18.91	0.74	1.06	1.06	1.05	2.42
99	Other (Fuel Combustion)	0.91	0.68	2.67	1.27	0.08	0.54	0.51	0.48	0.29
	Total Fuel Combustion	21	5.53	31.39	78.62	2.50	5.62	5.49	5.41	7.76
Waste Disposal										
110	Sewage Treatment	0.4	0.29	0	0.01	0	0.02	0	0	0.22
120	Landfills	655.2	9.09	0.4	0.42	0.39	0.23	0.22	0.22	4.16
130	Incineration	0.22	0.04	1.2	0.28	0.07	0.12	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	98.27	7.91	0.01	0.01	0	0	0	0	2.06
	Total Waste Disposal	754.09	17.32	1.62	0.71	0.47	0.37	0.29	0.28	6.67
Cleaning and Surface Coatings										
210	Laundrying	3.6	0.18	0	0	0	0	0	0	0
220	Degreasing	69.77	13.53	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	20.21	19.77	0	0.01	0	1.75	1.68	1.62	0.14
240	Printing	0.83	0.83	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.25	4.64	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.66	0.65	0.04	0.12	0	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	100.31	39.59	0.04	0.12	0	1.82	1.75	1.68	0.2
Petroleum Production and Marketing										
310	Oil and Gas Production	7	3.21	0.01	0.03	0.08	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.72	2.4	0.24	1.87	1.25	0.89	0.07
330	Petroleum Marketing	52.68	12.21	0.02	0.2	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	66.1	19.9	0.76	2.63	0.32	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.78	4.63	0.07	0.12	0.05	0.52	0.45	0.42	0.01
420	Food and Agriculture	0.58	0.56	0.03	0.01	0.01	0.26	0.13	0.06	0
430	Mineral Processes	0.47	0.42	0.47	0.38	0.06	9.56	3.96	1.14	0.07
440	Metal Processes	0.13	0.11	0.32	0.3	0.03	0.45	0.35	0.26	0
450	Wood and Paper	0.25	0.25	0	0	0	7.29	5.1	3.06	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.82	5.2	0.03	0.01	0	1.32	0.86	0.55	8.59
	Total Industrial Processes	12.06	11.19	0.92	0.82	0.16	19.41	10.86	5.5	8.68
Solvent Evaporation										
510	Consumer Products	145.79	115.57	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.43	11.43	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.16	1.16	0	0	0	0	0	0	1.19
540	Asphalt Paving/Roofing	1.39	1.29	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	159.79	129.46	0	0	0	0.03	0.03	0.03	1.19

Attachment B

(Continued)

2025 Summer Planning 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	5.03	2.29	11.22	13.9	0.14	2.3	2.23	2.2	0.02
620	Farming Operations	16.72	1.4	0	0	0	1.34	0.66	0.15	7.76
630	Construction and Demolition	0	0	0	0	0	76.63	37.49	3.75	0
640	Paved Road Dust	0	0	0	0	0	138.16	63.17	9.48	0
645	Unpaved Road Dust	0	0	0	0	0	28.46	16.92	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.3	2.13	0.31	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.22	0.1	3.03	0.03	0.36	0.35	0.3	0.03
690	Cooking	2.86	1.13	0	0	0	11.96	11.96	11.96	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	27.25
	RECLAIM			0		6.10				
	Total Miscellaneous Processes	25.2	5.33	11.39	19.96	6.27	263.96	135.36	30.25	35.06
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	19.19	18.01	9.95	188.61	0.61	11.45	11.22	4.65	8.61
722	Light Duty Trucks 1 (T1)	5.03	4.71	2.42	33.48	0.08	1.26	1.24	0.52	1.02
723	Light Duty Trucks 2 (T2)	10.69	10.02	5.89	84.96	0.25	3.79	3.71	1.54	2.91
724	Medium Duty Trucks (T3)	8.56	8.01	4.82	61.82	0.2	2.49	2.44	1.01	1.86
732	Light Heavy Duty Gas Trucks 1 (T4)	1.4	1.35	0.99	4.14	0.02	0.27	0.26	0.11	0.14
733	Light Heavy Duty Gas Trucks 2 (T5)	0.21	0.2	0.17	0.59	0	0.05	0.05	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.34	0.31	0.37	2.55	0.02	0.16	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.01	0	0.02	0.23	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.18	0.16	3.03	0.96	0.01	0.28	0.28	0.13	0.52
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.07	0.06	1.05	0.35	0	0.13	0.12	0.06	0.2
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	7.86	0.72	0.06	1.06	1.04	0.45	1.55
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.03	0.82	22.18	12.64	0.17	1.43	1.41	0.61	2.86
750	Motorcycles (MCY)	9.71	8.54	2.05	39.72	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	4.05	0.06	0.31	30.95	0	0.07	0.07	0.03	0.63
762	Gas Urban Buses (UB)	0	0	0.02	0.05	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.07	0.05	0.05	0.49	0	0.1	0.1	0.04	0
772	Diesel School Buses (SB)	0.03	0.03	1.67	0.12	0	0.18	0.17	0.08	0.03
777	Gas Other Buses (OB)	0.09	0.08	0.11	0.68	0	0.04	0.04	0.01	0.02
778	Motor Coaches	0.01	0.01	0.22	0.09	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.35	0.03	0	0.03	0.03	0.01	0.08
780	Motor Homes (MH)	0.04	0.03	0.5	0.36	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	61.78	52.52	64.03	463.51	1.45	22.93	22.49	9.42	20.59
Other Mobile Sources										
810	Aircraft	3.66	3.5	19.75	35.42	1.66	0.77	0.75	0.67	0
820	Trains	0.81	0.68	16.44	4.05	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.14	9.54	31.09	4.5	2.19	0.72	0.72	0.66	0.03
835	Commercial Harbor Crafts	0.39	0.33	5.79	1.22	0	0.25	0.25	0.23	0
840	Recreational Boats	17.86	16.67	3.57	66.51	0.01	1.1	0.99	0.75	0.01
850	Off-Road Recreational Vehicles	1.34	1.32	0.04	1.69	0	0.01	0.01	0	0
860	Off-Road Equipment	54.33	50.41	33.63	707.07	0.09	1.88	1.81	1.57	0.07
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	0.29	0.26	0.55	5.54	0	0.04	0.04	0.04	0
890	Fuel Storage and Handling	6.8	6.8	0	0	0	0	0	0	0
	Total Other Mobile Sources	97.2	90	115.11	830.9	3.99	5.26	5.06	4.37	0.13
Total Stationary and Area Sources		1138.55	228.33	46.12	102.86	9.72	293.13	155.06	44.06	59.64
Total On-Road Vehicles		61.78	52.52	64.03	463.51	1.45	22.93	22.49	9.42	20.59
Total Other Mobile		97.2	90	115.11	830.9	3.99	5.26	5.06	4.37	0.13
Total		1297.53	370.84	225.26	1397.27	15.16	321.33	182.61	57.85	80.36

Attachment B

2026 Summer Planning 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	2.78	0.32	3.13	4.21	0.23	0.55	0.55	0.55	0.71
20	Cogeneration	0.04	0.02	0.02	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.36	0.16	0.87	0.72	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	6.57	1.38	5.34	5.18	3.15	1.81	1.8	1.8	1.54
50	Manufacturing and Industrial	4.32	0.97	8.38	47.6	2.2	1.48	1.4	1.37	2.32
52	Food and Agricultural Processing	0.1	0.05	0.42	0.54	0.01	0.06	0.06	0.06	0.06
60	Service and Commercial	4.96	1.97	9.82	18.64	0.75	1.05	1.05	1.04	2.37
99	Other (Fuel Combustion)	0.91	0.68	2.68	1.27	0.09	0.54	0.51	0.48	0.3
	Total Fuel Combustion	21.03	5.55	30.65	78.28	6.45	5.62	5.49	5.41	7.71
Waste Disposal										
110	Sewage Treatment	0.4	0.29	0	0.01	0	0.02	0	0	0.22
120	Landfills	659.27	9.15	0.4	0.42	0.39	0.23	0.22	0.22	4.18
130	Incineration	0.22	0.04	1.21	0.28	0.08	0.13	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	98.63	7.93	0.01	0.01	0	0	0	0	2.1
	Total Waste Disposal	758.53	17.41	1.63	0.71	0.47	0.37	0.29	0.28	6.73
Cleaning and Surface Coatings										
210	Laundrying	3.62	0.18	0	0	0	0	0	0	0
220	Degreasing	70.22	13.63	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	20.4	19.95	0	0.01	0	1.77	1.7	1.64	0.14
240	Printing	0.84	0.84	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.28	4.67	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.66	0.66	0.04	0.12	0.01	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	101.04	39.93	0.04	0.12	0.01	1.84	1.77	1.7	0.2
Petroleum Production and Marketing										
310	Oil and Gas Production	7.32	3.35	0.01	0.03	0.09	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.68	2.4	1.43	1.87	1.25	0.89	0.07
330	Petroleum Marketing	51.95	12.01	0.02	0.2	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	65.68	19.84	0.72	2.63	1.52	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.81	4.65	0.07	0.12	0.09	0.52	0.45	0.43	0.01
420	Food and Agriculture	0.59	0.56	0.03	0.01	0.01	0.27	0.13	0.06	0
430	Mineral Processes	0.48	0.43	0.47	0.38	0.22	9.59	3.98	1.14	0.07
440	Metal Processes	0.14	0.12	0.32	0.3	0.23	0.46	0.36	0.26	0
450	Wood and Paper	0.25	0.25	0	0	0	7.43	5.2	3.12	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.84	5.21	0.03	0.01	0	1.32	0.87	0.55	8.59
	Total Industrial Processes	12.12	11.25	0.93	0.83	0.55	19.59	10.99	5.57	8.68
Solvent Evaporation										
510	Consumer Products	146.73	116.33	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.53	11.53	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.17	1.17	0	0	0	0	0	0	1.18
540	Asphalt Paving/Roofing	1.4	1.3	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	160.83	130.32	0	0	0	0.03	0.03	0.03	1.18

Attachment B

(Continued)

2026 Summer Planning 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	5	2.28	10.97	13.81	0.14	2.28	2.22	2.18	0.02
620	Farming Operations	16.63	1.39	0	0	0	1.34	0.66	0.15	7.75
630	Construction and Demolition	0	0	0	0	0	77.18	37.76	3.77	0
640	Paved Road Dust	0	0	0	0	0	139.27	63.67	9.55	0
645	Unpaved Road Dust	0	0	0	0	0	28.46	16.92	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.27	2.12	0.3	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.22	0.1	3.03	0.03	0.36	0.35	0.3	0.03
690	Cooking	2.87	1.14	0	0	0	12.03	12.03	12.03	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	27.4
	Total Miscellaneous Processes	25.1	5.32	11.15	19.86	0.17	265.64	136.17	30.4	35.2
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	18.28	17.22	9.33	180.67	0.59	11.46	11.23	4.64	8.76
722	Light Duty Trucks 1 (T1)	4.72	4.44	2.21	31.33	0.08	1.28	1.25	0.52	1.04
723	Light Duty Trucks 2 (T2)	10.29	9.67	5.42	81.45	0.24	3.8	3.73	1.55	2.98
724	Medium Duty Trucks (T3)	8.12	7.63	4.31	58.04	0.19	2.48	2.43	1.01	1.88
732	Light Heavy Duty Gas Trucks 1 (T4)	1.31	1.26	0.9	3.75	0.02	0.26	0.26	0.11	0.13
733	Light Heavy Duty Gas Trucks 2 (T5)	0.19	0.18	0.15	0.54	0	0.05	0.05	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.32	0.29	0.33	2.36	0.02	0.15	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.23	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.17	0.15	2.64	0.89	0.01	0.28	0.27	0.13	0.53
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.06	0.06	0.92	0.33	0	0.12	0.12	0.06	0.21
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	7.63	0.74	0.06	1.07	1.05	0.46	1.57
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.06	0.83	20.84	12.94	0.17	1.45	1.43	0.61	2.92
750	Motorcycles (MCY)	9.79	8.61	2.07	39.81	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	4.04	0.06	0.31	30.94	0	0.07	0.07	0.03	0.63
762	Gas Urban Buses (UB)	0	0	0.02	0.05	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.07	0.05	0.05	0.5	0	0.1	0.1	0.04	0
772	Diesel School Buses (SB)	0.03	0.02	1.59	0.12	0	0.18	0.17	0.08	0.03
777	Gas Other Buses (OB)	0.09	0.08	0.11	0.63	0	0.04	0.04	0.01	0.02
778	Motor Coaches	0.01	0.01	0.2	0.09	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.35	0.03	0	0.04	0.03	0.01	0.08
780	Motor Homes (MH)	0.04	0.03	0.48	0.3	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	59.69	50.67	59.89	445.72	1.41	22.98	22.54	9.42	20.94
Other Mobile Sources										
810	Aircraft	3.72	3.57	20.71	35.98	1.72	0.78	0.76	0.68	0
820	Trains	0.83	0.7	16.69	4.13	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.21	9.6	31.43	4.57	2.22	0.73	0.73	0.67	0.03
835	Commercial Harbor Crafts	0.39	0.33	5.79	1.21	0	0.25	0.25	0.23	0
840	Recreational Boats	17.15	16.01	3.54	66.66	0.01	1.05	0.95	0.72	0.01
850	Off-Road Recreational Vehicles	1.28	1.27	0.04	1.7	0	0.01	0.01	0	0
860	Off-Road Equipment	50.04	46.37	31.7	680.41	0.09	1.78	1.71	1.48	0.08
861	Off-Road Equipment (PERP)	0.59	0.49	4.16	5	0.02	0.13	0.13	0.12	0.01
870	Farm Equipment	0.27	0.24	0.52	5.22	0	0.04	0.04	0.03	0
890	Fuel Storage and Handling	6.64	6.64	0	0	0	0	0	0	0
	Total Other Mobile Sources	92.12	85.22	114.57	804.87	4.08	5.13	4.93	4.27	0.15
Total Stationary and Area Sources		1144.33	229.61	45.12	102.43	9.17	295.01	156.02	44.30	59.78
Total On-Road Vehicles		59.69	50.67	59.89	445.72	1.41	22.98	22.54	9.42	20.94
Total Other Mobile		92.12	85.22	114.57	804.87	4.08	5.13	4.93	4.27	0.15
Total		1296.14	365.5	219.59	1353.01	14.66	323.12	183.49	57.99	80.86

2027 Summer Planning 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	2.65	0.31	2.97	4.04	0.23	0.53	0.52	0.52	0.67
20	Cogeneration	0.04	0.02	0.02	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.41	0.16	0.9	0.74	0.01	0.11	0.11	0.11	0.24
40	Petroleum Refining (Combustion)	6.57	1.38	5.01	5.18	3.15	1.81	1.8	1.8	1.54
50	Manufacturing and Industrial	4.28	0.96	8.33	47.05	2.2	1.47	1.39	1.36	2.3
52	Food and Agricultural Processing	0.1	0.05	0.42	0.54	0.01	0.06	0.06	0.06	0.06
60	Service and Commercial	4.97	1.98	9.85	18.43	0.76	1.05	1.04	1.04	2.33
99	Other (Fuel Combustion)	0.92	0.69	2.68	1.28	0.09	0.55	0.52	0.49	0.3
	Total Fuel Combustion	20.95	5.55	30.18	77.38	6.45	5.59	5.46	5.38	7.62
Waste Disposal										
110	Sewage Treatment	0.41	0.29	0	0.01	0	0.02	0	0	0.22
120	Landfills	663.68	9.21	0.41	0.42	0.39	0.23	0.22	0.22	4.2
130	Incineration	0.23	0.04	1.22	0.28	0.08	0.13	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	98.98	7.96	0.01	0.01	0	0	0	0	2.13
	Total Waste Disposal	763.29	17.5	1.63	0.71	0.47	0.37	0.29	0.28	6.79
Cleaning and Surface Coatings										
210	Laundering	3.64	0.18	0	0	0	0	0	0	0
220	Degreasing	70.55	13.7	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	20.57	20.13	0	0.01	0	1.79	1.71	1.65	0.14
240	Printing	0.86	0.86	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.31	4.69	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.67	0.66	0.04	0.12	0.01	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	101.6	40.21	0.04	0.12	0.01	1.86	1.78	1.72	0.2
Petroleum Production and Marketing										
310	Oil and Gas Production	7.7	3.53	0.01	0.03	0.09	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.65	2.4	1.43	1.87	1.25	0.89	0.07
330	Petroleum Marketing	51.1	11.83	0.02	0.19	0	0.01	0	0	0
399	Other (Petroleum Production and Marketing)	0.04	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	65.22	19.84	0.69	2.63	1.52	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.83	4.67	0.07	0.12	0.09	0.52	0.45	0.43	0.01
420	Food and Agriculture	0.59	0.57	0.03	0.01	0.01	0.27	0.13	0.06	0
430	Mineral Processes	0.48	0.43	0.48	0.39	0.22	9.61	3.99	1.15	0.07
440	Metal Processes	0.14	0.12	0.33	0.31	0.24	0.47	0.37	0.27	0
450	Wood and Paper	0.25	0.25	0	0	0	7.55	5.29	3.17	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.85	5.23	0.03	0.01	0	1.32	0.87	0.55	8.59
	Total Industrial Processes	12.17	11.29	0.94	0.84	0.56	19.76	11.1	5.64	8.68
Solvent Evaporation										
510	Consumer Products	147.83	117.22	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.61	11.61	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.17	1.17	0	0	0	0	0	0	1.18
540	Asphalt Paving/Roofing	1.41	1.31	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	162.03	131.31	0	0	0	0.03	0.03	0.03	1.18

(Continued)

2027 Summer Planning 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	4.98	2.27	10.74	13.71	0.13	2.26	2.2	2.16	0.02
620	Farming Operations	16.53	1.38	0	0	0	1.34	0.66	0.14	7.73
630	Construction and Demolition	0	0	0	0	0	77.68	38.01	3.8	0
640	Paved Road Dust	0	0	0	0	0	139.97	63.99	9.6	0
645	Unpaved Road Dust	0	0	0	0	0	28.46	16.92	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.23	2.1	0.3	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.22	0.1	3.03	0.03	0.36	0.35	0.3	0.03
690	Cooking	2.89	1.14	0	0	0	12.1	12.1	12.1	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	27.57
	Total Miscellaneous Processes	24.99	5.31	10.92	19.77	0.17	266.86	136.77	30.52	35.35
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	17.42	16.46	8.81	173.68	0.58	11.45	11.23	4.63	8.88
722	Light Duty Trucks 1 (T1)	4.43	4.18	2.02	29.36	0.08	1.29	1.26	0.53	1.05
723	Light Duty Trucks 2 (T2)	9.89	9.33	5.01	78.32	0.23	3.81	3.74	1.55	3.03
724	Medium Duty Trucks (T3)	7.7	7.26	3.88	54.68	0.19	2.47	2.42	1	1.9
732	Light Heavy Duty Gas Trucks 1 (T4)	1.24	1.19	0.82	3.46	0.02	0.25	0.25	0.1	0.13
733	Light Heavy Duty Gas Trucks 2 (T5)	0.17	0.17	0.14	0.5	0	0.05	0.05	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.31	0.28	0.3	2.2	0.02	0.15	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.23	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.16	0.14	2.29	0.82	0.01	0.28	0.27	0.13	0.54
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.06	0.05	0.81	0.31	0	0.12	0.12	0.06	0.21
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	7.41	0.75	0.06	1.08	1.06	0.46	1.59
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.09	0.84	19.88	13.18	0.16	1.47	1.45	0.62	2.98
750	Motorcycles (MCY)	9.82	8.62	2.07	39.78	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.92	0.06	0.31	30.09	0	0.07	0.07	0.03	0.64
762	Gas Urban Buses (UB)	0	0	0.02	0.05	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.08	0.06	0.05	0.5	0	0.11	0.1	0.04	0
772	Diesel School Buses (SB)	0.03	0.02	1.5	0.12	0	0.18	0.18	0.08	0.03
777	Gas Other Buses (OB)	0.09	0.08	0.1	0.59	0	0.04	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.2	0.09	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.36	0.03	0	0.04	0.04	0.02	0.08
780	Motor Homes (MH)	0.03	0.03	0.47	0.25	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	57.53	48.85	56.48	428.99	1.38	23	22.57	9.41	21.26
Other Mobile Sources										
810	Aircraft	3.8	3.64	21.66	36.56	1.77	0.79	0.77	0.69	0
820	Trains	0.84	0.7	16.97	4.21	0.02	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.24	9.62	31.55	4.64	2.25	0.74	0.74	0.68	0.03
835	Commercial Harbor Crafts	0.38	0.32	5.77	1.21	0	0.25	0.25	0.23	0
840	Recreational Boats	16.49	15.4	3.51	66.89	0.01	1.02	0.91	0.69	0.01
850	Off-Road Recreational Vehicles	1.22	1.2	0.04	1.71	0	0.01	0.01	0	0
860	Off-Road Equipment	45.77	42.42	30.06	653.81	0.09	1.68	1.62	1.4	0.07
861	Off-Road Equipment (PERP)	0.56	0.47	3.65	5.1	0.02	0.1	0.1	0.1	0.01
870	Farm Equipment	0.25	0.23	0.49	4.89	0	0.04	0.04	0.03	0
890	Fuel Storage and Handling	6.5	6.5	0	0	0	0	0	0	0
	Total Other Mobile Sources	87.05	80.5	113.7	779.01	4.16	4.99	4.8	4.16	0.14
Total Stationary and Area Sources		1150.24	231.01	44.41	101.45	9.18	296.38	156.71	44.47	59.9
Total On-Road Vehicles		57.53	48.85	56.48	428.99	1.38	23	22.57	9.41	21.26
Total Other Mobile		87.05	80.5	113.7	779.01	4.16	4.99	4.8	4.16	0.14
Total		1294.83	360.36	214.58	1309.44	14.73	324.37	184.08	58.04	81.3

Attachment B

2029 Summer Planning 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	2.46	0.28	2.74	3.8	0.22	0.49	0.49	0.48	0.62
20	Cogeneration	0.04	0.02	0.02	0.12	0	0.02	0.01	0.01	0.18
30	Oil and Gas Production (combustion)	1.48	0.17	0.93	0.77	0.01	0.11	0.11	0.11	0.25
40	Petroleum Refining (Combustion)	6.57	1.38	4.51	5.18	3.15	1.81	1.8	1.8	1.54
50	Manufacturing and Industrial	4.22	0.96	8.23	46.14	2.2	1.46	1.38	1.34	2.27
52	Food and Agricultural Processing	0.1	0.05	0.42	0.54	0.01	0.06	0.06	0.06	0.06
60	Service and Commercial	5	1.99	9.89	18.09	0.77	1.04	1.04	1.03	2.26
99	Other (Fuel Combustion)	0.93	0.69	2.68	1.28	0.09	0.56	0.52	0.5	0.3
	Total Fuel Combustion	20.8	5.55	29.42	75.92	6.45	5.53	5.4	5.32	7.48
Waste Disposal										
110	Sewage Treatment	0.41	0.29	0	0.01	0	0.02	0	0	0.22
120	Landfills	672.01	9.32	0.41	0.42	0.4	0.23	0.22	0.22	4.24
130	Incineration	0.23	0.04	1.23	0.28	0.08	0.13	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	99.71	8.02	0.01	0.01	0	0	0	0	2.2
	Total Waste Disposal	772.36	17.68	1.65	0.72	0.48	0.38	0.29	0.28	6.91
Cleaning and Surface Coatings										
210	Laundrying	3.68	0.18	0	0	0	0	0	0	0
220	Degreasing	70.76	13.76	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	20.81	20.35	0	0.01	0	1.8	1.73	1.67	0.14
240	Printing	0.87	0.87	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.33	4.71	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.67	0.66	0.04	0.12	0.01	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	102.11	40.53	0.04	0.12	0.01	1.87	1.8	1.73	0.2
Petroleum Production and Marketing										
310	Oil and Gas Production	8.24	3.77	0.01	0.03	0.1	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.61	2.4	1.43	1.87	1.25	0.89	0.07
330	Petroleum Marketing	49.66	11.56	0.02	0.19	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.05	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	64.31	19.81	0.65	2.62	1.53	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.84	4.68	0.07	0.12	0.09	0.53	0.46	0.43	0.01
420	Food and Agriculture	0.6	0.57	0.03	0.01	0.01	0.27	0.13	0.06	0
430	Mineral Processes	0.49	0.43	0.48	0.39	0.22	9.63	4	1.16	0.07
440	Metal Processes	0.14	0.12	0.33	0.32	0.24	0.48	0.38	0.28	0
450	Wood and Paper	0.25	0.25	0	0	0	7.7	5.39	3.23	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.89	5.26	0.03	0.01	0	1.33	0.87	0.56	8.59
	Total Industrial Processes	12.24	11.35	0.94	0.85	0.56	19.94	11.23	5.72	8.68
Solvent Evaporation										
510	Consumer Products	151.41	120.17	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.78	11.78	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.18	1.18	0	0	0	0	0	0	1.17
540	Asphalt Paving/Roofing	1.44	1.33	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	165.81	134.46	0	0	0	0.03	0.03	0.03	1.17

Attachment B

(Continued)

2029 Summer Planning 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	4.93	2.25	10.28	13.53	0.13	2.23	2.16	2.13	0.02
620	Farming Operations	16.34	1.36	0	0	0	1.33	0.65	0.14	7.7
630	Construction and Demolition	0	0	0	0	0	78.78	38.55	3.85	0
640	Paved Road Dust	0	0	0	0	0	141.29	64.6	9.69	0
645	Unpaved Road Dust	0	0	0	0	0	28.46	16.91	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.17	2.07	0.3	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.22	0.1	3.03	0.03	0.36	0.35	0.3	0.03
690	Cooking	2.92	1.16	0	0	0	12.23	12.23	12.23	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	27.88
	Total Miscellaneous Processes	24.79	5.28	10.46	19.58	0.16	269.29	137.97	30.75	35.63
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	16	15.19	8.08	163.46	0.55	11.45	11.23	4.61	9.12
722	Light Duty Trucks 1 (T1)	3.89	3.69	1.71	26.32	0.07	1.31	1.28	0.53	1.08
723	Light Duty Trucks 2 (T2)	9.17	8.68	4.38	73.71	0.22	3.84	3.76	1.55	3.13
724	Medium Duty Trucks (T3)	7	6.65	3.22	49.52	0.18	2.46	2.41	1	1.94
732	Light Heavy Duty Gas Trucks 1 (T4)	1.14	1.1	0.69	2.93	0.02	0.24	0.23	0.1	0.13
733	Light Heavy Duty Gas Trucks 2 (T5)	0.15	0.14	0.12	0.44	0	0.05	0.05	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.28	0.26	0.25	1.93	0.01	0.15	0.15	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.24	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.15	0.13	1.73	0.71	0.01	0.27	0.26	0.12	0.56
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.06	0.05	0.64	0.27	0	0.12	0.12	0.06	0.22
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	6.73	0.76	0.06	1.09	1.07	0.46	1.63
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.14	0.84	17.5	13.55	0.16	1.51	1.49	0.63	3.1
750	Motorcycles (MCY)	9.94	8.73	2.1	39.87	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.52	0.05	0.3	27.06	0	0.07	0.07	0.03	0.65
762	Gas Urban Buses (UB)	0	0	0.02	0.04	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.08	0.06	0.05	0.51	0	0.11	0.11	0.05	0
772	Diesel School Buses (SB)	0.02	0.02	1.33	0.12	0	0.18	0.18	0.08	0.03
777	Gas Other Buses (OB)	0.09	0.08	0.08	0.53	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.18	0.1	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.36	0.03	0	0.04	0.04	0.02	0.08
780	Motor Homes (MH)	0.03	0.02	0.44	0.17	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	53.75	45.78	49.93	402.27	1.32	23.06	22.63	9.39	21.85
Other Mobile Sources										
810	Aircraft	3.93	3.77	23.58	37.72	1.9	0.81	0.79	0.7	0
820	Trains	0.86	0.72	17.54	4.37	0.03	0.38	0.38	0.35	0.01
833	Ocean Going Vessels	11.33	9.7	32.22	4.76	2.31	0.76	0.76	0.7	0.03
835	Commercial Harbor Crafts	0.38	0.32	5.73	1.19	0	0.24	0.24	0.23	0
840	Recreational Boats	15.3	14.29	3.46	67.51	0.01	0.95	0.85	0.64	0.01
850	Off-Road Recreational Vehicles	1.1	1.08	0.04	1.74	0	0.01	0.01	0	0
860	Off-Road Equipment	38.37	35.54	26.87	584.18	0.09	1.52	1.46	1.26	0.06
861	Off-Road Equipment (PERP)	0.57	0.48	3.58	5.3	0.02	0.1	0.1	0.09	0.01
870	Farm Equipment	0.22	0.2	0.44	4.25	0	0.03	0.03	0.03	0
890	Fuel Storage and Handling	6.27	6.27	0	0	0	0	0	0	0
	Total Other Mobile Sources	78.34	72.38	113.47	711.04	4.34	4.79	4.61	4	0.13
Total Stationary and Area Sources		1162.40	234.67	43.14	99.82	9.20	298.97	158.00	44.75	60.14
Total On-Road Vehicles		53.75	45.78	49.93	402.27	1.32	23.06	22.63	9.39	21.85
Total Other Mobile		78.34	72.38	113.47	711.04	4.34	4.79	4.61	4	0.13
Total		1294.5	352.82	206.55	1213.12	14.86	326.82	185.24	58.14	82.13

Attachment B

2030 Summer Planning 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	2.34	0.27	2.59	3.65	0.21	0.46	0.46	0.46	0.58
20	Cogeneration	0.04	0.02	0.02	0.12	0	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)	6.57	1.38	4.28	5.18	3.15	1.81	1.8	1.8	1.54
50	Manufacturing and Industrial	4.18	0.95	8.16	45.6	2.2	1.44	1.36	1.33	2.25
52	Food and Agricultural Processing	0.1	0.05	0.42	0.54	0.01	0.06	0.06	0.06	0.06
60	Service and Commercial	5.01	2	9.9	17.93	0.77	1.03	1.03	1.03	2.23
99	Other (Fuel Combustion)	0.93	0.69	2.68	1.28	0.09	0.56	0.53	0.5	0.3
	Total Fuel Combustion	20.66	5.53	28.99	75.07	6.45	5.49	5.36	5.28	7.39
Waste Disposal										
110	Sewage Treatment	0.41	0.3	0	0.01	0	0.02	0	0	0.22
120	Landfills	676.15	9.38	0.41	0.42	0.4	0.23	0.22	0.22	4.26
130	Incineration	0.23	0.04	1.23	0.28	0.08	0.13	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	100.07	8.05	0.01	0.01	0	0	0	0	2.24
	Total Waste Disposal	776.86	17.77	1.65	0.72	0.48	0.38	0.29	0.28	6.97
Cleaning and Surface Coatings										
210	Laundrying	3.71	0.18	0	0	0	0	0	0	0
220	Degreasing	70.54	13.73	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	20.86	20.41	0	0.01	0	1.8	1.73	1.67	0.14
240	Printing	0.87	0.87	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.31	4.69	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.67	0.66	0.04	0.11	0.01	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	101.96	40.54	0.04	0.12	0.01	1.87	1.8	1.73	0.2
Petroleum Production and Marketing										
310	Oil and Gas Production	8.38	3.83	0.01	0.03	0.1	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.59	2.4	1.43	1.87	1.25	0.89	0.07
330	Petroleum Marketing	48.97	11.45	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.05	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	63.76	19.77	0.63	2.62	1.53	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.83	4.67	0.07	0.12	0.09	0.52	0.45	0.43	0.01
420	Food and Agriculture	0.6	0.57	0.03	0.01	0.01	0.27	0.13	0.06	0
430	Mineral Processes	0.49	0.44	0.48	0.39	0.22	9.63	4	1.16	0.07
440	Metal Processes	0.14	0.12	0.33	0.32	0.25	0.48	0.38	0.28	0
450	Wood and Paper	0.25	0.25	0	0	0	7.7	5.39	3.23	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.9	5.27	0.03	0.01	0	1.33	0.87	0.56	8.59
	Total Industrial Processes	12.24	11.35	0.94	0.85	0.56	19.94	11.23	5.72	8.68
Solvent Evaporation										
510	Consumer Products	153.56	121.94	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.87	11.87	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.18	1.18	0	0	0	0	0	0	1.17
540	Asphalt Paving/Roofing	1.45	1.34	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	168.05	136.33	0	0	0	0.03	0.03	0.03	1.17

Attachment B

(Continued)

2030 Summer Planning 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	4.9	2.24	10.06	13.44	0.13	2.21	2.15	2.11	0.02
620	Farming Operations	16.24	1.35	0	0	0	1.32	0.65	0.14	7.67
630	Construction and Demolition	0	0	0	0	0	79.31	38.8	3.88	0
640	Paved Road Dust	0	0	0	0	0	141.27	64.59	9.69	0
645	Unpaved Road Dust	0	0	0	0	0	28.46	16.91	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.14	2.06	0.3	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.22	0.1	3.03	0.03	0.36	0.35	0.3	0.03
690	Cooking	2.94	1.16	0	0	0	12.3	12.3	12.3	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	28.03
	Total Miscellaneous Processes	24.68	5.27	10.24	19.49	0.16	269.82	138.26	30.83	35.76
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	15.27	14.52	7.77	158.61	0.54	11.38	11.16	4.57	9.16
722	Light Duty Trucks 1 (T1)	3.6	3.42	1.56	24.87	0.07	1.31	1.28	0.53	1.09
723	Light Duty Trucks 2 (T2)	8.77	8.32	4.11	71.46	0.22	3.83	3.75	1.54	3.15
724	Medium Duty Trucks (T3)	6.65	6.33	2.96	47.38	0.17	2.45	2.4	0.99	1.95
732	Light Heavy Duty Gas Trucks 1 (T4)	1.1	1.07	0.64	2.66	0.02	0.23	0.23	0.1	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.14	0.13	0.11	0.41	0	0.05	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.27	0.25	0.23	1.83	0.01	0.15	0.14	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.24	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.14	0.12	1.51	0.66	0.01	0.27	0.26	0.12	0.57
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.05	0.57	0.26	0	0.12	0.12	0.06	0.22
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	6.43	0.75	0.05	1.09	1.07	0.46	1.65
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.17	0.84	16.76	13.67	0.16	1.52	1.51	0.64	3.16
750	Motorcycles (MCY)	9.93	8.72	2.09	39.69	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.16	0.05	0.28	24.39	0	0.07	0.07	0.03	0.65
762	Gas Urban Buses (UB)	0	0	0.02	0.04	0	0.01	0.01	0.01	0
771	Gas School Buses (SB)	0.08	0.06	0.05	0.52	0	0.11	0.11	0.05	0
772	Diesel School Buses (SB)	0.02	0.02	1.24	0.12	0	0.18	0.18	0.08	0.03
777	Gas Other Buses (OB)	0.08	0.08	0.08	0.5	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.17	0.1	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.37	0.03	0	0.04	0.04	0.02	0.08
780	Motor Homes (MH)	0.02	0.02	0.43	0.14	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	51.56	44.08	47.38	388.32	1.29	22.97	22.55	9.34	22.03
Other Mobile Sources										
810	Aircraft	4	3.83	24.55	38.29	1.95	0.82	0.79	0.71	0
820	Trains	0.86	0.72	17.67	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	5.7	1.18	0	0.24	0.24	0.23	0
840	Recreational Boats	14.73	13.77	3.44	67.84	0.01	0.91	0.82	0.62	0.01
850	Off-Road Recreational Vehicles	1.04	1.03	0.04	1.76	0	0.01	0.01	0	0
860	Off-Road Equipment	35.5	32.8	25.75	544.52	0.08	1.46	1.4	1.21	0.08
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	0.2	0.18	0.42	3.95	0	0.03	0.03	0.03	0
890	Fuel Storage and Handling	6.19	6.19	0	0	0	0	0	0	0
	Total Other Mobile Sources	74.85	69.06	113.67	672.23	4.43	4.71	4.54	3.94	0.14
Total Stationary and Area Sources		1168.20	236.56	42.50	98.87	9.19	299.46	158.25	44.78	60.24
Total On-Road Vehicles		51.56	44.08	47.38	388.32	1.29	22.97	22.55	9.34	22.03
Total Other Mobile		74.85	69.06	113.67	672.23	4.43	4.71	4.54	3.94	0.14
Total		1294.61	349.7	203.55	1159.43	14.92	327.14	185.34	58.06	82.41

Attachment B

2031 Summer Planning 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	2.34	0.27	2.58	3.64	0.21	0.46	0.46	0.46	0.58
20	Cogeneration	0.04	0.02	0.02	0.12	0	0.02	0.01	0.01	0.17
30	Oil and Gas Production (combustion)	1.52	0.18	0.95	0.79	0.01	0.11	0.11	0.11	0.25
40	Petroleum Refining (Combustion)	6.57	1.38	4.19	5.18	3.15	1.81	1.8	1.8	1.54
50	Manufacturing and Industrial	4.16	0.95	8.13	45.29	2.2	1.44	1.36	1.32	2.24
52	Food and Agricultural Processing	0.1	0.05	0.42	0.54	0.01	0.06	0.06	0.06	0.06
60	Service and Commercial	5.02	2	9.92	17.82	0.77	1.03	1.03	1.02	2.2
99	Other (Fuel Combustion)	0.93	0.69	2.68	1.28	0.09	0.56	0.53	0.5	0.3
	Total Fuel Combustion	20.67	5.54	28.89	74.65	6.45	5.49	5.36	5.28	7.36
Waste Disposal										
110	Sewage Treatment	0.42	0.3	0	0.01	0	0.02	0	0	0.22
120	Landfills	679.73	9.43	0.41	0.42	0.4	0.23	0.23	0.22	4.29
130	Incineration	0.23	0.04	1.23	0.28	0.08	0.13	0.06	0.05	0.24
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	100.24	8.06	0.01	0.01	0	0	0	0	2.25
	Total Waste Disposal	780.62	17.83	1.66	0.72	0.48	0.38	0.3	0.28	7
Cleaning and Surface Coatings										
210	Laundrying	3.73	0.18	0	0	0	0	0	0	0
220	Degreasing	70.43	13.71	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	20.92	20.47	0	0.01	0	1.8	1.73	1.67	0.14
240	Printing	0.88	0.88	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.31	4.69	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.67	0.66	0.04	0.11	0.01	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	101.93	40.59	0.04	0.12	0.01	1.88	1.8	1.74	0.2
Petroleum Production and Marketing										
310	Oil and Gas Production	8.56	3.92	0.01	0.03	0.1	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.58	2.4	1.43	1.87	1.25	0.89	0.07
330	Petroleum Marketing	48.68	11.37	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.05	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	63.65	19.77	0.62	2.62	1.53	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.82	4.66	0.07	0.12	0.09	0.52	0.45	0.43	0.01
420	Food and Agriculture	0.6	0.58	0.03	0.01	0.01	0.27	0.13	0.06	0
430	Mineral Processes	0.49	0.44	0.48	0.39	0.22	9.64	4	1.16	0.07
440	Metal Processes	0.14	0.12	0.33	0.33	0.25	0.48	0.38	0.28	0
450	Wood and Paper	0.25	0.25	0	0	0	7.71	5.4	3.24	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.91	5.29	0.03	0.01	0	1.33	0.87	0.56	8.59
	Total Industrial Processes	12.25	11.36	0.94	0.85	0.57	19.97	11.25	5.73	8.68
Solvent Evaporation										
510	Consumer Products	155.67	123.69	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	11.96	11.96	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.18	1.18	0	0	0	0	0	0	1.16
540	Asphalt Paving/Roofing	1.46	1.35	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	170.27	138.18	0	0	0	0.03	0.03	0.03	1.16

Attachment B

(Continued)

2031 Summer Planning 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	4.9	2.24	9.96	13.43	0.13	2.21	2.14	2.11	0.02
620	Farming Operations	16.16	1.34	0	0	0	1.32	0.65	0.14	7.66
630	Construction and Demolition	0	0	0	0	0	79.86	39.07	3.91	0
640	Paved Road Dust	0	0	0	0	0	141.21	64.56	9.69	0
645	Unpaved Road Dust	0	0	0	0	0	28.46	16.91	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.11	2.05	0.29	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.22	0.1	3.03	0.03	0.36	0.35	0.3	0.03
690	Cooking	2.95	1.17	0	0	0	12.37	12.37	12.37	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	28.18
	Total Miscellaneous Processes	24.61	5.26	10.14	19.48	0.16	270.34	138.54	30.91	35.89
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	14.58	13.89	7.51	154.3	0.53	11.31	11.1	4.54	9.19
722	Light Duty Trucks 1 (T1)	3.3	3.14	1.42	23.49	0.07	1.31	1.28	0.53	1.09
723	Light Duty Trucks 2 (T2)	8.37	7.96	3.87	69.39	0.21	3.82	3.74	1.54	3.17
724	Medium Duty Trucks (T3)	6.33	6.04	2.74	45.55	0.17	2.43	2.38	0.98	1.95
732	Light Heavy Duty Gas Trucks 1 (T4)	0.99	0.96	0.59	2.4	0.02	0.23	0.22	0.09	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.13	0.12	0.11	0.39	0	0.04	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.27	0.25	0.21	1.73	0.01	0.14	0.14	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.24	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.13	0.12	1.31	0.62	0.01	0.26	0.26	0.12	0.58
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.05	0.51	0.24	0	0.12	0.12	0.06	0.23
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	6.13	0.74	0.05	1.09	1.07	0.46	1.66
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.19	0.84	16.13	13.77	0.16	1.54	1.53	0.64	3.22
750	Motorcycles (MCY)	9.94	8.73	2.09	39.57	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.67	0.04	0.23	20.34	0	0.06	0.06	0.02	0.65
762	Gas Urban Buses (UB)	0	0	0.02	0.03	0	0.01	0.01	0	0
771	Gas School Buses (SB)	0.08	0.06	0.05	0.51	0	0.12	0.11	0.05	0
772	Diesel School Buses (SB)	0.02	0.02	1.14	0.11	0	0.18	0.18	0.08	0.04
777	Gas Other Buses (OB)	0.08	0.08	0.07	0.48	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.17	0.1	0	0.02	0.02	0.01	0.04
779	Diesel Other Buses (OB)	0	0	0.37	0.03	0	0.04	0.04	0.02	0.08
780	Motor Homes (MH)	0.02	0.02	0.42	0.13	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	49.24	42.38	45.1	374.17	1.26	22.88	22.47	9.28	22.18
Other Mobile Sources										
810	Aircraft	4.06	3.91	25.51	38.87	2.01	0.83	0.8	0.72	0
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	4.9	2.37	0.78	0.78	0.72	0.03
835	Commercial Harbor Crafts	0.37	0.31	5.67	1.17	0	0.24	0.24	0.23	0
840	Recreational Boats	14.19	13.26	3.43	68.2	0.01	0.88	0.8	0.6	0.01
850	Off-Road Recreational Vehicles	0.99	0.98	0.04	1.78	0	0.01	0.01	0	0
860	Off-Road Equipment	33.07	30.52	24.65	508.02	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	0.19	0.17	0.39	3.67	0	0.03	0.03	0.03	0
890	Fuel Storage and Handling	6.12	6.12	0	0	0	0	0	0	0
	Total Other Mobile Sources	71.84	66.24	113.83	636.66	4.51	4.65	4.48	3.89	0.14
Total Stationary and Area Sources		1174.00	238.53	42.28	98.45	9.21	300.01	158.56	44.87	60.37
Total On-Road Vehicles		49.24	42.38	45.1	374.17	1.26	22.88	22.47	9.28	22.18
Total Other Mobile		71.84	66.24	113.83	636.66	4.51	4.65	4.48	3.89	0.14
Total		1295.08	347.15	201.21	1109.28	14.98	327.54	185.5	58.05	82.69

Attachment B

2032 Summer Planning 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	2.33	0.27	2.57	3.63	0.21	0.46	0.46	0.46	0.58
20	Cogeneration	0.04	0.02	0.02	0.11	0	0.02	0.01	0.01	0.17
30	Oil and Gas Production (combustion)	1.55	0.18	0.96	0.8	0.01	0.11	0.11	0.11	0.26
40	Petroleum Refining (Combustion)	6.57	1.38	4.15	5.18	3.15	1.81	1.8	1.8	1.54
50	Manufacturing and Industrial	4.13	0.95	8.09	44.95	2.2	1.43	1.35	1.31	2.22
52	Food and Agricultural Processing	0.1	0.05	0.42	0.54	0.01	0.06	0.06	0.06	0.06
60	Service and Commercial	5.03	2.01	9.95	17.72	0.78	1.03	1.03	1.02	2.18
99	Other (Fuel Combustion)	0.93	0.69	2.68	1.28	0.09	0.56	0.53	0.5	0.3
	Total Fuel Combustion	20.68	5.54	28.82	74.2	6.46	5.48	5.35	5.27	7.32
Waste Disposal										
110	Sewage Treatment	0.42	0.3	0	0.01	0	0.02	0	0	0.22
120	Landfills	683.52	9.48	0.41	0.43	0.4	0.23	0.23	0.22	4.31
130	Incineration	0.23	0.04	1.24	0.29	0.08	0.13	0.06	0.05	0.25
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	100.42	8.08	0.01	0.01	0	0	0	0	2.26
	Total Waste Disposal	784.58	17.9	1.66	0.72	0.48	0.38	0.3	0.28	7.04
Cleaning and Surface Coatings										
210	Laundrying	3.75	0.18	0	0	0	0	0	0	0
220	Degreasing	70.18	13.67	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	20.97	20.52	0	0.01	0	1.8	1.73	1.67	0.14
240	Printing	0.88	0.88	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.29	4.68	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.66	0.66	0.04	0.11	0.01	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	101.74	40.58	0.04	0.12	0.01	1.88	1.8	1.73	0.2
Petroleum Production and Marketing										
310	Oil and Gas Production	8.74	4	0.01	0.03	0.11	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.58	2.4	1.43	1.87	1.25	0.89	0.07
330	Petroleum Marketing	48.35	11.29	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.05	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	63.51	19.78	0.61	2.62	1.54	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.8	4.64	0.07	0.12	0.09	0.52	0.45	0.43	0.01
420	Food and Agriculture	0.6	0.58	0.03	0.01	0.01	0.27	0.13	0.06	0
430	Mineral Processes	0.49	0.44	0.47	0.39	0.22	9.64	4.01	1.16	0.07
440	Metal Processes	0.14	0.12	0.33	0.33	0.25	0.49	0.38	0.28	0
450	Wood and Paper	0.25	0.25	0	0	0	7.71	5.4	3.24	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.93	5.3	0.03	0.01	0	1.33	0.87	0.56	8.59
	Total Industrial Processes	12.25	11.36	0.94	0.86	0.57	19.97	11.25	5.73	8.68
Solvent Evaporation										
510	Consumer Products	157.29	125.02	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	12.04	12.04	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.19	1.19	0	0	0	0	0	0	1.16
540	Asphalt Paving/Roofing	1.47	1.36	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	171.98	139.6	0	0	0	0.03	0.03	0.03	1.16

Attachment B

(Continued)

2032 Summer Planning 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	4.9	2.23	9.85	13.43	0.13	2.21	2.14	2.11	0.02
620	Farming Operations	16.08	1.33	0	0	0	1.32	0.64	0.14	7.64
630	Construction and Demolition	0	0	0	0	0	80.42	39.35	3.93	0
640	Paved Road Dust	0	0	0	0	0	142.03	64.93	9.74	0
645	Unpaved Road Dust	0	0	0	0	0	28.46	16.91	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.09	2.04	0.29	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.22	0.1	3.03	0.03	0.36	0.35	0.3	0.03
690	Cooking	2.97	1.18	0	0	0	12.43	12.43	12.43	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	28.33
	Total Miscellaneous Processes	24.55	5.26	10.03	19.48	0.16	271.75	139.24	31.05	36.03
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	14.04	13.39	7.35	151.65	0.52	11.33	11.12	4.54	9.27
722	Light Duty Trucks 1 (T1)	3.06	2.91	1.31	22.5	0.07	1.32	1.29	0.53	1.11
723	Light Duty Trucks 2 (T2)	8.04	7.66	3.69	68.06	0.21	3.83	3.76	1.54	3.21
724	Medium Duty Trucks (T3)	6.09	5.82	2.59	44.35	0.16	2.43	2.39	0.98	1.97
732	Light Heavy Duty Gas Trucks 1 (T4)	0.91	0.88	0.55	2.21	0.02	0.22	0.22	0.09	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.11	0.11	0.1	0.37	0	0.04	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.26	0.24	0.2	1.66	0.01	0.14	0.14	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.24	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.13	0.11	1.14	0.58	0.01	0.26	0.26	0.12	0.58
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.04	0.46	0.23	0	0.12	0.12	0.06	0.23
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	5.83	0.73	0.05	1.08	1.06	0.46	1.68
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.21	0.84	15.55	13.83	0.16	1.56	1.54	0.65	3.28
750	Motorcycles (MCY)	10.02	8.8	2.1	39.7	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.55	0.04	0.21	19.46	0	0.06	0.06	0.02	0.66
762	Gas Urban Buses (UB)	0	0	0.01	0.03	0	0.01	0.01	0	0
771	Gas School Buses (SB)	0.08	0.06	0.04	0.51	0	0.12	0.12	0.05	0
772	Diesel School Buses (SB)	0.02	0.02	1.05	0.11	0	0.18	0.18	0.08	0.04
777	Gas Other Buses (OB)	0.08	0.08	0.07	0.46	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.16	0.1	0	0.02	0.02	0.01	0.05
779	Diesel Other Buses (OB)	0	0	0.37	0.03	0	0.04	0.04	0.02	0.09
780	Motor Homes (MH)	0.02	0.02	0.41	0.12	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	47.77	41.11	43.21	366.92	1.24	22.93	22.51	9.29	22.43
Other Mobile Sources										
810	Aircraft	4.06	3.91	25.91	38.94	2.02	0.83	0.8	0.72	0
820	Trains	0.84	0.71	17.75	4.63	0.03	0.37	0.37	0.34	0.01
833	Ocean Going Vessels	11.46	9.81	33.24	4.97	2.4	0.79	0.79	0.73	0.03
835	Commercial Harbor Crafts	0.36	0.31	5.64	1.15	0	0.24	0.24	0.22	0
840	Recreational Boats	13.73	12.84	3.41	68.67	0.01	0.86	0.77	0.58	0.01
850	Off-Road Recreational Vehicles	0.95	0.94	0.04	1.8	0	0.01	0.01	0	0
860	Off-Road Equipment	30.93	28.52	23.72	472.86	0.08	1.37	1.32	1.13	0.07
861	Off-Road Equipment (PERP)	0.59	0.5	3.48	5.62	0.02	0.09	0.09	0.08	0.02
870	Farm Equipment	0.18	0.16	0.37	3.38	0	0.03	0.03	0.03	0
890	Fuel Storage and Handling	6.06	6.06	0	0	0	0	0	0	0
	Total Other Mobile Sources	69.18	63.75	113.56	602.01	4.56	4.58	4.41	3.84	0.14
Total Stationary and Area Sources		1179.29	240.03	42.11	98.00	9.21	301.41	159.25	45.01	60.50
Total On-Road Vehicles		47.77	41.11	43.21	366.92	1.24	22.93	22.51	9.29	22.43
Total Other Mobile		69.18	63.75	113.56	602.01	4.56	4.58	4.41	3.84	0.14
Total		1296.24	344.88	198.88	1066.93	15.02	328.92	186.17	58.13	83.07

Attachment B

2033 Summer Planning 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	2.32	0.27	2.56	3.62	0.21	0.46	0.46	0.46	0.58
20	Cogeneration	0.04	0.02	0.02	0.11	0	0.02	0.01	0.01	0.17
30	Oil and Gas Production (combustion)	1.57	0.18	0.95	0.81	0.01	0.12	0.11	0.11	0.26
40	Petroleum Refining (Combustion)	6.57	1.38	4.09	5.18	3.15	1.81	1.8	1.8	1.54
50	Manufacturing and Industrial	4.11	0.94	8	44.63	2.2	1.42	1.34	1.31	2.21
52	Food and Agricultural Processing	0.1	0.05	0.4	0.53	0.01	0.06	0.06	0.06	0.06
60	Service and Commercial	5.05	2.01	9.89	17.61	0.78	1.03	1.02	1.02	2.16
99	Other (Fuel Combustion)	0.93	0.69	2.68	1.27	0.1	0.56	0.53	0.5	0.3
	Total Fuel Combustion	20.69	5.55	28.6	73.77	6.46	5.47	5.34	5.26	7.29
Waste Disposal										
110	Sewage Treatment	0.42	0.3	0	0.01	0	0.02	0	0	0.23
120	Landfills	687.3	9.54	0.41	0.43	0.4	0.23	0.23	0.22	4.33
130	Incineration	0.23	0.04	1.24	0.29	0.08	0.13	0.06	0.05	0.25
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	100.59	8.09	0.01	0.01	0	0	0	0	2.27
	Total Waste Disposal	788.54	17.97	1.67	0.73	0.48	0.38	0.3	0.28	7.07
Cleaning and Surface Coatings										
210	Laundrying	3.77	0.18	0	0	0	0	0	0	0
220	Degreasing	69.95	13.64	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	21.03	20.57	0	0.01	0	1.8	1.73	1.67	0.14
240	Printing	0.88	0.88	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.28	4.66	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.66	0.66	0.04	0.11	0.01	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	101.57	40.59	0.04	0.12	0.01	1.88	1.8	1.73	0.2
Petroleum Production and Marketing										
310	Oil and Gas Production	8.95	4.09	0.01	0.03	0.11	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.57	2.4	1.43	1.87	1.25	0.89	0.07
330	Petroleum Marketing	48.05	11.24	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.05	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	63.41	19.81	0.61	2.62	1.54	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.79	4.63	0.07	0.12	0.09	0.52	0.45	0.42	0.01
420	Food and Agriculture	0.6	0.58	0.03	0.01	0.01	0.27	0.13	0.06	0
430	Mineral Processes	0.49	0.44	0.47	0.39	0.22	9.64	4.01	1.16	0.07
440	Metal Processes	0.14	0.12	0.34	0.33	0.25	0.49	0.39	0.28	0
450	Wood and Paper	0.25	0.25	0	0	0	7.72	5.4	3.24	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.94	5.32	0.03	0.01	0	1.34	0.88	0.56	8.59
	Total Industrial Processes	12.25	11.36	0.94	0.86	0.57	19.98	11.26	5.73	8.68
Solvent Evaporation										
510	Consumer Products	158.98	126.41	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	12.13	12.13	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.19	1.19	0	0	0	0	0	0	1.16
540	Asphalt Paving/Roofing	1.48	1.37	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	173.77	141.1	0	0	0	0.03	0.03	0.03	1.16

Attachment B

(Continued)

2033 Summer Planning 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	4.9	2.23	9.78	13.42	0.13	2.21	2.14	2.11	0.02
620	Farming Operations	16.01	1.33	0	0	0	1.31	0.64	0.13	7.62
630	Construction and Demolition	0	0	0	0	0	80.95	39.61	3.96	0
640	Paved Road Dust	0	0	0	0	0	142.68	65.23	9.79	0
645	Unpaved Road Dust	0	0	0	0	0	28.46	16.91	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.06	2.02	0.29	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.22	0.1	3.03	0.03	0.36	0.35	0.3	0.03
690	Cooking	2.99	1.18	0	0	0	12.5	12.5	12.5	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	28.49
	Total Miscellaneous Processes	24.49	5.26	9.96	19.47	0.16	272.98	139.85	31.19	36.16
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	13.52	12.92	7.21	149.12	0.51	11.33	11.12	4.53	9.33
722	Light Duty Trucks 1 (T1)	2.85	2.72	1.22	21.63	0.07	1.32	1.3	0.53	1.12
723	Light Duty Trucks 2 (T2)	7.71	7.34	3.52	66.72	0.21	3.84	3.76	1.54	3.24
724	Medium Duty Trucks (T3)	5.85	5.6	2.45	43.25	0.16	2.44	2.39	0.98	1.99
732	Light Heavy Duty Gas Trucks 1 (T4)	0.82	0.79	0.52	2.12	0.02	0.22	0.21	0.09	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.11	0.1	0.09	0.36	0	0.04	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.25	0.23	0.18	1.59	0.01	0.14	0.14	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.24	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.12	0.11	1	0.55	0.01	0.26	0.25	0.11	0.59
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.04	0.41	0.22	0	0.12	0.12	0.06	0.23
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	5.55	0.72	0.05	1.08	1.06	0.46	1.71
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.23	0.84	15.05	13.89	0.15	1.58	1.56	0.66	3.34
750	Motorcycles (MCY)	10.1	8.87	2.11	39.8	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.43	0.04	0.19	18.5	0	0.06	0.06	0.02	0.66
762	Gas Urban Buses (UB)	0	0	0.01	0.03	0	0.01	0.01	0	0
771	Gas School Buses (SB)	0.08	0.06	0.04	0.49	0	0.12	0.12	0.05	0
772	Diesel School Buses (SB)	0.02	0.01	0.97	0.11	0	0.18	0.18	0.08	0.04
777	Gas Other Buses (OB)	0.08	0.08	0.06	0.44	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.15	0.11	0	0.02	0.02	0.01	0.05
779	Diesel Other Buses (OB)	0	0	0.37	0.03	0	0.04	0.04	0.02	0.09
780	Motor Homes (MH)	0.02	0.02	0.4	0.11	0.01	0.08	0.08	0.04	0.03
	Total On-Road Motor Vehicles	46.33	39.87	41.54	360.03	1.22	22.95	22.54	9.28	22.65
Other Mobile Sources										
810	Aircraft	4.07	3.91	26.31	39.01	2.04	0.83	0.81	0.72	0
820	Trains	0.82	0.69	17.41	4.71	0.03	0.36	0.36	0.33	0.01
833	Ocean Going Vessels	11.49	9.83	33.62	5.04	2.43	0.8	0.8	0.74	0.03
835	Commercial Harbor Crafts	0.36	0.3	5.6	1.14	0	0.24	0.24	0.22	0
840	Recreational Boats	13.28	12.41	3.4	69.11	0.01	0.83	0.75	0.57	0.01
850	Off-Road Recreational Vehicles	0.91	0.9	0.04	1.82	0	0.01	0.01	0	0
860	Off-Road Equipment	29.16	26.84	22.72	444.68	0.08	1.33	1.27	1.09	0.07
861	Off-Road Equipment (PERP)	0.6	0.5	3.43	5.73	0.02	0.08	0.08	0.07	0.02
870	Farm Equipment	0.17	0.15	0.35	3.12	0	0.03	0.03	0.02	0
890	Fuel Storage and Handling	6.02	6.02	0	0	0	0	0	0	0
	Total Other Mobile Sources	66.87	61.56	112.87	574.36	4.6	4.5	4.34	3.77	0.14
Total Stationary and Area Sources		1184.73	241.64	41.82	97.56	9.23	302.64	159.87	45.15	60.63
Total On-Road Vehicles		46.33	39.87	41.54	360.03	1.22	22.95	22.54	9.28	22.65
Total Other Mobile		66.87	61.56	112.87	574.36	4.6	4.5	4.34	3.77	0.14
Total		1297.93	343.07	196.23	1031.95	15.05	330.1	186.74	58.2	83.42

Attachment B

2035 Summer Planning 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	2.31	0.26	2.54	3.6	0.21	0.46	0.46	0.45	0.57
20	Cogeneration	0.04	0.02	0.01	0.11	0	0.02	0.01	0.01	0.17
30	Oil and Gas Production (combustion)	1.63	0.19	0.96	0.83	0.01	0.12	0.12	0.12	0.27
40	Petroleum Refining (Combustion)	6.57	1.38	3.9	5.18	3.15	1.81	1.8	1.8	1.54
50	Manufacturing and Industrial	4.06	0.93	7.92	43.96	2.19	1.41	1.33	1.29	2.19
52	Food and Agricultural Processing	0.1	0.05	0.4	0.53	0.01	0.06	0.06	0.06	0.06
60	Service and Commercial	5.07	2.02	9.93	17.41	0.79	1.02	1.02	1.02	2.11
99	Other (Fuel Combustion)	0.93	0.69	2.68	1.27	0.1	0.56	0.53	0.5	0.3
	Total Fuel Combustion	20.71	5.55	28.34	72.9	6.47	5.45	5.32	5.24	7.22
Waste Disposal										
110	Sewage Treatment	0.43	0.3	0	0.01	0	0.02	0	0	0.23
120	Landfills	694.67	9.64	0.42	0.43	0.4	0.23	0.23	0.23	4.37
130	Incineration	0.23	0.04	1.25	0.29	0.08	0.13	0.06	0.05	0.25
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	100.92	8.12	0.01	0.01	0	0	0	0	2.29
	Total Waste Disposal	796.24	18.1	1.67	0.73	0.48	0.38	0.3	0.29	7.14
Cleaning and Surface Coatings										
210	Laundrying	3.81	0.19	0	0	0	0	0	0	0
220	Degreasing	69.55	13.58	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	21.13	20.67	0	0.01	0	1.8	1.73	1.67	0.14
240	Printing	0.89	0.89	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.26	4.64	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.66	0.65	0.04	0.11	0.01	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	101.29	40.61	0.04	0.12	0.01	1.88	1.8	1.73	0.2
Petroleum Production and Marketing										
310	Oil and Gas Production	9.36	4.28	0.01	0.03	0.11	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.55	2.4	1.43	1.87	1.25	0.89	0.07
330	Petroleum Marketing	47.51	11.16	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.05	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	63.28	19.92	0.59	2.62	1.54	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.76	4.6	0.07	0.12	0.09	0.52	0.45	0.42	0.01
420	Food and Agriculture	0.6	0.58	0.03	0.01	0.01	0.27	0.13	0.06	0
430	Mineral Processes	0.5	0.44	0.47	0.39	0.22	9.65	4.01	1.17	0.07
440	Metal Processes	0.14	0.12	0.34	0.34	0.25	0.49	0.39	0.28	0
450	Wood and Paper	0.25	0.25	0	0	0	7.73	5.41	3.25	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.97	5.34	0.03	0.01	0	1.34	0.88	0.56	8.59
	Total Industrial Processes	12.26	11.37	0.94	0.86	0.57	20	11.27	5.74	8.68
Solvent Evaporation										
510	Consumer Products	162.53	129.34	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	12.29	12.29	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.2	1.2	0	0	0	0	0	0	1.15
540	Asphalt Paving/Roofing	1.5	1.39	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	177.52	144.22	0	0	0	0.03	0.03	0.03	1.15

Attachment B

(Continued)

2035 Summer Planning 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	4.9	2.23	9.65	13.41	0.13	2.2	2.14	2.11	0.02
620	Farming Operations	15.88	1.32	0	0	0	1.31	0.64	0.13	7.59
630	Construction and Demolition	0	0	0	0	0	82.03	40.14	4.01	0
640	Paved Road Dust	0	0	0	0	0	143.96	65.82	9.88	0
645	Unpaved Road Dust	0	0	0	0	0	28.46	16.91	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	4.01	2	0.29	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.22	0.1	3.03	0.03	0.36	0.35	0.3	0.03
690	Cooking	3.02	1.2	0	0	0	12.64	12.64	12.64	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	28.79
	Total Miscellaneous Processes	24.39	5.26	9.82	19.46	0.16	275.42	141.08	31.46	36.44
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	12.57	12.04	7.01	144.87	0.5	11.34	11.13	4.52	9.42
722	Light Duty Trucks 1 (T1)	2.52	2.42	1.11	20.2	0.07	1.33	1.31	0.53	1.14
723	Light Duty Trucks 2 (T2)	7.04	6.73	3.24	64.38	0.2	3.85	3.78	1.54	3.28
724	Medium Duty Trucks (T3)	5.43	5.21	2.25	41.5	0.16	2.44	2.4	0.98	2.01
732	Light Heavy Duty Gas Trucks 1 (T4)	0.58	0.56	0.47	1.92	0.01	0.21	0.21	0.09	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.09	0.09	0.09	0.33	0	0.04	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.24	0.22	0.16	1.45	0.01	0.14	0.13	0.06	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.23	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.12	0.1	0.77	0.49	0.01	0.25	0.25	0.11	0.61
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.04	0.34	0.2	0	0.12	0.12	0.05	0.24
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	4.97	0.69	0.05	1.07	1.05	0.46	1.75
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.28	0.85	14.21	13.99	0.15	1.62	1.6	0.67	3.47
750	Motorcycles (MCY)	10.25	9.01	2.13	40.04	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.94	0.03	0.15	14.79	0	0.06	0.06	0.02	0.67
762	Gas Urban Buses (UB)	0	0	0.01	0.03	0	0.01	0.01	0	0
771	Gas School Buses (SB)	0.08	0.06	0.03	0.47	0	0.12	0.12	0.05	0
772	Diesel School Buses (SB)	0.01	0.01	0.81	0.11	0	0.18	0.18	0.08	0.04
777	Gas Other Buses (OB)	0.08	0.08	0.06	0.41	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.13	0.11	0	0.02	0.02	0.01	0.05
779	Diesel Other Buses (OB)	0	0	0.37	0.03	0	0.04	0.04	0.02	0.09
780	Motor Homes (MH)	0.02	0.02	0.38	0.1	0.01	0.08	0.08	0.03	0.03
	Total On-Road Motor Vehicles	43.38	37.53	38.69	346.35	1.19	23	22.59	9.27	23.03
Other Mobile Sources										
810	Aircraft	4.08	3.92	27.13	39.16	2.07	0.84	0.81	0.73	0
820	Trains	0.8	0.67	16.94	4.9	0.03	0.35	0.35	0.32	0.02
833	Ocean Going Vessels	11.59	9.92	34.43	5.19	2.49	0.82	0.82	0.76	0.03
835	Commercial Harbor Crafts	0.35	0.29	5.53	1.12	0	0.23	0.23	0.22	0
840	Recreational Boats	12.4	11.6	3.37	69.98	0.01	0.79	0.71	0.53	0.01
850	Off-Road Recreational Vehicles	0.84	0.83	0.04	1.86	0	0.01	0.01	0	0
860	Off-Road Equipment	25.89	23.73	21.02	395.71	0.08	1.25	1.2	1.03	0.07
861	Off-Road Equipment (PERP)	0.62	0.52	3.4	5.96	0.02	0.08	0.08	0.07	0.02
870	Farm Equipment	0.15	0.13	0.32	2.62	0	0.03	0.03	0.02	0
890	Fuel Storage and Handling	5.99	5.99	0	0	0	0	0	0	0
	Total Other Mobile Sources	62.7	57.59	112.19	526.5	4.7	4.38	4.23	3.68	0.14
Total Stationary and Area Sources		1195.69	245.04	41.41	96.68	9.23	305.09	161.09	45.4	60.89
Total On-Road Vehicles		43.38	37.53	38.69	346.35	1.19	23	22.59	9.27	23.03
Total Other Mobile		62.7	57.59	112.19	526.5	4.7	4.38	4.23	3.68	0.14
Total		1301.77	340.15	192.29	969.52	15.13	332.47	187.9	58.36	84.07

Attachment B

2036 Summer Planning 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	2.34	0.27	2.57	3.65	0.21	0.46	0.46	0.46	0.58
20	Cogeneration	0.04	0.02	0.02	0.11	0	0.02	0.01	0.01	0.16
30	Oil and Gas Production (combustion)	1.66	0.19	0.97	0.84	0.01	0.12	0.12	0.12	0.28
40	Petroleum Refining (Combustion)	6.57	1.38	3.9	5.18	3.15	1.81	1.8	1.8	1.54
50	Manufacturing and Industrial	4.04	0.93	7.89	43.66	2.19	1.4	1.32	1.29	2.18
52	Food and Agricultural Processing	0.1	0.05	0.4	0.53	0.01	0.06	0.06	0.06	0.06
60	Service and Commercial	5.09	2.03	9.96	17.32	0.79	1.02	1.02	1.01	2.09
99	Other (Fuel Combustion)	0.93	0.69	2.68	1.27	0.1	0.56	0.53	0.5	0.3
	Total Fuel Combustion	20.76	5.56	28.38	72.55	6.47	5.45	5.32	5.24	7.2
Waste Disposal										
110	Sewage Treatment	0.43	0.31	0	0.01	0	0.02	0	0	0.23
120	Landfills	697.86	9.68	0.42	0.43	0.4	0.23	0.23	0.23	4.39
130	Incineration	0.23	0.04	1.25	0.29	0.08	0.13	0.06	0.05	0.25
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	101.05	8.13	0.01	0.01	0	0	0	0	2.3
	Total Waste Disposal	799.57	18.16	1.68	0.73	0.49	0.39	0.3	0.29	7.17
Cleaning and Surface Coatings										
210	Laundrying	3.83	0.19	0	0	0	0	0	0	0
220	Degreasing	69.35	13.55	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	21.19	20.73	0	0.01	0	1.8	1.73	1.67	0.14
240	Printing	0.89	0.89	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.25	4.63	0	0	0	0.03	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.66	0.65	0.04	0.11	0.01	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	101.17	40.64	0.04	0.12	0.01	1.88	1.8	1.74	0.2
Petroleum Production and Marketing										
310	Oil and Gas Production	9.57	4.37	0.01	0.03	0.12	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.55	2.4	1.43	1.87	1.25	0.89	0.07
330	Petroleum Marketing	47.26	11.13	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.05	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	63.25	19.99	0.59	2.62	1.55	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.75	4.59	0.07	0.12	0.09	0.52	0.45	0.42	0.01
420	Food and Agriculture	0.61	0.58	0.03	0.01	0.01	0.27	0.13	0.06	0
430	Mineral Processes	0.5	0.45	0.47	0.39	0.22	9.65	4.01	1.17	0.07
440	Metal Processes	0.14	0.12	0.34	0.34	0.26	0.5	0.39	0.29	0
450	Wood and Paper	0.26	0.26	0	0	0	7.73	5.41	3.25	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.98	5.35	0.03	0.01	0	1.35	0.88	0.56	8.59
	Total Industrial Processes	12.26	11.37	0.94	0.86	0.57	20.02	11.28	5.75	8.68
Solvent Evaporation										
510	Consumer Products	164.36	130.85	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	12.37	12.37	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.2	1.2	0	0	0	0	0	0	1.15
540	Asphalt Paving/Roofing	1.51	1.4	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	179.45	145.83	0	0	0	0.03	0.03	0.03	1.15

Attachment B

(Continued)

2036 Summer Planning 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	4.89	2.23	9.58	13.4	0.13	2.2	2.14	2.1	0.02
620	Farming Operations	15.81	1.31	0	0	0	1.31	0.64	0.13	7.58
630	Construction and Demolition	0	0	0	0	0	82.61	40.42	4.04	0
640	Paved Road Dust	0	0	0	0	0	144.79	66.2	9.93	0
645	Unpaved Road Dust	0	0	0	0	0	28.46	16.91	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	3.99	1.99	0.29	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.22	0.1	3.03	0.03	0.36	0.35	0.3	0.03
690	Cooking	3.03	1.2	0	0	0	12.71	12.71	12.71	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	28.93
	Total Miscellaneous Processes	24.34	5.26	9.75	19.45	0.16	276.87	141.79	31.61	36.56
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	12.15	11.64	6.95	143.35	0.5	11.36	11.15	4.53	9.47
722	Light Duty Trucks 1 (T1)	2.39	2.29	1.08	19.67	0.07	1.34	1.32	0.54	1.15
723	Light Duty Trucks 2 (T2)	6.75	6.45	3.12	63.43	0.2	3.86	3.79	1.54	3.3
724	Medium Duty Trucks (T3)	5.27	5.06	2.18	40.92	0.15	2.45	2.4	0.98	2.03
732	Light Heavy Duty Gas Trucks 1 (T4)	0.55	0.53	0.44	1.83	0.01	0.21	0.2	0.08	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.09	0.08	0.08	0.32	0	0.04	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.23	0.22	0.15	1.39	0.01	0.13	0.13	0.05	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.23	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.11	0.1	0.67	0.46	0.01	0.25	0.25	0.11	0.62
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.04	0.04	0.31	0.19	0	0.12	0.12	0.05	0.24
744	Medium Heavy Duty Diesel Truck (T6)	0.06	0.06	4.71	0.67	0.05	1.07	1.05	0.45	1.78
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.3	0.85	13.92	14.04	0.15	1.64	1.62	0.68	3.54
750	Motorcycles (MCY)	10.34	9.1	2.14	40.23	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.73	0.03	0.14	13.17	0	0.06	0.06	0.02	0.67
762	Gas Urban Buses (UB)	0	0	0.01	0.02	0	0.01	0.01	0	0
771	Gas School Buses (SB)	0.08	0.07	0.03	0.47	0	0.12	0.12	0.05	0
772	Diesel School Buses (SB)	0.01	0.01	0.74	0.11	0	0.18	0.18	0.08	0.04
777	Gas Other Buses (OB)	0.08	0.07	0.05	0.4	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.13	0.11	0	0.02	0.02	0.01	0.05
779	Diesel Other Buses (OB)	0	0	0.37	0.03	0	0.04	0.04	0.02	0.09
780	Motor Homes (MH)	0.02	0.02	0.38	0.1	0.01	0.08	0.08	0.03	0.03
	Total On-Road Motor Vehicles	42.23	36.63	37.62	341.15	1.18	23.06	22.65	9.28	23.24
Other Mobile Sources										
810	Aircraft	4.09	3.92	27.52	39.23	2.08	0.84	0.81	0.73	0
820	Trains	0.75	0.63	16.26	4.99	0.03	0.32	0.32	0.3	0.02
833	Ocean Going Vessels	11.62	9.94	31.82	5.27	2.52	0.83	0.83	0.77	0.03
835	Commercial Harbor Crafts	0.34	0.29	5.49	1.1	0	0.23	0.23	0.22	0
840	Recreational Boats	11.96	11.18	3.36	70.36	0.01	0.76	0.68	0.52	0.01
850	Off-Road Recreational Vehicles	0.81	0.8	0.04	1.89	0	0.01	0.01	0	0
860	Off-Road Equipment	24.44	22.4	20.39	376.03	0.08	1.22	1.17	1	0.05
861	Off-Road Equipment (PERP)	0.63	0.53	3.42	6.08	0.02	0.07	0.07	0.07	0.02
870	Farm Equipment	0.14	0.12	0.3	2.39	0	0.03	0.03	0.02	0
890	Fuel Storage and Handling	5.99	5.99	0	0	0	0	0	0	0
	Total Other Mobile Sources	60.76	55.81	108.59	507.34	4.74	4.31	4.16	3.62	0.12
Total Stationary and Area Sources		1200.79	246.8	41.39	96.34	9.26	306.56	161.81	45.56	61.03
Total On-Road Vehicles		42.23	36.63	37.62	341.15	1.18	23.06	22.65	9.28	23.24
Total Other Mobile		60.76	55.81	108.59	507.34	4.74	4.31	4.16	3.62	0.12
Total		1303.78	339.24	187.6	944.83	15.18	333.93	188.62	58.47	84.38

Attachment B

2037 Summer Planning 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	2.33	0.27	2.56	3.64	0.21	0.46	0.46	0.46	0.58
20	Cogeneration	0.04	0.02	0.02	0.11	0	0.02	0.01	0.01	0.16
30	Oil and Gas Production (combustion)	1.69	0.19	0.97	0.85	0.01	0.12	0.12	0.12	0.28
40	Petroleum Refining (Combustion)	6.57	1.38	3.9	5.18	3.15	1.81	1.8	1.8	1.54
50	Manufacturing and Industrial	4.02	0.93	7.85	43.34	2.19	1.4	1.32	1.28	2.16
52	Food and Agricultural Processing	0.1	0.05	0.4	0.53	0.01	0.06	0.06	0.06	0.06
60	Service and Commercial	5.1	2.04	9.98	17.22	0.8	1.02	1.02	1.01	2.07
99	Other (Fuel Combustion)	0.93	0.69	2.68	1.27	0.1	0.56	0.53	0.5	0.3
	Total Fuel Combustion	20.77	5.57	28.36	72.14	6.48	5.44	5.32	5.23	7.16
Waste Disposal										
110	Sewage Treatment	0.43	0.31	0	0.01	0	0.02	0	0	0.23
120	Landfills	701.06	9.73	0.42	0.43	0.41	0.23	0.23	0.23	4.41
130	Incineration	0.23	0.04	1.25	0.29	0.08	0.13	0.06	0.05	0.25
140	Soil Remediation	0	0	0	0	0	0	0	0	0
199	Other (Waste Disposal)	101.19	8.14	0.01	0.01	0	0	0	0	2.31
	Total Waste Disposal	802.91	18.22	1.68	0.73	0.49	0.39	0.3	0.29	7.2
Cleaning and Surface Coatings										
210	Laundrying	3.85	0.19	0	0	0	0	0	0	0
220	Degreasing	69.1	13.51	0	0	0	0.03	0.03	0.03	0.01
230	Coatings and Related Processes	21.24	20.78	0	0.01	0	1.8	1.73	1.67	0.14
240	Printing	0.89	0.89	0	0	0	0	0	0	0.05
250	Adhesives and Sealants	5.23	4.62	0	0	0	0.04	0.03	0.03	0
299	Other (Cleaning and Surface Coatings)	0.66	0.65	0.04	0.11	0.01	0.01	0.01	0.01	0
	Total Cleaning and Surface Coatings	100.97	40.63	0.04	0.12	0.01	1.88	1.8	1.74	0.2
Petroleum Production and Marketing										
310	Oil and Gas Production	9.78	4.47	0.01	0.03	0.12	0.04	0.03	0.02	0
320	Petroleum Refining	6.37	4.44	0.55	2.4	1.43	1.87	1.25	0.89	0.07
330	Petroleum Marketing	47.02	11.11	0.02	0.18	0	0	0	0	0
399	Other (Petroleum Production and Marketing)	0.05	0.04	0.01	0.01	0	0	0	0	0
	Total Petroleum Production and Marketing	63.21	20.06	0.59	2.62	1.55	1.92	1.28	0.91	0.07
Industrial Processes										
410	Chemical	4.73	4.57	0.07	0.11	0.09	0.51	0.44	0.42	0.01
420	Food and Agriculture	0.61	0.58	0.03	0.01	0.01	0.27	0.13	0.06	0
430	Mineral Processes	0.5	0.45	0.47	0.39	0.22	9.65	4.01	1.17	0.07
440	Metal Processes	0.14	0.12	0.34	0.34	0.26	0.5	0.39	0.29	0
450	Wood and Paper	0.26	0.26	0	0	0	7.74	5.41	3.25	0.01
460	Glass and Related Products	0.01	0	0	0	0	0	0	0	0
470	Electronics	0.02	0.02	0	0	0	0.01	0.01	0	0
499	Other (Industrial Processes)	5.99	5.37	0.03	0.01	0	1.35	0.89	0.57	8.59
	Total Industrial Processes	12.26	11.37	0.94	0.86	0.57	20.02	11.29	5.75	8.68
Solvent Evaporation										
510	Consumer Products	166.26	132.42	0	0	0	0	0	0	0
520	Architectural Coatings and Related Solvent	12.44	12.44	0	0	0	0	0	0	0
530	Pesticides/Fertilizers	1.2	1.2	0	0	0	0	0	0	1.14
540	Asphalt Paving/Roofing	1.52	1.41	0	0	0	0.03	0.03	0.03	0
	Total Solvent Evaporation	181.43	147.48	0	0	0	0.03	0.03	0.03	1.14

Attachment B

(Continued)

2037 Summer Planning 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	4.89	2.23	9.51	13.4	0.13	2.2	2.14	2.1	0.02
620	Farming Operations	15.76	1.3	0	0	0	1.3	0.63	0.13	7.56
630	Construction and Demolition	0	0	0	0	0	83.14	40.68	4.07	0
640	Paved Road Dust	0	0	0	0	0	145.58	66.56	9.99	0
645	Unpaved Road Dust	0	0	0	0	0	28.46	16.91	1.69	0
650	Fugitive Windblown Dust	0	0	0	0	0	3.97	1.98	0.28	0
660	Fires	0.34	0.29	0.08	3.02	0	0.45	0.44	0.41	0
670	Waste Burning and Disposal	0.26	0.22	0.1	3.03	0.03	0.36	0.35	0.3	0.03
690	Cooking	3.05	1.21	0	0	0	12.77	12.77	12.77	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	29.06
	Total Miscellaneous Processes	24.3	5.26	9.69	19.45	0.16	278.23	142.47	31.75	36.68
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	11.8	11.31	6.92	142.26	0.5	11.38	11.17	4.53	9.51
722	Light Duty Trucks 1 (T1)	2.27	2.19	1.05	19.28	0.07	1.35	1.33	0.54	1.16
723	Light Duty Trucks 2 (T2)	6.49	6.21	3.02	62.7	0.2	3.87	3.8	1.54	3.32
724	Medium Duty Trucks (T3)	5.13	4.93	2.13	40.45	0.15	2.46	2.41	0.98	2.04
732	Light Heavy Duty Gas Trucks 1 (T4)	0.52	0.51	0.42	1.75	0.01	0.2	0.2	0.08	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.08	0.08	0.08	0.31	0	0.04	0.04	0.02	0.02
734	Medium Heavy Duty Gas Trucks (T6)	0.23	0.21	0.14	1.33	0.01	0.13	0.13	0.05	0.05
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0.02	0.22	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.11	0.1	0.58	0.44	0.01	0.25	0.24	0.11	0.63
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.04	0.04	0.28	0.19	0	0.12	0.11	0.05	0.24
744	Medium Heavy Duty Diesel Truck (T6)	0.06	0.06	4.46	0.66	0.04	1.07	1.05	0.45	1.8
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.32	0.86	13.69	14.09	0.15	1.67	1.65	0.69	3.6
750	Motorcycles (MCY)	10.44	9.19	2.16	40.41	0	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.37	0.02	0.11	10.43	0	0.06	0.06	0.02	0.68
762	Gas Urban Buses (UB)	0	0	0.01	0.02	0	0.01	0.01	0	0
771	Gas School Buses (SB)	0.08	0.07	0.03	0.46	0	0.12	0.12	0.05	0
772	Diesel School Buses (SB)	0.01	0.01	0.68	0.11	0	0.18	0.18	0.08	0.04
777	Gas Other Buses (OB)	0.08	0.07	0.05	0.39	0	0.03	0.03	0.01	0.02
778	Motor Coaches	0.01	0.01	0.12	0.11	0	0.02	0.02	0.01	0.05
779	Diesel Other Buses (OB)	0	0	0.36	0.03	0	0.04	0.04	0.02	0.09
780	Motor Homes (MH)	0.02	0.02	0.37	0.1	0.01	0.08	0.08	0.03	0.03
	Total On-Road Motor Vehicles	41.08	35.88	36.69	335.71	1.17	23.12	22.71	9.3	23.43
Other Mobile Sources										
810	Aircraft	4.09	3.93	27.93	39.31	2.1	0.84	0.81	0.73	0
820	Trains	0.73	0.61	15.5	5.09	0.03	0.31	0.31	0.28	0.02
833	Ocean Going Vessels	11.65	9.97	30.65	5.35	2.56	0.85	0.85	0.78	0.03
835	Commercial Harbor Crafts	0.34	0.28	5.45	1.09	0	0.23	0.23	0.21	0
840	Recreational Boats	11.5	10.76	3.35	70.7	0.01	0.74	0.66	0.5	0.01
850	Off-Road Recreational Vehicles	0.78	0.77	0.04	1.91	0	0.01	0.01	0	0
860	Off-Road Equipment	23.31	21.24	19.83	359.77	0.08	1.2	1.15	0.98	0.07
861	Off-Road Equipment (PERP)	0.64	0.54	3.43	6.2	0.02	0.07	0.07	0.07	0.02
870	Farm Equipment	0.13	0.11	0.28	2.17	0	0.03	0.02	0.02	0
890	Fuel Storage and Handling	6	6	0	0	0	0	0	0	0
	Total Other Mobile Sources	59.16	54.22	106.46	491.6	4.79	4.26	4.11	3.58	0.15
Total Stationary and Area Sources		1205.85	248.58	41.31	95.92	9.26	307.92	162.48	45.71	61.14
Total On-Road Vehicles		41.08	35.88	36.69	335.71	1.17	23.12	22.71	9.3	23.43
Total Other Mobile		59.16	54.22	106.46	491.6	4.79	4.26	4.11	3.58	0.15
Total		1306.09	338.68	184.46	923.23	15.22	335.29	189.3	58.58	84.72

Attachment B

(Continued)

2018 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.21	0.09	0.28	0.53	0	0.08	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.7	0.32	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	34.94	17.1	1.71	0
640	Paved Road Dust	0	0	0	0	0	11	5.03	0.75	0
645	Unpaved Road Dust	0	0	0	0	0	4.8	2.85	0.29	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.28	1.18	0.17	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.06	0.03	0	0	0	0.26	0.26	0.26	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.81
	RECLAIM			0.11		0				
	Total Miscellaneous Processes	1.15	0.21	0.40	0.72	0	54.09	26.85	3.33	1.15
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	1.18	1.1	0.58	8.81	0.02	0.29	0.28	0.12	0.18
722	Light Duty Trucks 1 (T1)	0.39	0.36	0.22	2.6	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.64	0.59	0.5	5.37	0.01	0.11	0.11	0.05	0.07
724	Medium Duty Trucks (T3)	0.63	0.58	0.51	5.16	0.01	0.1	0.09	0.04	0.06
732	Light Heavy Duty Gas Trucks 1 (T4)	0.09	0.09	0.07	0.3	0	0.01	0.01	0.01	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0.02	0.02	0.02	0.05	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.03	0.02	0.05	0.27	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.02	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.34	0.08	0	0.01	0.01	0.01	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.13	0.03	0	0.01	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0.05	0.04	0.94	0.17	0	0.07	0.07	0.05	0.03
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.27	0.23	6.17	1.45	0.02	0.26	0.26	0.17	0.24
750	Motorcycles (MCY)	0.4	0.36	0.08	2.09	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.09	0.01	0.04	0.46	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.08	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0.01	0.03	0	0	0	0	0
778	Motor Coaches	0	0	0.02	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.02	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.03	0.03	0	0	0	0	0
	Total On-Road Motor Vehicles	3.82	3.43	9.81	26.93	0.07	0.92	0.91	0.46	0.66
Other Mobile Sources										
810	Aircraft	0.1	0.1	0.33	1.24	0.03	0.03	0.03	0.02	0
820	Trains	0.21	0.18	3.77	0.86	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.83	0.78	0.11	1.97	0	0.04	0.04	0.03	0
850	Off-Road Recreational Vehicles	0.14	0.14	0	0.16	0	0	0	0	0
860	Off-Road Equipment	2.19	2.05	2.57	24.81	0	0.15	0.15	0.13	0
861	Off-Road Equipment (PERP)	0.05	0.04	0.5	0.27	0	0.02	0.02	0.02	0
870	Farm Equipment	0.13	0.11	0.47	1.01	0	0.03	0.03	0.03	0
890	Fuel Storage and Handling	0.26	0.26	0	0	0	0	0	0	0
	Total Other Mobile Sources	3.91	3.65	7.74	30.31	0.04	0.37	0.36	0.32	0.01
Total Stationary and Area Sources		10.69	6.26	1.38	2.36	0.18	54.83	27.29	3.63	1.83
Total On-Road Vehicles		3.82	3.43	9.81	26.93	0.07	0.92	0.91	0.46	0.66
Total Other Mobile		3.91	3.65	7.74	30.31	0.04	0.37	0.36	0.32	0.01
Total		18.42	13.34	18.92	59.6	0.29	56.12	28.55	4.41	2.5

Attachment B

(Continued)

2022 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.22	0.1	0.31	0.55	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.69	0.31	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	38.54	18.86	1.89	0
640	Paved Road Dust	0	0	0	0	0	11.54	5.27	0.79	0
645	Unpaved Road Dust	0	0	0	0	0	4.8	2.85	0.29	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.26	1.17	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.28	0.28	0.28	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.86
	RECLAIM			0.24						
	Total Miscellaneous Processes	1.17	0.21	0.56	0.75	0	58.22	28.86	3.56	1.21
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.87	0.83	0.39	6.79	0.02	0.3	0.29	0.12	0.21
722	Light Duty Trucks 1 (T1)	0.28	0.27	0.14	1.77	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.53	0.5	0.32	3.97	0.01	0.12	0.12	0.05	0.09
724	Medium Duty Trucks (T3)	0.49	0.46	0.31	3.47	0.01	0.09	0.09	0.04	0.07
732	Light Heavy Duty Gas Trucks 1 (T4)	0.06	0.06	0.04	0.17	0	0.01	0.01	0	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.03	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.04	0.19	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.2	0.05	0	0.01	0.01	0.01	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.08	0.02	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0.02	0.01	0.52	0.07	0	0.05	0.05	0.03	0.05
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.17	0.14	4.61	1.46	0.02	0.19	0.19	0.1	0.31
750	Motorcycles (MCY)	0.43	0.39	0.09	2.06	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.08	0	0.01	0.59	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.08	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.02	0	0	0	0	0
778	Motor Coaches	0	0	0.01	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0.01	0	0	0	0	0
	Total On-Road Motor Vehicles	2.99	2.7	6.88	20.69	0.07	0.85	0.84	0.38	0.81
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.39	1.22	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.18	4	0.93	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.69	0.65	0.1	1.86	0	0.04	0.03	0.02	0
850	Off-Road Recreational Vehicles	0.13	0.12	0	0.15	0	0	0	0	0
860	Off-Road Equipment	1.91	1.8	0.68	25.98	0	0.06	0.06	0.05	0
861	Off-Road Equipment (PERP)	0.04	0.03	0.3	0.26	0	0.01	0.01	0.01	0
870	Farm Equipment	0.1	0.09	0.36	0.98	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	0.23	0.23	0	0	0	0	0	0	0
	Total Other Mobile Sources	3.4	3.19	5.84	31.39	0.04	0.26	0.25	0.21	0.01
Total Stationary and Area Sources		11.39	6.67	1.60	2.46	0.20	59.03	29.35	3.90	1.88
Total On-Road Vehicles		2.99	2.7	6.88	20.69	0.07	0.85	0.84	0.38	0.81
Total Other Mobile		3.4	3.19	5.84	31.39	0.04	0.26	0.25	0.21	0.01
Total		17.78	12.56	14.32	54.54	0.31	60.14	30.44	4.48	2.7

Attachment B

(Continued)

2023 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.22	0.1	0.31	0.55	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.69	0.31	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	39.24	19.2	1.92	0
640	Paved Road Dust	0	0	0	0	0	12.08	5.52	0.83	0
645	Unpaved Road Dust	0	0	0	0	0	4.8	2.85	0.29	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.25	1.17	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.28	0.28	0.28	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.88
	RECLAIM			0.24						
	Total Miscellaneous Processes	1.17	0.21	0.56	0.75	0	59.45	29.45	3.63	1.22
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.85	0.8	0.37	6.71	0.02	0.31	0.3	0.12	0.23
722	Light Duty Trucks 1 (T1)	0.27	0.26	0.13	1.68	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.53	0.5	0.3	3.89	0.01	0.13	0.12	0.05	0.09
724	Medium Duty Trucks (T3)	0.48	0.45	0.28	3.28	0.01	0.1	0.09	0.04	0.07
732	Light Heavy Duty Gas Trucks 1 (T4)	0.06	0.05	0.04	0.15	0	0.01	0.01	0	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.03	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.03	0.18	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.17	0.05	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.07	0.02	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.37	0.03	0	0.04	0.04	0.02	0.06
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.16	0.12	3.87	1.51	0.02	0.19	0.19	0.09	0.33
750	Motorcycles (MCY)	0.46	0.41	0.09	2.12	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.08	0	0.01	0.59	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.08	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.02	0	0	0	0	0
778	Motor Coaches	0	0	0.01	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0.01	0	0	0	0	0
	Total On-Road Motor Vehicles	2.93	2.65	5.85	20.29	0.07	0.86	0.85	0.37	0.87
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.4	1.22	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.18	4.07	0.95	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.66	0.62	0.1	1.84	0	0.03	0.03	0.02	0
850	Off-Road Recreational Vehicles	0.12	0.12	0	0.15	0	0	0	0	0
860	Off-Road Equipment	1.91	1.8	0.67	26.45	0	0.06	0.06	0.05	0
861	Off-Road Equipment (PERP)	0.04	0.03	0.29	0.27	0	0.01	0.01	0.01	0
870	Farm Equipment	0.1	0.09	0.34	0.98	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	0.23	0.23	0	0	0	0	0	0	0
	Total Other Mobile Sources	3.35	3.14	5.88	31.85	0.04	0.25	0.24	0.21	0.01
Total Stationary and Area Sources		11.57	6.79	1.59	2.47	0.20	60.29	29.95	3.98	1.89
Total On-Road Vehicles		2.93	2.65	5.85	20.29	0.07	0.86	0.85	0.37	0.87
Total Other Mobile		3.35	3.14	5.88	31.85	0.04	0.25	0.24	0.21	0.01
Total		17.85	12.58	13.32	54.61	0.31	61.4	31.04	4.56	2.77

Attachment B

(Continued)

2024 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.22	0.1	0.30	0.55	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.69	0.31	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	39.97	19.56	1.96	0
640	Paved Road Dust	0	0	0	0	0	12.08	5.52	0.83	0
645	Unpaved Road Dust	0	0	0	0	0	4.8	2.85	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.25	1.17	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.29	0.29	0.29	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.89
	RECLAIM			0.24						
	Total Miscellaneous Processes	1.17	0.21	0.55	0.75	0	60.19	29.81	3.67	1.24
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.78	0.75	0.33	6.24	0.02	0.3	0.3	0.12	0.23
722	Light Duty Trucks 1 (T1)	0.25	0.23	0.11	1.5	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.5	0.47	0.26	3.59	0.01	0.12	0.12	0.05	0.09
724	Medium Duty Trucks (T3)	0.45	0.42	0.24	2.91	0.01	0.09	0.09	0.04	0.07
732	Light Heavy Duty Gas Trucks 1 (T4)	0.05	0.05	0.04	0.14	0	0.01	0.01	0	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.03	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.03	0.17	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.15	0.04	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.06	0.02	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.34	0.03	0	0.05	0.04	0.02	0.06
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.16	0.13	3.09	1.57	0.02	0.19	0.19	0.09	0.34
750	Motorcycles (MCY)	0.45	0.4	0.09	2.07	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.08	0	0.01	0.58	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.08	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.02	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0.01	0	0	0	0	0
	Total On-Road Motor Vehicles	2.76	2.5	4.88	18.93	0.06	0.85	0.84	0.36	0.89
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.42	1.22	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.18	4.13	0.97	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.63	0.59	0.1	1.82	0	0.03	0.03	0.02	0
850	Off-Road Recreational Vehicles	0.12	0.11	0	0.15	0	0	0	0	0
860	Off-Road Equipment	1.86	1.75	0.66	26.26	0	0.06	0.06	0.04	0
861	Off-Road Equipment (PERP)	0.04	0.03	0.28	0.27	0	0.01	0.01	0.01	0
870	Farm Equipment	0.09	0.08	0.32	0.94	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	0.23	0.23	0	0	0	0	0	0	0
	Total Other Mobile Sources	3.26	3.05	5.91	31.63	0.04	0.25	0.24	0.21	0.01
Total Stationary and Area Sources		11.76	6.93	1.54	2.48	0.19	61.03	30.32	4.02	1.90
Total On-Road Vehicles		2.76	2.5	4.88	18.93	0.06	0.85	0.84	0.36	0.89
Total Other Mobile		3.26	3.05	5.91	31.63	0.04	0.25	0.24	0.21	0.01
Total		17.77	12.48	12.34	53.04	0.3	62.13	31.4	4.59	2.79

Attachment B

(Continued)

2025 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.21	0.1	0.3	0.55	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.68	0.31	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	40.71	19.92	1.99	0
640	Paved Road Dust	0	0	0	0	0	12.07	5.52	0.83	0
645	Unpaved Road Dust	0	0	0	0	0	4.8	2.85	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.24	1.16	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.29	0.29	0.29	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.91
	RECLAIM			0		0				
	Total Miscellaneous Processes	1.17	0.21	0.3	0.75	0	60.91	30.17	3.71	1.25
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.73	0.7	0.3	5.86	0.02	0.3	0.29	0.12	0.23
722	Light Duty Trucks 1 (T1)	0.23	0.21	0.1	1.36	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.47	0.45	0.24	3.37	0.01	0.12	0.12	0.05	0.09
724	Medium Duty Trucks (T3)	0.42	0.4	0.21	2.65	0.01	0.09	0.09	0.04	0.07
732	Light Heavy Duty Gas Trucks 1 (T4)	0.05	0.05	0.03	0.13	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.03	0.16	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.14	0.04	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.05	0.02	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.32	0.03	0	0.05	0.04	0.02	0.07
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.17	0.13	2.18	1.61	0.02	0.18	0.18	0.08	0.35
750	Motorcycles (MCY)	0.44	0.4	0.09	2.02	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.08	0	0.01	0.58	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.07	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0.01	0	0	0	0	0
	Total On-Road Motor Vehicles	2.63	2.38	3.81	17.9	0.06	0.84	0.83	0.35	0.9
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.44	1.22	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.17	4.13	0.99	0	0.09	0.09	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.6	0.57	0.1	1.8	0	0.03	0.03	0.02	0
850	Off-Road Recreational Vehicles	0.11	0.11	0	0.16	0	0	0	0	0
860	Off-Road Equipment	1.74	1.64	0.65	25.51	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.24	0.28	0	0.01	0.01	0.01	0
870	Farm Equipment	0.09	0.08	0.31	0.9	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	0.22	0.22	0	0	0	0	0	0	0
	Total Other Mobile Sources	3.1	2.91	5.86	30.87	0.05	0.24	0.23	0.2	0.01
Total Stationary and Area Sources		11.93	7.05	1.55	2.49	0.19	61.78	30.69	4.07	1.91
Total On-Road Vehicles		2.63	2.38	3.81	17.9	0.06	0.84	0.83	0.35	0.9
Total Other Mobile		3.1	2.91	5.86	30.87	0.05	0.24	0.23	0.2	0.01
Total		17.65	12.34	11.23	51.26	0.3	62.86	31.75	4.62	2.82

Attachment B

(Continued)

2026 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.21	0.1	0.29	0.55	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.68	0.31	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	41.06	20.09	2.01	0
640	Paved Road Dust	0	0	0	0	0	12.6	5.76	0.86	0
645	Unpaved Road Dust	0	0	0	0	0	4.8	2.85	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.24	1.16	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.3	0.3	0.3	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.92
	Total Miscellaneous Processes	1.17	0.21	0.3	0.75	0	61.78	30.58	3.77	1.26
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.73	0.7	0.3	5.9	0.02	0.31	0.31	0.13	0.24
722	Light Duty Trucks 1 (T1)	0.22	0.21	0.09	1.33	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.48	0.46	0.23	3.39	0.01	0.13	0.13	0.05	0.1
724	Medium Duty Trucks (T3)	0.42	0.4	0.19	2.6	0.01	0.1	0.09	0.04	0.07
732	Light Heavy Duty Gas Trucks 1 (T4)	0.05	0.04	0.03	0.12	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.03	0.15	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.12	0.04	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.05	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.31	0.03	0	0.05	0.05	0.02	0.07
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.17	0.13	2.01	1.64	0.02	0.18	0.18	0.08	0.36
750	Motorcycles (MCY)	0.47	0.42	0.1	2.12	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.08	0	0.01	0.58	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.07	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0.01	0	0	0	0	0
	Total On-Road Motor Vehicles	2.66	2.41	3.58	17.98	0.06	0.87	0.86	0.36	0.93
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.45	1.22	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.18	4.19	1.02	0	0.09	0.09	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.58	0.55	0.1	1.79	0	0.03	0.03	0.02	0
850	Off-Road Recreational Vehicles	0.11	0.11	0	0.16	0	0	0	0	0
860	Off-Road Equipment	1.61	1.51	0.63	24.65	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.23	0.28	0	0.01	0.01	0.01	0
870	Farm Equipment	0.08	0.07	0.29	0.86	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	0.22	0.22	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.93	2.74	5.9	29.98	0.05	0.24	0.23	0.2	0.01
Total Stationary and Area Sources		12.02	7.13	1.54	2.49	0.19	62.66	31.11	4.13	1.93
Total On-Road Vehicles		2.66	2.41	3.58	17.98	0.06	0.87	0.86	0.36	0.93
Total Other Mobile		2.93	2.74	5.9	29.98	0.05	0.24	0.23	0.2	0.01
Total		17.61	12.28	11.02	50.45	0.3	63.77	32.19	4.69	2.87

Attachment B

(Continued)

2027 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.21	0.1	0.29	0.55	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.68	0.31	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	41.48	20.29	2.03	0
640	Paved Road Dust	0	0	0	0	0	12.78	5.84	0.88	0
645	Unpaved Road Dust	0	0	0	0	0	4.8	2.85	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.24	1.16	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.3	0.3	0.3	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.94
	Total Miscellaneous Processes	1.17	0.21	0.29	0.74	0	62.38	30.86	3.8	1.28
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.7	0.68	0.29	5.75	0.02	0.32	0.31	0.13	0.25
722	Light Duty Trucks 1 (T1)	0.21	0.2	0.09	1.25	0	0.04	0.04	0.02	0.03
723	Light Duty Trucks 2 (T2)	0.47	0.45	0.21	3.3	0.01	0.13	0.13	0.05	0.1
724	Medium Duty Trucks (T3)	0.4	0.38	0.18	2.48	0.01	0.1	0.09	0.04	0.07
732	Light Heavy Duty Gas Trucks 1 (T4)	0.04	0.04	0.03	0.11	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.03	0.15	0	0.01	0.01	0	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0.01	0.1	0.03	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.04	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.3	0.03	0	0.05	0.05	0.02	0.07
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.17	0.13	1.92	1.67	0.02	0.19	0.19	0.08	0.37
750	Motorcycles (MCY)	0.48	0.43	0.1	2.13	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.07	0	0.01	0.57	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.07	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0.01	0	0	0	0	0
	Total On-Road Motor Vehicles	2.6	2.35	3.4	17.55	0.06	0.88	0.87	0.37	0.96
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.47	1.22	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.18	4.27	1.04	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.56	0.52	0.1	1.78	0	0.03	0.03	0.02	0
850	Off-Road Recreational Vehicles	0.1	0.1	0	0.16	0	0	0	0	0
860	Off-Road Equipment	1.47	1.39	0.62	23.78	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.21	0.29	0	0.01	0.01	0.01	0
870	Farm Equipment	0.08	0.07	0.27	0.82	0	0.02	0.02	0.02	0
890	Fuel Storage and Handling	0.22	0.22	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.76	2.59	5.93	29.09	0.05	0.23	0.23	0.19	0.01
Total Stationary and Area Sources		12.12	7.21	1.5	2.47	0.18	63.26	31.4	4.16	1.94
Total On-Road Vehicles		2.6	2.35	3.4	17.55	0.06	0.88	0.87	0.37	0.96
Total Other Mobile		2.76	2.59	5.93	29.09	0.05	0.23	0.23	0.19	0.01
Total		17.48	12.15	10.83	49.1	0.29	64.38	32.49	4.73	2.9

Attachment B

(Continued)

2029 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.21	0.1	0.28	0.55	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.68	0.31	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	42.21	20.65	2.07	0
640	Paved Road Dust	0	0	0	0	0	13.11	6	0.9	0
645	Unpaved Road Dust	0	0	0	0	0	4.79	2.85	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.23	1.16	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.07	0.03	0	0	0	0.3	0.3	0.3	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.97
	Total Miscellaneous Processes	1.17	0.21	0.28	0.74	0	63.44	31.37	3.87	1.31
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.66	0.63	0.27	5.52	0.02	0.32	0.32	0.13	0.26
722	Light Duty Trucks 1 (T1)	0.18	0.18	0.07	1.12	0	0.04	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.44	0.43	0.19	3.15	0.01	0.14	0.13	0.05	0.11
724	Medium Duty Trucks (T3)	0.37	0.36	0.15	2.26	0.01	0.1	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.04	0.04	0.03	0.1	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.02	0.14	0	0.01	0.01	0.01	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.01	0	0.08	0.03	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.03	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.27	0.03	0	0.05	0.05	0.02	0.07
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.18	0.14	1.7	1.72	0.02	0.19	0.19	0.08	0.38
750	Motorcycles (MCY)	0.49	0.44	0.1	2.15	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.07	0	0.01	0.52	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0	0	0	0
772	Diesel School Buses (SB)	0	0	0.06	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.02	0	0	0	0	0	0
	Total On-Road Motor Vehicles	2.48	2.26	3.01	16.81	0.06	0.9	0.89	0.37	1
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.51	1.23	0.04	0.03	0.03	0.02	0
820	Trains	0.22	0.18	4.41	1.08	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.51	0.48	0.09	1.76	0	0.03	0.02	0.02	0
850	Off-Road Recreational Vehicles	0.09	0.09	0	0.16	0	0	0	0	0
860	Off-Road Equipment	1.24	1.17	0.59	21.4	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.2	0.3	0	0.01	0.01	0	0
870	Farm Equipment	0.07	0.06	0.24	0.74	0	0.02	0.02	0.01	0
890	Fuel Storage and Handling	0.22	0.22	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.47	2.32	6.06	26.67	0.05	0.23	0.22	0.19	0.01
Total Stationary and Area Sources		12.34	7.40	1.43	2.43	0.17	64.34	31.92	4.23	1.96
Total On-Road Vehicles		2.48	2.26	3.01	16.81	0.06	0.9	0.89	0.37	1
Total Other Mobile		2.47	2.32	6.06	26.67	0.05	0.23	0.22	0.19	0.01
Total		17.29	11.97	10.5	45.91	0.28	65.47	33.03	4.79	2.97

Attachment B

(Continued)

2030 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.21	0.1	0.27	0.54	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.68	0.31	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	42.59	20.84	2.08	0
640	Paved Road Dust	0	0	0	0	0	13.23	6.05	0.91	0
645	Unpaved Road Dust	0	0	0	0	0	4.79	2.85	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.23	1.16	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.3	0.3	0.3	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	0.98
	Total Miscellaneous Processes	1.17	0.21	0.28	0.74	0	63.94	31.62	3.89	1.32
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.63	0.61	0.26	5.4	0.02	0.32	0.32	0.13	0.26
722	Light Duty Trucks 1 (T1)	0.17	0.16	0.07	1.06	0	0.04	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.43	0.41	0.18	3.07	0.01	0.14	0.13	0.05	0.11
724	Medium Duty Trucks (T3)	0.36	0.35	0.14	2.18	0.01	0.1	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.04	0.04	0.02	0.1	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.02	0.13	0	0.01	0.01	0.01	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.07	0.03	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.03	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.26	0.03	0	0.05	0.05	0.02	0.07
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.18	0.14	1.65	1.74	0.02	0.2	0.19	0.08	0.39
750	Motorcycles (MCY)	0.5	0.44	0.1	2.15	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.06	0	0.01	0.47	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0	0	0
772	Diesel School Buses (SB)	0	0	0.05	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	2.41	2.2	2.9	16.42	0.06	0.91	0.89	0.37	1.01
Other Mobile Sources										
810	Aircraft	0.09	0.08	0.53	1.23	0.04	0.03	0.03	0.02	0
820	Trains	0.22	0.18	4.49	1.11	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.49	0.46	0.09	1.76	0	0.03	0.02	0.02	0
850	Off-Road Recreational Vehicles	0.09	0.08	0	0.16	0	0	0	0	0
860	Off-Road Equipment	1.15	1.08	0.58	20.01	0	0.05	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.2	0.31	0	0.01	0.01	0	0
870	Farm Equipment	0.07	0.06	0.23	0.7	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.22	0.22	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.35	2.2	6.12	25.27	0.05	0.23	0.22	0.19	0.01
Total Stationary and Area Sources		12.44	7.49	1.39	2.42	0.16	64.84	32.16	4.26	1.98
Total On-Road Vehicles		2.41	2.2	2.9	16.42	0.06	0.91	0.89	0.37	1.01
Total Other Mobile		2.35	2.2	6.12	25.27	0.05	0.23	0.22	0.19	0.01
Total		17.21	11.9	10.41	44.1	0.27	65.97	33.27	4.82	3.00

Attachment B

(Continued)

2031 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.21	0.1	0.27	0.55	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.67	0.31	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	42.98	21.03	2.1	0
640	Paved Road Dust	0	0	0	0	0	13.34	6.1	0.92	0
645	Unpaved Road Dust	0	0	0	0	0	4.79	2.85	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.23	1.16	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.31	0.31	0.31	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	1
	Total Miscellaneous Processes	1.17	0.21	0.28	0.74	0	64.43	31.85	3.92	1.34
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.61	0.59	0.25	5.31	0.02	0.32	0.32	0.13	0.26
722	Light Duty Trucks 1 (T1)	0.16	0.15	0.06	1	0	0.04	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.42	0.4	0.17	3.01	0.01	0.14	0.13	0.06	0.11
724	Medium Duty Trucks (T3)	0.35	0.34	0.13	2.11	0.01	0.1	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.04	0.04	0.02	0.09	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0.01	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.02	0.13	0	0.01	0.01	0.01	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.01	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.06	0.02	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.03	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.25	0.03	0	0.05	0.05	0.02	0.07
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.18	0.14	1.61	1.75	0.02	0.2	0.2	0.09	0.4
750	Motorcycles (MCY)	0.5	0.45	0.1	2.14	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.05	0	0	0.39	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0.01	0	0
772	Diesel School Buses (SB)	0	0	0.05	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	2.35	2.14	2.79	16.06	0.06	0.91	0.9	0.37	1.03
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.54	1.23	0.04	0.03	0.03	0.02	0
820	Trains	0.22	0.18	4.51	1.13	0	0.1	0.1	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.47	0.45	0.09	1.75	0	0.03	0.02	0.02	0
850	Off-Road Recreational Vehicles	0.08	0.08	0	0.16	0	0	0	0	0
860	Off-Road Equipment	1.07	1.01	0.57	18.74	0	0.05	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.2	0.31	0	0	0	0	0
870	Farm Equipment	0.06	0.06	0.22	0.67	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.22	0.22	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.25	2.1	6.14	24	0.05	0.23	0.22	0.19	0.01
Total Stationary and Area Sources		12.58	7.60	1.39	2.42	0.16	65.33	32.41	4.29	1.99
Total On-Road Vehicles		2.35	2.14	2.79	16.06	0.06	0.91	0.9	0.37	1.03
Total Other Mobile		2.25	2.1	6.14	24	0.05	0.23	0.22	0.19	0.01
Total		17.17	11.84	10.32	42.48	0.27	66.47	33.52	4.85	3.03

Attachment B

(Continued)

2032 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.21	0.1	0.27	0.55	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.67	0.31	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	43.36	21.22	2.12	0
640	Paved Road Dust	0	0	0	0	0	13.52	6.18	0.93	0
645	Unpaved Road Dust	0	0	0	0	0	4.79	2.85	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.22	1.15	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.31	0.31	0.31	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	1.01
	Total Miscellaneous Processes	1.17	0.21	0.28	0.74	0	64.99	32.12	3.96	1.35
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.59	0.57	0.25	5.26	0.02	0.33	0.32	0.13	0.27
722	Light Duty Trucks 1 (T1)	0.15	0.14	0.06	0.96	0	0.05	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.41	0.39	0.16	2.97	0.01	0.14	0.14	0.06	0.12
724	Medium Duty Trucks (T3)	0.34	0.33	0.12	2.07	0.01	0.1	0.1	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.04	0.04	0.02	0.08	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0	0.02	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.02	0.12	0	0.01	0.01	0.01	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.02	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.05	0.02	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.02	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.24	0.03	0	0.05	0.05	0.02	0.08
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.18	0.14	1.59	1.76	0.02	0.2	0.2	0.09	0.4
750	Motorcycles (MCY)	0.51	0.46	0.1	2.16	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.05	0	0	0.37	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0.01	0	0
772	Diesel School Buses (SB)	0	0	0.04	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	2.3	2.1	2.72	15.9	0.06	0.92	0.9	0.38	1.05
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.55	1.23	0.04	0.03	0.03	0.02	0
820	Trains	0.21	0.18	4.47	1.16	0	0.09	0.09	0.09	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.46	0.43	0.09	1.75	0	0.02	0.02	0.02	0
850	Off-Road Recreational Vehicles	0.08	0.08	0	0.16	0	0	0	0	0
860	Off-Road Equipment	1.01	0.94	0.57	17.59	0	0.05	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.2	0.32	0	0	0	0	0
870	Farm Equipment	0.06	0.05	0.21	0.63	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.22	0.22	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.15	2.01	6.09	22.84	0.05	0.22	0.21	0.18	0.01
Total Stationary and Area Sources		12.69	7.68	1.39	2.41	0.16	65.89	32.68	4.32	2.00
Total On-Road Vehicles		2.3	2.1	2.72	15.9	0.06	0.92	0.9	0.38	1.05
Total Other Mobile		2.15	2.01	6.09	22.84	0.05	0.22	0.21	0.18	0.01
Total		17.14	11.81	10.2	41.15	0.27	67.03	33.79	4.89	3.06

Attachment B

(Continued)

2033 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.21	0.1	0.27	0.55	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.67	0.31	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	43.75	21.41	2.14	0
640	Paved Road Dust	0	0	0	0	0	13.51	6.18	0.93	0
645	Unpaved Road Dust	0	0	0	0	0	4.79	2.85	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.22	1.15	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.31	0.31	0.31	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	1.03
	Total Miscellaneous Processes	1.17	0.21	0.28	0.75	0	65.36	32.31	3.98	1.37
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.56	0.54	0.24	5.13	0.02	0.32	0.32	0.13	0.27
722	Light Duty Trucks 1 (T1)	0.14	0.13	0.05	0.91	0	0.04	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.39	0.37	0.15	2.88	0.01	0.14	0.14	0.06	0.12
724	Medium Duty Trucks (T3)	0.32	0.31	0.11	1.99	0.01	0.1	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.04	0.03	0.02	0.08	0	0.01	0.01	0	0
733	Light Heavy Duty Gas Trucks 2 (T5)	0.01	0.01	0	0.01	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.02	0.12	0	0.01	0.01	0.01	0
736	Heavy Heavy Duty Gas Trucks ((HHD)	0	0	0	0.02	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.05	0.02	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.02	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.23	0.03	0	0.05	0.05	0.02	0.08
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.19	0.14	1.57	1.79	0.02	0.21	0.2	0.09	0.41
750	Motorcycles (MCY)	0.51	0.46	0.1	2.14	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.05	0	0	0.35	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0.01	0	0
772	Diesel School Buses (SB)	0	0	0.04	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	2.23	2.03	2.65	15.52	0.06	0.92	0.9	0.38	1.06
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.57	1.23	0.05	0.03	0.03	0.02	0
820	Trains	0.21	0.17	4.43	1.18	0	0.09	0.09	0.08	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.44	0.42	0.09	1.75	0	0.02	0.02	0.02	0
850	Off-Road Recreational Vehicles	0.07	0.07	0	0.16	0	0	0	0	0
860	Off-Road Equipment	0.95	0.89	0.56	16.56	0	0.05	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.19	0.32	0	0	0	0	0
870	Farm Equipment	0.06	0.05	0.2	0.6	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.22	0.22	0	0	0	0	0	0	0
	Total Other Mobile Sources	2.07	1.93	6.04	21.81	0.05	0.22	0.21	0.18	0.01
Total Stationary and Area Sources		12.80	7.79	1.39	2.41	0.16	66.27	32.86	4.34	2.02
Total On-Road Vehicles		2.23	2.03	2.65	15.52	0.06	0.92	0.9	0.38	1.06
Total Other Mobile		2.07	1.93	6.04	21.81	0.05	0.22	0.21	0.18	0.01
Total		17.1	11.75	10.08	39.75	0.27	67.41	33.97	4.9	3.09

Attachment B

(Continued)

2035 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.22	0.1	0.27	0.55	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.67	0.3	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	44.55	21.8	2.18	0
640	Paved Road Dust	0	0	0	0	0	13.5	6.17	0.93	0
645	Unpaved Road Dust	0	0	0	0	0	4.79	2.85	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.22	1.15	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.32	0.32	0.32	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	1.06
	Total Miscellaneous Processes	1.18	0.21	0.28	0.75	0	66.16	32.7	4.02	1.4
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.51	0.5	0.23	4.9	0.02	0.32	0.31	0.13	0.26
722	Light Duty Trucks 1 (T1)	0.12	0.11	0.05	0.83	0	0.04	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.35	0.34	0.14	2.71	0.01	0.14	0.13	0.05	0.11
724	Medium Duty Trucks (T3)	0.3	0.29	0.1	1.87	0.01	0.09	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.03	0.03	0.02	0.08	0	0.01	0.01	0	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0	0	0	0.01	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.01	0.11	0	0.01	0.01	0.01	0
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.02	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.04	0.02	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.02	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.21	0.03	0	0.05	0.05	0.02	0.08
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.19	0.15	1.57	1.84	0.02	0.21	0.21	0.09	0.43
750	Motorcycles (MCY)	0.51	0.46	0.1	2.11	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.04	0	0	0.28	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0.01	0	0
772	Diesel School Buses (SB)	0	0	0.03	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	2.08	1.9	2.54	14.84	0.06	0.92	0.9	0.37	1.08
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.59	1.24	0.05	0.03	0.03	0.02	0
820	Trains	0.2	0.17	4.23	1.23	0	0.09	0.09	0.08	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.41	0.39	0.09	1.75	0	0.02	0.02	0.02	0
850	Off-Road Recreational Vehicles	0.07	0.07	0	0.17	0	0	0	0	0
860	Off-Road Equipment	0.84	0.79	0.56	14.85	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.03	0.03	0.19	0.34	0	0	0	0	0
870	Farm Equipment	0.05	0.05	0.18	0.54	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.22	0.22	0	0	0	0	0	0	0
	Total Other Mobile Sources	1.92	1.79	5.84	20.11	0.05	0.21	0.2	0.17	0.01
Total Stationary and Area Sources		13.04	7.98	1.39	2.40	0.17	67.07	33.26	4.39	2.05
Total On-Road Vehicles		2.08	1.9	2.54	14.84	0.06	0.92	0.9	0.37	1.08
Total Other Mobile		1.92	1.79	5.84	20.11	0.05	0.21	0.2	0.17	0.01
Total		17.04	11.67	9.78	37.36	0.27	68.2	34.36	4.94	3.14

Attachment B

(Continued)

2036 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.22	0.1	0.27	0.55	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.67	0.3	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	44.87	21.95	2.2	0
640	Paved Road Dust	0	0	0	0	0	13.66	6.25	0.94	0
645	Unpaved Road Dust	0	0	0	0	0	4.79	2.85	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.21	1.15	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.32	0.32	0.32	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	1.07
	Total Miscellaneous Processes	1.18	0.22	0.28	0.75	0	66.63	32.93	4.05	1.42
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.5	0.48	0.23	4.88	0.02	0.32	0.31	0.13	0.27
722	Light Duty Trucks 1 (T1)	0.11	0.11	0.04	0.8	0	0.05	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.34	0.33	0.13	2.69	0.01	0.14	0.13	0.05	0.12
724	Medium Duty Trucks (T3)	0.29	0.28	0.1	1.85	0.01	0.1	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.03	0.02	0.02	0.08	0	0.01	0.01	0	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0	0	0	0.01	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.01	0.11	0	0.01	0.01	0.01	0.01
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.02	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.03	0.02	0	0.01	0.01	0	0.02
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.02	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.2	0.03	0	0.05	0.05	0.02	0.08
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.2	0.15	1.57	1.87	0.02	0.22	0.21	0.09	0.44
750	Motorcycles (MCY)	0.52	0.46	0.1	2.13	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.03	0	0	0.25	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0.01	0	0
772	Diesel School Buses (SB)	0	0	0.02	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	2.05	1.88	2.52	14.78	0.06	0.93	0.91	0.38	1.1
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.6	1.24	0.05	0.03	0.03	0.02	0
820	Trains	0.18	0.15	3.99	1.26	0	0.08	0.08	0.07	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.39	0.37	0.09	1.74	0	0.02	0.02	0.02	0
850	Off-Road Recreational Vehicles	0.07	0.06	0	0.17	0	0	0	0	0
860	Off-Road Equipment	0.8	0.75	0.56	14.17	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.04	0.03	0.19	0.34	0	0	0	0	0
870	Farm Equipment	0.05	0.04	0.17	0.51	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.22	0.22	0	0	0	0	0	0	0
	Total Other Mobile Sources	1.84	1.72	5.6	19.44	0.06	0.2	0.19	0.16	0.01
Total Stationary and Area Sources		13.16	8.07	1.39	2.40	0.16	67.55	33.49	4.42	2.06
Total On-Road Vehicles		2.05	1.88	2.52	14.78	0.06	0.93	0.91	0.38	1.1
Total Other Mobile		1.84	1.72	5.6	19.44	0.06	0.2	0.19	0.16	0.01
Total		17.06	11.67	9.51	36.63	0.27	68.68	34.59	4.97	3.17

Attachment B

(Continued)

2037 Summer Planning Emissions by Source Category in Coachella Valley (Tons/Day)

MSC	DESC	TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	0.22	0.1	0.27	0.56	0	0.09	0.08	0.08	0
620	Farming Operations	0.86	0.07	0	0	0	0.67	0.3	0.05	0.34
630	Construction and Demolition	0	0	0	0	0	45.18	22.11	2.21	0
640	Paved Road Dust	0	0	0	0	0	13.82	6.32	0.95	0
645	Unpaved Road Dust	0	0	0	0	0	4.79	2.85	0.28	0
650	Fugitive Windblown Dust	0	0	0	0	0	2.21	1.15	0.16	0
660	Fires	0.01	0.01	0	0.08	0	0.01	0.01	0.01	0
670	Waste Burning and Disposal	0.01	0.01	0.01	0.12	0	0.02	0.02	0.01	0
690	Cooking	0.08	0.03	0	0	0	0.32	0.32	0.32	0
699	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0	1.09
	Total Miscellaneous Processes	1.18	0.22	0.28	0.75	0.01	67.1	33.15	4.08	1.43
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.49	0.47	0.23	4.89	0.02	0.32	0.32	0.13	0.27
722	Light Duty Trucks 1 (T1)	0.11	0.1	0.04	0.79	0	0.05	0.04	0.02	0.04
723	Light Duty Trucks 2 (T2)	0.33	0.32	0.13	2.68	0.01	0.14	0.14	0.06	0.12
724	Medium Duty Trucks (T3)	0.29	0.28	0.1	1.84	0.01	0.1	0.09	0.04	0.08
732	Light Heavy Duty Gas Trucks 1 (T4)	0.02	0.02	0.02	0.07	0	0.01	0.01	0	0.01
733	Light Heavy Duty Gas Trucks 2 (T5)	0	0	0	0.01	0	0	0	0	0
734	Medium Heavy Duty Gas Trucks (T6)	0.02	0.02	0.01	0.11	0	0.01	0.01	0.01	0.01
736	Heavy Heavy Duty Gas Trucks (HHD)	0	0	0	0.02	0	0	0	0	0
742	Light Heavy Duty Diesel Trucks 1 (T4)	0	0	0.03	0.02	0	0.01	0.01	0	0.03
743	Light Heavy Duty Diesel Trucks 2 (T5)	0	0	0.02	0.01	0	0	0	0	0.01
744	Medium Heavy Duty Diesel Truck (T6)	0	0	0.19	0.03	0	0.05	0.05	0.02	0.09
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.2	0.15	1.59	1.91	0.02	0.22	0.22	0.09	0.45
750	Motorcycles (MCY)	0.53	0.47	0.1	2.14	0	0	0	0	0
760	Diesel Urban Buses (UB)	0.03	0	0	0.2	0	0	0	0	0.02
762	Gas Urban Buses (UB)	0	0	0	0	0	0	0	0	0
771	Gas School Buses (SB)	0	0	0	0.01	0	0.01	0.01	0	0
772	Diesel School Buses (SB)	0	0	0.02	0	0	0.01	0.01	0	0
777	Gas Other Buses (OB)	0	0	0	0.01	0	0	0	0	0
778	Motor Coaches	0	0	0	0	0	0	0	0	0
779	Diesel Other Buses (OB)	0	0	0.01	0	0	0	0	0	0
780	Motor Homes (MH)	0	0	0.01	0	0	0	0	0	0
	Total On-Road Motor Vehicles	2.03	1.86	2.51	14.74	0.06	0.94	0.92	0.38	1.12
Other Mobile Sources										
810	Aircraft	0.09	0.09	0.61	1.24	0.05	0.03	0.03	0.02	0
820	Trains	0.17	0.14	3.71	1.29	0.01	0.07	0.07	0.07	0
833	Ocean Going Vessels	0	0	0	0	0	0	0	0	0
835	Commercial Harbor Crafts	0	0	0	0	0	0	0	0	0
840	Recreational Boats	0.38	0.36	0.09	1.74	0	0.02	0.02	0.01	0
850	Off-Road Recreational Vehicles	0.06	0.06	0	0.17	0	0	0	0	0
860	Off-Road Equipment	0.76	0.71	0.56	13.61	0	0.06	0.05	0.04	0
861	Off-Road Equipment (PERP)	0.04	0.03	0.19	0.35	0	0	0	0	0
870	Farm Equipment	0.05	0.04	0.16	0.48	0	0.01	0.01	0.01	0
890	Fuel Storage and Handling	0.23	0.23	0	0	0	0	0	0	0
	Total Other Mobile Sources	1.77	1.66	5.33	18.88	0.06	0.19	0.19	0.16	0.01
Total Stationary and Area Sources		13.28	8.17	1.39	2.41	0.16	68.03	33.72	4.45	2.08
Total On-Road Vehicles		2.03	1.86	2.51	14.74	0.06	0.94	0.92	0.38	1.12
Total Other Mobile		1.77	1.66	5.33	18.88	0.06	0.19	0.19	0.16	0.01
Total		17.08	11.68	9.23	36.03	0.28	69.15	34.82	5	3.2

Attachment C:

VOC and NOx Stationary Sources in 2018 Emitting 10 Tons/Year and Higher in South Coast Air Basin

Attachment C

Table C-1

VOC Stationary Sources in 2018 Emitting 10 Tons/Year and Higher in South Coast Air Basin

Emission Rank	Facility ID	Facility Name	Facility located City	Emissions (tons/year)
1	181667	TORRANCE REFINING COMPANY LLC	TORRANCE	637
2	174655	TESORO REFINING & MARKETING CO, LLC	CARSON	554
3	800030	CHEVRON PRODUCTS CO.	EL SEGUNDO	500
4	800026	ULTRAMAR INC	WILMINGTON	246
5	800436	TESORO REFINING AND MARKETING CO, LLC	WILMINGTON	237
6	171107	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	WILMINGTON	206
7	3721	DART CONTAINER CORP OF CALIFORNIA	CORONA	150
8	94872	METAL CONTAINER CORP	MIRA LOMA	116
9	800372	EQUILON ENTER. LLC, SHELL OIL PROD. US	CARSON	106
10	151843	INSULFOAM	CHINO	98
11	800129	SFPP, L.P.	BLOOMINGTON	89
12	171109	PHILLIPS 66 COMPANY/LOS ANGELES REFINERY	CARSON	86
13	16642	ANHEUSER-BUSCH LLC., (LA BREWERY)	VAN NUYS	84
14	70021	XERXES CORP (A DELAWARE CORP)	ANAHEIM	76
15	185801	BERRY PETROLEUM COMPANY, LLC	SANTA CLARITA	74
16	155877	MILLERCOORS USA LLC	IRWINDALE	70
17	52517	REXAM BEVERAGE CAN COMPANY	CHATSWORTH	68
18	800057	KINDER MORGAN LIQUIDS TERMINALS, LLC	CARSON	67
19	172005	NEW- INDY ONTARIO, LLC	ONTARIO	51
20	49111	SUNSHINE CYN LANDFILL REPUBLIC SERV INC	SYLMAR	48
21	82657	QUEST DIAGNOSTICS INC	SAN JUAN CAPISTRANO	44
22	800278	SFPP, L.P. (NSR USE)	CARSON	38
23	187165	ALTAIR PARAMOUNT, LLC	PARAMOUNT	32
24	151798	TESORO REFINING AND MARKETING CO, LLC	CARSON	31
25	117290	B BRAUN MEDICAL, INC	IRVINE	30
26	53729	TREND OFFSET PRINTING SERVICES, INC	LOS ALAMITOS	29
27	185059	CUSTOM FIBREGLASS MFG. CO DBA SNUGTOP	LONG BEACH	28
28	144455	LIFOAM INDUSTRIES, LLC	VERNON	26
29	174710	TESORO LOGISTICS, VINVALE TERMINAL	SOUTH GATE	26
30	45489	ABBOTT CARDIOVASCULAR SYSTEMS, INC.	TEMECULA	25
31	157259	GRAPHIC PACKAGING INTERNATIONAL, INC	IRVINE	25
32	174705	TESORO LOGISTICS, COLTON TERMINAL	BLOOMINGTON	25
33	115563	NCI GROUP INC., DBA, METAL COATERS OF CA	RANCHO CUCAMONGA	25
34	800202	UNIVERSAL CITY STUDIOS, LLC.	UNIVERSAL CITY	23
35	18452	UNIVERSITY OF CALIFORNIA, LOS ANGELES	LOS ANGELES	23
36	184301	SENTINEL PEAK RESOURCES CALIFORNIA, LLC	LOS ANGELES	22

Attachment C

Table C-1 (CONTINUED)

VOC Stationary Sources in 2018 Emitting 10 Tons/Year and Higher in South Coast Air Basin

Emission Rank	Facility ID	Facility Name	Facility located City	Emissions (tons/year)
37	174704	TESORO LOGISTICS, EAST HYNES TERMINAL	LONG BEACH	22
38	126964	EDWARDS LIFESCIENCES LLC	IRVINE	21
39	800330	THUMS LONG BEACH	LONG BEACH	20
40	167598	SPACE EXPLORATION TECHNOLOGIES	HAWTHORNE	20
41	182752	TORRANCE LOGISTICS COMPANY LLC	VERNON	19
42	160437	SOUTHERN CALIFORNIA EDISON	REDLANDS	18
43	159492	WOODWARD HRT- VALENCIA	VALENCIA	18
44	174711	TESORO LOGISTICS, HATHAWAY TERMINAL	SIGNAL HILL	18
45	800080	LUNDAY-THAGARD CO DBA WORLD OIL REFINING	SOUTH GATE	18
46	18294	NORTHROP GRUMMAN SYSTEMS CORP	EL SEGUNDO	18
47	800022	CALNEV PIPE LINE, LLC	BLOOMINGTON	18
48	800236	LA CO. SANITATION DIST	CARSON	18
49	62548	THE NEWARK GROUP, INC.	COMMERCE	18
50	18931	TAMCO	RANCHO CUCAMONGA	17
51	17301	ORANGE COUNTY SANITATION DISTRICT	FOUNTAIN VALLEY	17
52	178770	CHEMOIL TERMINALS CORP, CARSON TERMINAL	CARSON	17
53	140552	PERFORMANCE COMPOSITES, INC	COMPTON	17
54	171326	PHILLIPS 66 PIPELINE LLC	LOS ANGELES	17
55	25501	FABRI-COTE, DIV A & S GLASS FABRICS CO IN	LOS ANGELES	17
56	800369	EQUILON ENTER.LLC , SHELL OIL PROD. U S	VAN NUYS	17
57	186770	FLEISCHMANN'S VINEGAR CO, INC.	MONTEBELLO	16
58	800393	VALERO WILMINGTON ASPHALT PLANT	WILMINGTON	16
59	89248	OLD COUNTRY MILLWORK INC	LOS ANGELES	16
60	49805	LA CITY, BUREAU OF SANIT(LOPEZ CANYON)	LAKE VIEW TERRACE	16
61	46268	CALIFORNIA STEEL INDUSTRIES INC	FONTANA	15
62	150201	BREITBURN OPERATING LP	SANTA FE SPRINGS	15
63	800032	CHEVRON USA INC	MONTEBELLO	15
64	115962	BEST CONTRACTING SERVICES INC	GARDENA	15
65	188380	VALENCE SURFACE TECHNOLOGIES - LYNWOOD	LYNWOOD	15
66	800279	SFPP, L.P. (NSR USE ONLY)	ORANGE	15
67	800234	LOMA LINDA UNIV	LOMA LINDA	15
68	45746	PABCO BLDG PRODUCTS LLC,PABCO PAPER, DBA	VERNON	15
69	126536	CPP - POMONA	POMONA	15
70	167599	COVIDIEN	IRVINE	15
71	58563	MERCURY PLASTICS INC	CITY OF INDUSTRY	15
72	2044	G B MFG INC/CALIF ACRYLIC, DBA CAL SPAS	POMONA	14

Attachment C

Table C-1 (CONTINUED)

VOC Stationary Sources in 2018 Emitting 10 Tons/Year and Higher in South Coast Air Basin

Emission Rank	Facility ID	Facility Name	Facility located City	Emissions (tons/year)
73	104004	MICROMETALS, INC	ANAHEIM	14
74	38908	TOYOTA LOGISTICS SERVICES, INC	LONG BEACH	14
75	3417	AIR PROD & CHEM INC	CARSON	14
76	800128	SO CAL GAS CO	NORTHRIDGE	14
77	167492	CAL BLEND SOILS INC	IRWINDALE	14
78	800263	U.S. GOVT, DEPT OF NAVY	SAN CLEMENTE	14
79	119940	BUILDING MATERIALS MANUFACTURING CORP	FONTANA	14
80	176377	TESORO LOGISTICS MARINE TERMINAL 2	LONG BEACH	13
81	107652	RALPHS GROCERY CO	RIVERSIDE	13
82	5973	SOCAL GAS CO	VALENCIA	13
83	2825	MCP FOODS INC	ANAHEIM	13
84	80373	MISSION RUBBER COMPANY, LLC	CORONA	13
85	149814	SIERRACIN/SYLMAR CORP	SYLMAR	13
86	171327	PHILLIPS 66 PIPELINE LLC	TORRANCE	12
87	183567	GS II, INC.	WILMINGTON	12
88	800312	LA CO HARBOR-UCLA MEDICAL CENTER	TORRANCE	12
89	117297	MM PRIMA DESHECHA ENERGY, LLC	SAN JUAN CAPISTRANO	12
90	800074	LA CITY, DWP HAYNES GENERATING STATION	LONG BEACH	12
91	153443	MYERS CONTAINER LLC	CITY OF INDUSTRY	12
92	145211	RIVERBED DAIRY	SAN JACINTO	12
93	800335	LA CITY, DEPT OF AIRPORTS	LOS ANGELES	11
94	22911	CARLTON FORGE WORKS	PARAMOUNT	11
95	13011	THE GILL CORPORATION	EL MONTE	11
96	85943	SIERRA ALUMINUM COMPANY	FONTANA	11
97	3704	ALL AMERICAN ASPHALT, UNIT NO.01	CORONA	11
98	185101	LSC COMMUNICATIONS, LA MFG DIV	TORRANCE	11
99	174694	TESORO LOGISTICS, CARSON CRUDE TERMINAL	CARSON	11
100	124808	INEOS POLYPROPYLENE LLC	CARSON	11
101	10656	NEWPORT LAMINATES	SANTA ANA	11
102	100145	HARBOR FUMIGATION INC	SAN PEDRO	11
103	104234	MISSION FOODS CORPORATION	RANCHO CUCAMONGA	11
104	166073	BETA OFFSHORE	HUNTINGTON BEACH	10
105	40915	FREUND BAKING CO	GLENDALE	10
106	1379	MADISON-GRAHAM COLORGRAPHICS INC	LOS ANGELES	10
107	150613	COSTCO WHOLESALE CORP./COSTCO GASOLINE	TUSTIN	10
108	176023	NASCO PETROLEUM, LLC	LOS ANGELES	10

Attachment C

Table C-1 (CONCLUDED)**VOC Stationary Sources in 2018 Emitting 10 Tons/Year and Higher in South Coast Air Basin**

Emission Rank	Facility ID	Facility Name	Facility located City	Emissions (tons/year)
109	117225	EQUILON ENTER. LLC, SHELL OIL PROD. U S	BLOOMINGTON	10
110	82207	ALL AMERICAN ASPHALT,ALL AMER AGGREGATES	IRVINE	10
111	106897	AG-FUME SERVICES INC	SAN PEDRO	10
112	141287	SCOTT BROS. DAIRY FARMS	MORENO VALLEY	10
113	14871	SONOCO PRODUCTS CO	CITY OF INDUSTRY	10
114	116931	EQUILON ENT LLC, SHELL OIL PROD. U S	SIGNAL HILL	10
115	182735	TORRANCE LOGISTICS COMPANY LLC	TORRANCE	10
116	139869	COSTCO WHOLESALE CORP	CYPRESS	10
117	35302	OWENS CORNING ROOFING AND ASPHALT, LLC	COMPTON	10
118	185600	BRIDGE ENERGY, LLC	BREA	10
119	75531	EDELBROCK FOUNDRY CORP	SAN JACINTO	10
120	29110	ORANGE COUNTY SANITATION DISTRICT	HUNTINGTON BEACH	10
121	120494	COSTCO WHOLESALE #411	FOUNTAIN VALLEY	10
122	101977	SIGNAL HILL PETROLEUM INC	SIGNAL HILL	10
123	14966	VA GREATER LOS ANGELES HEALTHCARE SYS	LOS ANGELES	10
124	167981	TESORO LOGISTICS, WILMINGTON TERMINAL	WILMINGTON	10
125	44707	OLD TOWN FIBERGLASS DBA FIBERGLASS FAB.	ORANGE	10
126	178865	COSTCO WHOLESALE CORP COSTCO GASOLINE	TORRANCE	10
127	14492	JOHNSON LAMINATING & COATING INC	CARSON	10
128	164589	DIGITAL ROOM, LLC	VAN NUYS	10

Attachment C

Table C-2

NOX Stationary Sources in 2018 Emitting 10 Tons/Year and Higher in South Coast Air Basin

Emission Rank	Facility ID	Facility Name	Facility located City	Emissions (tons/year)
1	181667	TORRANCE REFINING COMPANY LLC	TORRANCE	972
2	800030	CHEVRON PRODUCTS CO.	EL SEGUNDO	714
3	174655	TESORO REFINING & MARKETING CO, LLC	CARSON	687
4	800436	TESORO REFINING AND MARKETING CO, LLC	WILMINGTON	674
5	171107	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	WILMINGTON	463
6	171109	PHILLIPS 66 COMPANY/LOS ANGELES REFINERY	CARSON	390
7	800026	ULTRAMAR INC	WILMINGTON	264
8	44577	LONG BEACH CITY, SERRF PROJECT	LONG BEACH	244
9	174591	TESORO REF & MKTG CO LLC,CALCINER	LONG BEACH	211
10	166073	BETA OFFSHORE	HUNTINGTON BEACH	151
11	18931	TAMCO	RANCHO CUCAMONGA	149
12	46268	CALIFORNIA STEEL INDUSTRIES INC	FONTANA	130
13	172005	NEW- INDY ONTARIO, LLC	ONTARIO	124
14	800263	U.S. GOVT, DEPT OF NAVY	SAN CLEMENTE	119
15	113518	BREA PARENT 2007, LLC	BREA	108
16	800074	LA CITY, DWP HAYNES GENERATING STATION	LONG BEACH	84
17	800236	LA CO. SANITATION DIST	CARSON	73
18	800193	LA CITY, DWP VALLEY GENERATING STATION	SUN VALLEY	65
19	4477	SO CAL EDISON CO	AVALON	59
20	160437	SOUTHERN CALIFORNIA EDISON	REDLANDS	58
21	800214	LA CITY, SANITATION BUREAU (HTP)	PLAYA DEL REY	54
22	185801	BERRY PETROLEUM COMPANY, LLC	SANTA CLARITA	53
23	37336	COMMERCE REFUSE TO ENERGY FACILITY	COMMERCE	51
24	5973	SOCAL GAS CO	VALENCIA	49
25	151798	TESORO REFINING AND MARKETING CO, LLC	CARSON	47
26	25070	LA CNTY SANITATION DISTRICT-PUENTE HILLS	CITY OF INDUSTRY	43
27	800075	LA CITY, DWP SCATTERGOOD GENERATING STN	PLAYA DEL REY	42
28	115394	AES ALAMITOS, LLC	LONG BEACH	40
29	117297	MM PRIMA DESHECHA ENERGY, LLC	SAN JUAN CAPISTRANO	34
30	800234	LOMA LINDA UNIV	LOMA LINDA	33
31	15504	SCHLOSSER FORGE COMPANY	RANCHO CUCAMONGA	33
32	129497	THUMS LONG BEACH CO	LONG BEACH	32
33	800327	GLENDALE CITY, GLENDALE WATER & POWER	GLENDALE	31
34	128243	BURBANK CITY, BURBANK WATER & POWER, SCPPA	BURBANK	31

Attachment C

Table C-2 (CONTINUED)

NOX Stationary Sources in 2018 Emitting 10 Tons/Year and Higher in South Coast Air Basin

Emission Rank	Facility ID	Facility Name	Facility located City	Emissions (tons/year)
35	187885	SMITHFIELD PACKAGED MEATS CORP	VERNON	30
36	126498	STEELSCAPE, INC	RANCHO CUCAMONGA	28
37	101656	AIR PRODUCTS AND CHEMICALS, INC.	WILMINGTON	28
38	49111	SUNSHINE CYN LANDFILL REPUBLIC SERV INC	SYLMAR	28
39	800080	LUNDAY-THAGARD CO DBA WORLD OIL REFINING	SOUTH GATE	27
40	800386	LA CO., SHERIFF DEPT	CASTAIC	27
41	18452	UNIVERSITY OF CALIFORNIA, LOS ANGELES	LOS ANGELES	25
42	180908	ECO SERVICES OPERATIONS CORP.	CARSON	24
43	22911	CARLTON FORGE WORKS	PARAMOUNT	24
44	187165	ALTAIR PARAMOUNT, LLC	PARAMOUNT	24
45	115663	EL SEGUNDO ENERGY CENTER LLC	EL SEGUNDO	23
46	7427	OWENS-BROCKWAY GLASS CONTAINER INC	VERNON	22
47	8547	QUEMETCO INC	CITY OF INDUSTRY	22
48	94677	YORBA LINDA WATER DISTRICT	YORBA LINDA	21
49	146536	WALNUT CREEK ENERGY, LLC	CITY OF INDUSTRY	21
50	139938	SUNSHINE GAS PRODUCERS LLC	SYLMAR	21
51	3417	AIR PROD & CHEM INC	CARSON	20
52	8582	SO CAL GAS CO/PLAYA DEL REY STORAGE FAC	PLAYA DEL REY	20
53	800037	DEMENNO-KERDOON DBA WORLD OIL RECYCLING	COMPTON	20
54	157152	BOWERMAN POWER LFG, LLC	IRVINE	20
55	45262	LA COUNTY SANITATION DIST SCHOLL CANYON	GLENDALE	20
56	14495	VISTA METALS CORPORATION	FONTANA	20
57	800265	UNIV OF SO CAL (EIS & NSR USE ONLY)	LOS ANGELES	19
58	550	LA CO., INTERNAL SERVICE DEPT	LOS ANGELES	19
59	177120	PROVIDENCE SAINT JOHN'S HEALTH CENTER	SANTA MONICA	18
60	94872	METAL CONTAINER CORP	MIRA LOMA	18
61	3093	LA CO., OLIVE VIEW/UCLA MEDICAL CENTER	SYLMAR	18
62	16639	SHULTZ STEEL CO	SOUTH GATE	17
63	800129	SFPP, L.P.	BLOOMINGTON	16
64	800189	DISNEYLAND RESORT	ANAHEIM	16
65	10966	WEBER METALS INC	PARAMOUNT	16
66	16239	YORBA LINDA WATER DISTRICT	PLACENTIA	16
67	105903	PRIME WHEEL	CARSON	15
68	4242	SAN DIEGO GAS & ELECTRIC	MORENO VALLEY	15
69	119219	CHIQUITA CANYON LLC	CASTAIC	15

Attachment C

Table C-2 (CONCLUDED)

NOX Stationary Sources in 2018 Emitting 10 Tons/Year and Higher in South Coast Air Basin

Emission Rank	Facility ID	Facility Name	Facility located City	Emissions (tons/year)
70	155474	BICENT (CALIFORNIA) MALBURG LLC	VERNON	14
71	43436	TST, INC.	FONTANA	14
72	148236	AIR LIQUIDE LARGE INDUSTRIES U.S., LP	EL SEGUNDO	14
73	115389	AES HUNTINGTON BEACH, LLC	HUNTINGTON BEACH	14
74	800335	LA CITY, DEPT OF AIRPORTS	LOS ANGELES	13
75	181426	OC WASTE & RECYCLING, COYOTE	NEWPORT COAST	13
76	800409	NORTHROP GRUMMAN SYSTEMS CORPORATION	REDONDO BEACH	13
77	136	PRESS FORGE CO	PARAMOUNT	13
78	12428	NEW NGC, INC.	LONG BEACH	13
79	9755	UNITED AIRLINES INC	LOS ANGELES	12
80	69646	OC WASTE & RECYCLING, FRB	IRVINE	12
81	22607	CALIFORNIA DAIRIES, INC	ARTESIA	12
82	35302	OWENS CORNING ROOFING AND ASPHALT, LLC	COMPTON	12
83	800016	BAKER COMMODITIES INC	VERNON	11
84	800202	UNIVERSAL CITY STUDIOS, LLC.	UNIVERSAL CITY	11
85	73867	PARAMOUNT, CITY OF	PARAMOUNT	11
86	115536	AES REDONDO BEACH, LLC	REDONDO BEACH	11
87	16642	ANHEUSER-BUSCH LLC., (LA BREWERY)	VAN NUYS	11
88	3704	ALL AMERICAN ASPHALT, UNIT NO.01	CORONA	11
89	113674	USA WASTE OF CAL (EL SOBRANTE LANDFILL)	CORONA	10
90	346	FRITO-LAY, INC.	RANCHO CUCAMONGA	10
91	50310	WASTE MGMT DISP & RECY SERVS INC BRADLEY	SUN VALLEY	10
92	16338	KAISER ALUMINUM FABRICATED PRODUCTS, LLC	LOS ANGELES	10
93	113873	MM WEST COVINA LLC	WEST COVINA	10
94	182157	BAXALTA US INC	LOS ANGELES	10

Attachment D:

Annual Average and Summer Planning
On-Road Mobile Source Emissions

Attachment D

Table D-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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	9183366	62527	121728	77994	18071	84532	96	80816	5900	3917	938	5181	1986	6194	36134	10685	9368219	331848	9700067	
VMT	359541558	2687439	4508688	3216042	995410	5220413	6459	9483401	269275	283265	88274	566560	84525	196134	340431	108747	365834618	21762001	387596619	
Reactive Organic Gas Emissions																				
Run Exhaust	15.69	0.07	0.26	0.34	0.13	1.12	0.01	1.91	0.03	0.10	0.00	0.24	0.01	0.03	0.04	0.01	16.17	3.82	19.99	
Idle Exhaust	0.00	0.00	0.06	0.01	0.02	0.02	0.00	0.40	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.11	0.43	0.55	
Start Exhaust	19.67	0.00	0.32	0.00	0.10	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.12	0.00	20.12	
Total Exhaust	35.35	0.07	0.65	0.35	0.25	1.14	0.01	2.31	0.06	0.10	0.00	0.24	0.04	0.03	0.04	0.01	36.40	4.25	40.65	
Diurnal	4.77	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	4.79	0.00	4.79	
Hot Soak	7.46	0.00	0.29	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.80	0.00	7.80	
Running	18.96	0.00	1.94	0.00	0.21	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.01	0.00	21.18	0.00	21.18	
Resting	4.04	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.05	0.00	4.05	
Total	70.59	0.07	2.89	0.35	0.50	1.14	0.01	2.31	0.11	0.10	0.01	0.24	0.04	0.03	0.06	0.01	74.22	4.25	78.48	
Carbon Monoxide Emissions																				
Run Exhaust	520.06	0.78	6.81	2.22	3.34	3.92	0.38	8.82	0.72	0.32	0.03	24.37	0.23	0.08	1.27	0.04	532.84	40.56	573.39	
Idle Exhaust	0.00	0.00	0.50	0.08	0.28	0.23	0.00	4.22	0.04	0.06	0.00	0.00	0.18	0.04	0.00	0.00	1.00	4.62	5.62	
Start Exhaust	131.52	0.00	3.84	0.00	2.11	0.00	0.01	0.00	0.47	0.00	0.03	0.00	0.08	0.00	0.01	0.00	138.06	0.00	138.06	
Total Exhaust	651.58	0.78	11.15	2.30	5.73	4.14	0.39	13.04	1.23	0.38	0.06	24.37	0.48	0.12	1.28	0.04	671.90	45.18	717.08	
Oxides of Nitrogen Emissions																				
Run Exhaust	44.97	0.38	1.53	10.47	0.84	22.33	0.05	54.62	0.21	1.66	0.03	1.99	0.06	1.86	0.22	0.55	47.91	93.86	141.77	
Idle Exhaust	0.00	0.00	0.01	0.21	0.00	0.94	0.00	5.61	0.00	0.13	0.00	0.00	0.00	0.32	0.00	0.00	0.01	7.21	7.22	
Start Exhaust	15.10	0.00	1.14	0.00	0.16	0.94	0.00	1.19	0.04	0.05	0.00	0.00	0.00	0.05	0.00	0.00	16.46	2.22	18.68	
Total Exhaust	60.07	0.38	2.68	10.68	1.00	24.21	0.05	61.42	0.25	1.84	0.03	1.99	0.06	2.23	0.22	0.55	64.37	103.29	167.67	
PM2.5 Emissions																				
Run Exhaust	0.68	0.04	0.01	0.07	0.00	0.73	0.00	0.96	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.01	0.69	1.87	2.56	
Idle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	
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	0.78	0.04	0.01	0.08	0.00	0.73	0.00	0.98	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.01	0.79	1.90	2.69	
Tire Wear	0.79	0.01	0.01	0.01	0.00	0.02	0.00	0.09	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.13	0.94	
Brake Wear	6.22	0.05	0.17	0.12	0.06	0.32	0.00	0.27	0.02	0.02	0.00	0.02	0.03	0.07	0.02	0.01	6.52	0.87	7.40	
Total	7.79	0.09	0.18	0.21	0.07	1.07	0.00	1.34	0.02	0.06	0.01	0.03	0.03	0.08	0.02	0.02	8.12	2.91	11.02	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	14394.23	78.89	445.06	161.20	201.91	525.54	1.70	1546.78	55.62	36.50	18.65	141.55	9.53	26.72	68.93	10.63	15195.63	2527.82	17723.44	
SOx	1.35	0.01	0.04	0.02	0.02	0.06	0.00	0.16	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.42	0.25	1.67	

Attachment D

Table D-2

2022 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	9721203	90057	102437	85456	18496	92732	66	93054	5832	4150	964	5304	2563	6354	34091	12199	9885652	389306	10274957	
VMT	361694286	3654388	3629105	3374702	978029	5968837	6548	10837663	240795	316404	90329	579937	102708	200786	324253	117488	367066052	25050207	392116260	
Reactive Organic Gas Emissions																				
Run Exhaust	10.18	0.06	0.12	0.25	0.06	0.35	0.00	0.82	0.02	0.02	0.00	0.06	0.01	0.03	0.02	0.01	10.40	1.59	11.99	
Idle Exhaust	0.00	0.00	0.05	0.01	0.02	0.01	0.00	0.45	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.10	0.47	0.58	
Start Exhaust	14.45	0.00	0.21	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.77	0.00	14.77	
Total Exhaust	24.63	0.06	0.38	0.26	0.16	0.35	0.00	1.26	0.04	0.03	0.00	0.06	0.04	0.03	0.02	0.01	25.27	2.06	27.34	
Diurnal	3.98	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.99	0.00	3.99	
Hot Soak	6.15	0.00	0.21	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.39	0.00	6.39	
Running	16.47	0.00	1.37	0.00	0.17	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.01	0.00	18.07	0.00	18.07	
Resting	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.53	0.00	3.53	
Total	54.75	0.06	1.96	0.26	0.36	0.35	0.00	1.26	0.09	0.03	0.01	0.06	0.05	0.03	0.03	0.01	57.25	2.06	59.31	
Carbon Monoxide Emissions																				
Run Exhaust	352.38	0.85	3.17	1.55	1.45	1.47	0.22	5.96	0.39	0.09	0.03	31.34	0.16	0.08	0.53	0.04	358.34	41.38	399.71	
Idle Exhaust	0.00	0.00	0.42	0.09	0.29	0.24	0.00	6.14	0.04	0.06	0.00	0.00	0.23	0.04	0.00	0.00	0.99	6.57	7.55	
Start Exhaust	121.24	0.00	2.86	0.00	1.77	0.00	0.01	0.00	0.42	0.00	0.03	0.00	0.09	0.00	0.01	0.00	126.43	0.00	126.43	
Total Exhaust	473.62	0.85	6.46	1.64	3.52	1.71	0.23	12.10	0.85	0.15	0.06	31.34	0.48	0.12	0.54	0.04	485.75	47.95	533.69	
Oxides of Nitrogen Emissions																				
Run Exhaust	25.81	0.25	0.81	6.13	0.43	11.20	0.03	38.50	0.12	0.80	0.03	0.31	0.05	1.61	0.12	0.48	27.40	59.28	86.69	
Idle Exhaust	0.00	0.00	0.00	0.19	0.00	0.66	0.00	6.19	0.00	0.07	0.00	0.00	0.00	0.30	0.00	0.00	0.01	7.42	7.43	
Start Exhaust	11.44	0.00	0.87	0.00	0.15	1.75	0.00	2.14	0.04	0.08	0.00	0.00	0.01	0.07	0.00	0.00	12.52	4.04	16.56	
Total Exhaust	37.25	0.25	1.69	6.32	0.58	13.61	0.03	46.83	0.16	0.96	0.03	0.31	0.06	1.98	0.13	0.48	39.93	70.74	110.67	
PM2.5 Emissions																				
Run Exhaust	0.59	0.03	0.00	0.06	0.00	0.24	0.00	0.33	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.59	0.68	1.28	
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	0.68	0.03	0.00	0.06	0.00	0.24	0.00	0.33	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.68	0.69	1.37	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.15	0.96	
Brake Wear	6.26	0.06	0.13	0.13	0.06	0.37	0.00	0.31	0.01	0.02	0.00	0.02	0.04	0.07	0.02	0.01	6.53	0.99	7.51	
Total	7.73	0.10	0.15	0.20	0.06	0.63	0.00	0.75	0.02	0.03	0.01	0.03	0.04	0.08	0.02	0.02	8.02	1.83	9.85	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	12837.60	96.89	346.45	159.74	190.68	552.56	1.55	1652.98	47.77	37.46	18.40	147.38	11.27	26.42	62.96	11.12	13516.68	2684.54	16201.22	
SOx	1.20	0.01	0.03	0.02	0.02	0.06	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.27	0.26	1.53	

Attachment D

Table D-3

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		Grand Total
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	
Vehicles	9868253	96221	99257	87331	18725	92409	64	95542	5826	4159	970	5335	2712	6393	33692	12560	10029499	399950	10429450
VMT	363058006	3840479	3489837	3398648	979785	6143579	6819	11188577	235991	323909	90856	583365	107297	202054	321144	119509	368289735	25800120	394089855
Reactive Organic Gas Emissions																			
Run Exhaust	9.44	0.06	0.10	0.24	0.05	0.05	0.00	0.31	0.01	0.00	0.00	0.06	0.01	0.03	0.02	0.01	9.63	0.75	10.38
Idle Exhaust	0.00	0.00	0.05	0.01	0.02	0.01	0.00	0.46	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.10	0.48	0.58
Start Exhaust	13.45	0.00	0.19	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.74	0.00	13.74
Total Exhaust	22.89	0.06	0.34	0.25	0.15	0.06	0.00	0.76	0.04	0.01	0.00	0.06	0.04	0.03	0.02	0.01	23.48	1.23	24.71
Diurnal	3.84	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.85	0.00	3.85
Hot Soak	5.90	0.00	0.19	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.13	0.00	6.13
Running	16.06	0.00	1.26	0.00	0.16	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.01	0.00	17.55	0.00	17.55
Resting	3.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.42	0.00	3.42
Total	52.11	0.06	1.80	0.25	0.34	0.06	0.00	0.76	0.09	0.01	0.00	0.06	0.05	0.03	0.03	0.01	54.43	1.23	55.66
Carbon Monoxide Emissions																			
Run Exhaust	327.45	0.86	2.67	1.43	1.20	0.44	0.21	5.04	0.34	0.04	0.03	31.52	0.15	0.07	0.43	0.04	332.48	39.45	371.93
Idle Exhaust	0.00	0.00	0.41	0.09	0.30	0.25	0.00	6.77	0.04	0.06	0.00	0.00	0.25	0.05	0.00	0.00	0.99	7.21	8.20
Start Exhaust	118.80	0.00	2.70	0.00	1.71	0.00	0.01	0.00	0.41	0.00	0.03	0.00	0.09	0.00	0.01	0.00	123.76	0.00	123.76
Total Exhaust	446.25	0.86	5.79	1.52	3.20	0.69	0.22	11.81	0.79	0.11	0.05	31.52	0.48	0.12	0.44	0.04	457.23	46.66	503.89
Oxides of Nitrogen Emissions																			
Run Exhaust	22.94	0.22	0.69	5.36	0.36	6.96	0.03	27.15	0.11	0.55	0.02	0.31	0.05	1.54	0.11	0.47	24.31	42.57	66.88
Idle Exhaust	0.00	0.00	0.00	0.18	0.00	0.47	0.00	5.45	0.00	0.05	0.00	0.00	0.00	0.30	0.00	0.00	0.01	6.44	6.45
Start Exhaust	10.73	0.00	0.82	0.00	0.14	2.10	0.00	2.34	0.04	0.10	0.00	0.00	0.01	0.07	0.00	0.00	11.75	4.61	16.36
Total Exhaust	33.67	0.22	1.52	5.55	0.51	9.53	0.03	34.94	0.15	0.70	0.02	0.31	0.06	1.91	0.11	0.47	36.07	53.62	89.69
PM2.5 Emissions																			
Run Exhaust	0.56	0.02	0.00	0.05	0.00	0.05	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.56	0.38	0.95
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	0.64	0.02	0.00	0.05	0.00	0.05	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.65	0.39	1.04
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.16	0.97
Brake Wear	6.28	0.07	0.13	0.13	0.06	0.38	0.00	0.32	0.01	0.02	0.00	0.02	0.04	0.07	0.02	0.01	6.55	1.01	7.56
Total	7.73	0.10	0.14	0.19	0.06	0.45	0.00	0.66	0.02	0.02	0.01	0.03	0.04	0.08	0.02	0.02	8.01	1.56	9.57
Fuel Consumption (1000 gallons) and SO2																			
Fuel	12458.29	99.15	329.18	158.46	188.60	546.27	1.57	1620.39	46.21	37.17	17.62	148.25	11.68	26.30	61.57	11.19	13114.72	2647.17	15761.90
SOx	1.17	0.01	0.03	0.02	0.02	0.06	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.23	0.26	1.49

Attachment D

Table D-4

2024 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	9956024	101316	96729	89352	18831	96639	63	98517	5824	4310	976	5367	2862	6430	33327	12907	10114636	414838	10529474	
VMT	362312808	3982207	3377600	3425943	974886	6281275	7104	11486021	231713	331728	91382	586794	111917	203278	318279	121381	367425689	26418626	393844315	
Reactive Organic Gas Emissions																				
Run Exhaust	8.76	0.05	0.09	0.22	0.04	0.06	0.00	0.31	0.01	0.01	0.00	0.06	0.01	0.02	0.01	0.01	8.92	0.74	9.65	
Idle Exhaust	0.00	0.00	0.04	0.01	0.02	0.01	0.00	0.47	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.10	0.49	0.60	
Start Exhaust	12.45	0.00	0.17	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.73	0.00	12.73	
Total Exhaust	21.21	0.05	0.30	0.23	0.14	0.06	0.00	0.78	0.04	0.01	0.00	0.06	0.04	0.03	0.01	0.01	21.75	1.23	22.98	
Diurnal	3.69	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.70	0.00	3.70	
Hot Soak	5.64	0.00	0.18	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.86	0.00	5.86	
Running	15.60	0.00	1.18	0.00	0.16	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.01	0.00	17.00	0.00	17.00	
Resting	3.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.30	0.00	3.30	
Total	49.45	0.05	1.67	0.23	0.33	0.06	0.00	0.78	0.09	0.01	0.00	0.06	0.05	0.03	0.03	0.01	51.62	1.23	52.85	
Carbon Monoxide Emissions																				
Run Exhaust	303.88	0.85	2.27	1.32	0.98	0.45	0.21	5.31	0.25	0.04	0.03	31.15	0.14	0.07	0.41	0.03	308.17	39.24	347.40	
Idle Exhaust	0.00	0.00	0.40	0.09	0.30	0.26	0.00	6.99	0.04	0.07	0.00	0.00	0.26	0.05	0.00	0.00	0.99	7.45	8.44	
Start Exhaust	115.35	0.00	2.57	0.00	1.64	0.00	0.01	0.00	0.40	0.00	0.03	0.00	0.09	0.00	0.01	0.00	120.10	0.00	120.10	
Total Exhaust	419.23	0.85	5.24	1.41	2.92	0.71	0.22	12.30	0.68	0.10	0.05	31.15	0.49	0.12	0.42	0.03	429.27	46.68	475.95	
Oxides of Nitrogen Emissions																				
Run Exhaust	20.42	0.19	0.60	4.71	0.31	6.42	0.03	22.76	0.10	0.46	0.02	0.31	0.05	1.46	0.10	0.41	21.62	36.72	58.34	
Idle Exhaust	0.00	0.00	0.00	0.18	0.00	0.44	0.00	4.53	0.00	0.05	0.00	0.00	0.00	0.29	0.00	0.00	0.01	5.47	5.48	
Start Exhaust	10.03	0.00	0.77	0.00	0.14	1.97	0.00	1.98	0.04	0.09	0.00	0.00	0.01	0.08	0.00	0.00	10.99	4.12	15.12	
Total Exhaust	30.45	0.19	1.37	4.89	0.45	8.83	0.03	29.26	0.14	0.60	0.02	0.31	0.06	1.83	0.10	0.41	32.62	46.31	78.94	
PM2.5 Emissions																				
Run Exhaust	0.53	0.02	0.00	0.05	0.00	0.05	0.00	0.20	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.54	0.35	0.88	
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	0.08	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	0.61	0.02	0.00	0.05	0.00	0.05	0.00	0.20	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.62	0.35	0.97	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.16	0.97	
Brake Wear	6.27	0.07	0.12	0.13	0.06	0.39	0.00	0.33	0.01	0.02	0.00	0.02	0.04	0.07	0.02	0.01	6.53	1.03	7.56	
Total	7.68	0.10	0.14	0.19	0.06	0.45	0.00	0.64	0.02	0.03	0.01	0.03	0.04	0.08	0.02	0.02	7.96	1.54	9.51	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	12008.99	100.11	314.79	157.29	184.74	550.27	1.59	1641.56	45.75	38.29	17.14	149.17	12.05	26.12	61.67	10.70	12646.72	2673.51	15320.23	
SOx	1.13	0.01	0.03	0.02	0.02	0.06	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.19	0.26	1.44	

Attachment D

Table D-5

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		Grand Total
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	
Vehicles	10044475	106006	94679	91407	18998	100846	63	101120	5822	4537	981	5398	3013	6467	33043	13231	10201073	429013	10630087
VMT	361596396	4102592	3283885	3451924	973023	6406790	7439	11778260	228042	338774	91909	590222	116477	204500	315800	123031	366612969	26996092	393609062
Reactive Organic Gas Emissions																			
Run Exhaust	8.19	0.05	0.07	0.21	0.03	0.06	0.00	0.31	0.01	0.00	0.00	0.06	0.01	0.02	0.01	0.01	8.33	0.72	9.05
Idle Exhaust	0.00	0.00	0.04	0.01	0.02	0.01	0.00	0.48	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.51	0.61
Start Exhaust	11.54	0.00	0.16	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.80	0.00	11.80
Total Exhaust	19.74	0.05	0.27	0.22	0.13	0.06	0.00	0.80	0.03	0.01	0.00	0.06	0.05	0.03	0.01	0.01	20.23	1.23	21.46
Diurnal	3.58	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.59	0.00	3.59
Hot Soak	5.42	0.00	0.17	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.62	0.00	5.62
Running	15.21	0.00	1.11	0.00	0.15	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.01	0.00	16.53	0.00	16.53
Resting	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.21	0.00	3.21
Total	47.13	0.05	1.56	0.22	0.31	0.06	0.00	0.80	0.09	0.01	0.00	0.06	0.05	0.03	0.02	0.01	49.18	1.23	50.41
Carbon Monoxide Emissions																			
Run Exhaust	284.72	0.85	1.94	1.22	0.81	0.46	0.21	5.56	0.26	0.04	0.02	30.95	0.13	0.07	0.31	0.04	288.42	39.19	327.61
Idle Exhaust	0.00	0.00	0.39	0.09	0.30	0.27	0.00	7.17	0.04	0.07	0.00	0.00	0.27	0.05	0.00	0.00	1.00	7.65	8.65
Start Exhaust	111.64	0.00	2.46	0.00	1.58	0.00	0.01	0.00	0.39	0.00	0.03	0.00	0.10	0.00	0.01	0.00	116.22	0.00	116.22
Total Exhaust	396.36	0.85	4.79	1.31	2.70	0.73	0.22	12.74	0.69	0.11	0.05	30.95	0.50	0.12	0.32	0.04	405.64	46.85	452.48
Oxides of Nitrogen Emissions																			
Run Exhaust	18.40	0.17	0.52	4.12	0.26	5.93	0.03	18.23	0.09	0.47	0.02	0.31	0.05	1.38	0.09	0.45	19.45	31.05	50.51
Idle Exhaust	0.00	0.00	0.00	0.17	0.00	0.41	0.00	3.48	0.00	0.04	0.00	0.00	0.00	0.28	0.00	0.00	0.01	4.38	4.39
Start Exhaust	9.39	0.00	0.73	0.00	0.14	1.86	0.00	1.60	0.04	0.09	0.00	0.00	0.01	0.09	0.00	0.00	10.31	3.64	13.95
Total Exhaust	27.79	0.17	1.25	4.29	0.41	8.20	0.03	23.31	0.13	0.59	0.02	0.31	0.06	1.74	0.09	0.45	29.77	39.07	68.84
PM2.5 Emissions																			
Run Exhaust	0.51	0.02	0.00	0.05	0.00	0.04	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.51	0.28	0.79
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	0.08	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	0.59	0.02	0.00	0.05	0.00	0.04	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.59	0.29	0.88
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.16	0.97
Brake Wear	6.26	0.07	0.12	0.13	0.06	0.39	0.00	0.34	0.01	0.02	0.00	0.02	0.04	0.07	0.02	0.01	6.52	1.05	7.57
Total	7.64	0.10	0.13	0.19	0.06	0.45	0.00	0.61	0.01	0.02	0.01	0.03	0.04	0.08	0.02	0.02	7.92	1.50	9.42
Fuel Consumption (1000 gallons) and SO2																			
Fuel	11559.61	100.24	301.58	155.90	181.27	551.70	1.63	1654.94	43.27	37.70	16.68	150.08	12.42	25.94	58.66	11.24	12175.12	2687.74	14862.85
SOx	1.08	0.01	0.03	0.02	0.02	0.06	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.14	0.26	1.40

Attachment D

Table D-6

2026 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		Grand Total
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	
Vehicles	10210137	111020	92322	92773	19057	104114	63	102777	5826	4742	987	5429	3163	6505	32760	13541	10364314	440901	10805216
VMT	362742033	4227770	3183271	3453071	965873	6485069	7735	12003308	225084	345782	92435	593650	121040	205751	313616	124597	367651087	27438998	395090085
Reactive Organic Gas Emissions																			
Run Exhaust	7.80	0.05	0.06	0.20	0.03	0.06	0.00	0.31	0.01	0.00	0.00	0.06	0.01	0.02	0.01	0.01	7.91	0.71	8.62
Idle Exhaust	0.00	0.00	0.04	0.01	0.02	0.01	0.00	0.49	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.51	0.62
Start Exhaust	10.83	0.00	0.14	0.00	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.07	0.00	11.07
Total Exhaust	18.63	0.05	0.24	0.21	0.12	0.06	0.00	0.80	0.03	0.01	0.00	0.06	0.05	0.02	0.01	0.01	19.09	1.22	20.31
Diurnal	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	0.00	3.50
Hot Soak	5.25	0.00	0.16	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.44	0.00	5.44
Running	14.94	0.00	1.05	0.00	0.15	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	16.19	0.00	16.19
Resting	3.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.14	0.00	3.14
Total	45.44	0.05	1.46	0.21	0.30	0.06	0.00	0.80	0.08	0.01	0.00	0.06	0.05	0.02	0.02	0.01	47.37	1.22	48.59
Carbon Monoxide Emissions																			
Run Exhaust	270.92	0.85	1.63	1.12	0.68	0.47	0.21	5.76	0.23	0.04	0.02	30.94	0.13	0.07	0.25	0.03	274.08	39.29	313.37
Idle Exhaust	0.00	0.00	0.38	0.09	0.30	0.27	0.00	7.28	0.04	0.07	0.00	0.00	0.28	0.05	0.00	0.00	1.00	7.77	8.77
Start Exhaust	109.18	0.00	2.35	0.00	1.52	0.00	0.01	0.00	0.38	0.00	0.03	0.00	0.10	0.00	0.01	0.00	113.59	0.00	113.59
Total Exhaust	380.11	0.85	4.36	1.22	2.51	0.74	0.22	13.04	0.65	0.12	0.05	30.94	0.51	0.12	0.26	0.03	388.67	47.06	435.73
Oxides of Nitrogen Emissions																			
Run Exhaust	16.90	0.15	0.45	3.57	0.23	5.73	0.03	17.09	0.08	0.45	0.02	0.31	0.05	1.30	0.08	0.44	17.81	29.06	46.87
Idle Exhaust	0.00	0.00	0.00	0.17	0.00	0.39	0.00	3.28	0.00	0.04	0.00	0.00	0.00	0.27	0.00	0.00	0.01	4.14	4.15
Start Exhaust	8.92	0.00	0.68	0.00	0.14	1.84	0.00	1.53	0.04	0.09	0.00	0.00	0.01	0.09	0.00	0.00	9.79	3.55	13.34
Total Exhaust	25.82	0.15	1.13	3.74	0.37	7.96	0.03	21.90	0.12	0.58	0.02	0.31	0.06	1.66	0.08	0.44	27.61	36.75	64.36
PM2.5 Emissions																			
Run Exhaust	0.49	0.02	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.49	0.27	0.76
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	0.08	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	0.56	0.02	0.00	0.05	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.57	0.28	0.85
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.12	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.17	0.98
Brake Wear	6.28	0.07	0.12	0.13	0.06	0.40	0.00	0.34	0.01	0.02	0.00	0.02	0.04	0.07	0.02	0.01	6.53	1.06	7.60
Total	7.64	0.10	0.13	0.19	0.06	0.46	0.00	0.61	0.01	0.02	0.01	0.03	0.04	0.08	0.02	0.02	7.91	1.50	9.42
Fuel Consumption (1000 gallons) and SO2																			
Fuel	11230.89	100.80	287.96	153.38	177.20	549.76	1.65	1656.15	42.00	37.71	16.60	150.95	12.79	25.74	57.32	11.23	11826.41	2685.72	14512.14
SOx	1.05	0.01	0.03	0.02	0.02	0.06	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.11	0.26	1.37

Attachment D

Table D-7

2027 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	10339920	115175	90529	94245	19105	107378	64	104043	5827	4960	993	5461	3310	6548	32543	13834	10492292	451644	10943936	
VMT	363426576	4331596	3102660	3458194	958676	6572916	8037	12243643	222523	353701	92962	597078	125447	207282	311789	126014	368248670	27890424	396139094	
Reactive Organic Gas Emissions																				
Run Exhaust	7.44	0.05	0.05	0.18	0.02	0.06	0.00	0.31	0.01	0.00	0.00	0.06	0.01	0.02	0.01	0.01	7.54	0.69	8.23	
Idle Exhaust	0.00	0.00	0.04	0.01	0.02	0.01	0.00	0.49	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.52	0.62	
Start Exhaust	10.18	0.00	0.13	0.00	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.40	0.00	10.40	
Total Exhaust	17.61	0.05	0.22	0.20	0.12	0.06	0.00	0.81	0.03	0.01	0.00	0.06	0.05	0.02	0.01	0.01	18.04	1.21	19.25	
Diurnal	3.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.42	0.00	3.42	
Hot Soak	5.06	0.00	0.15	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.24	0.00	5.24	
Running	14.61	0.00	1.01	0.00	0.14	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	15.81	0.00	15.81	
Resting	3.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.07	0.00	3.07	
Total	43.76	0.05	1.38	0.20	0.29	0.06	0.00	0.81	0.08	0.01	0.00	0.06	0.06	0.02	0.02	0.01	45.59	1.21	46.80	
Carbon Monoxide Emissions																				
Run Exhaust	258.79	0.85	1.40	1.04	0.57	0.47	0.22	5.93	0.20	0.05	0.03	30.09	0.12	0.07	0.21	0.03	261.53	38.52	300.05	
Idle Exhaust	0.00	0.00	0.37	0.09	0.30	0.28	0.00	7.35	0.04	0.08	0.00	0.00	0.30	0.05	0.00	0.00	1.00	7.86	8.86	
Start Exhaust	106.73	0.00	2.26	0.00	1.47	0.00	0.01	0.00	0.37	0.00	0.03	0.00	0.10	0.00	0.01	0.00	110.97	0.00	110.97	
Total Exhaust	365.51	0.85	4.03	1.13	2.34	0.75	0.22	13.28	0.61	0.12	0.05	30.09	0.52	0.12	0.22	0.03	373.50	46.38	419.88	
Oxides of Nitrogen Emissions																				
Run Exhaust	15.61	0.13	0.39	3.10	0.19	5.53	0.03	16.26	0.07	0.45	0.02	0.31	0.05	1.21	0.07	0.43	16.42	27.43	43.86	
Idle Exhaust	0.00	0.00	0.00	0.16	0.00	0.38	0.00	3.15	0.00	0.04	0.00	0.00	0.00	0.25	0.00	0.00	0.01	3.99	4.00	
Start Exhaust	8.50	0.00	0.64	0.00	0.13	1.81	0.00	1.47	0.04	0.09	0.00	0.00	0.01	0.10	0.00	0.00	9.33	3.48	12.80	
Total Exhaust	24.11	0.13	1.03	3.26	0.33	7.72	0.03	20.89	0.11	0.58	0.02	0.31	0.06	1.57	0.07	0.43	25.76	34.90	60.66	
PM2.5 Emissions																				
Run Exhaust	0.46	0.02	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.46	0.27	0.73	
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	0.08	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	0.54	0.02	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.54	0.27	0.81	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.12	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.17	0.98	
Brake Wear	6.29	0.08	0.11	0.13	0.06	0.40	0.00	0.35	0.01	0.02	0.00	0.02	0.04	0.07	0.02	0.01	6.54	1.07	7.61	
Total	7.62	0.10	0.12	0.18	0.06	0.46	0.00	0.62	0.01	0.02	0.01	0.03	0.04	0.08	0.02	0.02	7.90	1.51	9.41	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	10924.36	101.01	276.14	150.98	172.85	547.39	1.68	1655.81	40.77	37.78	16.63	151.83	13.13	25.54	55.99	11.20	11501.55	2681.55	14183.10	
SOx	1.02	0.01	0.03	0.02	0.02	0.06	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.08	0.26	1.33	

Attachment D

Table D-8

2029 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	10617951	123051	87890	97285	19352	113258	67	106292	5862	5289	992	5536	3607	6664	32250	14386	10767971	471760	11239731	
VMT	365460089	4511591	2976404	3471502	952655	6724920	8645	12703913	219000	365343	92942	605007	134254	211359	308858	128404	370152847	28722039	398874887	
Reactive Organic Gas Emissions																				
Run Exhaust	6.91	0.04	0.04	0.17	0.02	0.06	0.00	0.31	0.01	0.00	0.00	0.05	0.00	0.02	0.01	0.01	6.99	0.66	7.65	
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.50	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.52	0.63	
Start Exhaust	9.12	0.00	0.11	0.00	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.32	0.00	9.32	
Total Exhaust	16.03	0.04	0.18	0.18	0.11	0.06	0.00	0.81	0.03	0.01	0.00	0.05	0.05	0.02	0.01	0.01	16.41	1.19	17.59	
Diurnal	3.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.27	0.00	3.27	
Hot Soak	4.73	0.00	0.13	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.90	0.00	4.90	
Running	13.95	0.00	0.94	0.00	0.13	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	15.09	0.00	15.09	
Resting	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.93	0.00	2.93	
Total	40.90	0.04	1.26	0.18	0.27	0.06	0.00	0.81	0.08	0.01	0.00	0.05	0.06	0.02	0.01	0.01	42.59	1.19	43.78	
Carbon Monoxide Emissions																				
Run Exhaust	240.85	0.85	1.01	0.89	0.40	0.47	0.22	6.21	0.16	0.05	0.02	27.06	0.11	0.06	0.13	0.03	242.90	35.62	278.52	
Idle Exhaust	0.00	0.00	0.35	0.09	0.30	0.29	0.00	7.44	0.04	0.08	0.00	0.00	0.32	0.06	0.00	0.00	1.00	7.96	8.97	
Start Exhaust	102.96	0.00	2.08	0.00	1.37	0.00	0.01	0.00	0.36	0.00	0.02	0.00	0.11	0.00	0.01	0.00	106.92	0.00	106.92	
Total Exhaust	343.81	0.85	3.44	0.98	2.08	0.76	0.23	13.65	0.55	0.13	0.05	27.06	0.53	0.12	0.14	0.03	350.82	43.58	394.41	
Oxides of Nitrogen Emissions																				
Run Exhaust	13.68	0.11	0.29	2.34	0.14	5.01	0.02	14.27	0.05	0.44	0.02	0.30	0.04	1.04	0.05	0.41	14.31	23.90	38.21	
Idle Exhaust	0.00	0.00	0.00	0.15	0.00	0.34	0.00	2.82	0.00	0.04	0.00	0.00	0.00	0.23	0.00	0.00	0.01	3.57	3.58	
Start Exhaust	7.88	0.00	0.57	0.00	0.13	1.67	0.00	1.31	0.04	0.09	0.00	0.00	0.01	0.11	0.00	0.00	8.62	3.19	11.82	
Total Exhaust	21.55	0.11	0.87	2.49	0.27	7.01	0.03	18.40	0.09	0.57	0.02	0.30	0.06	1.38	0.06	0.41	22.95	30.67	53.61	
PM2.5 Emissions																				
Run Exhaust	0.41	0.01	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.41	0.25	0.66	
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	0.48	0.01	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.48	0.26	0.74	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.12	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.82	0.18	0.99	
Brake Wear	6.32	0.08	0.11	0.13	0.06	0.40	0.00	0.36	0.01	0.02	0.00	0.02	0.05	0.07	0.02	0.01	6.57	1.09	7.66	
Total	7.60	0.10	0.12	0.18	0.06	0.46	0.00	0.63	0.01	0.03	0.01	0.03	0.05	0.08	0.02	0.02	7.87	1.52	9.39	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	10442.37	101.46	257.31	147.15	166.41	543.07	1.74	1650.62	38.80	37.82	16.48	153.81	13.80	25.20	53.72	11.13	10990.62	2670.25	13660.88	
SOx	0.98	0.01	0.02	0.01	0.01	0.06	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.03	0.25	1.28	

Attachment D

Table D-9

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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	10690302	125912	87135	99081	19491	116022	69	107358	5874	5426	998	5567	3750	6735	32226	14666	10839845	480766	11320610	
VMT	364300147	4558946	2934524	3488099	950937	6802882	8902	12927400	217613	370767	93469	608435	138430	213884	308048	129521	368952068	29099934	398052002	
Reactive Organic Gas Emissions																				
Run Exhaust	6.66	0.04	0.03	0.16	0.02	0.06	0.00	0.31	0.01	0.00	0.00	0.05	0.00	0.02	0.00	0.01	6.73	0.64	7.37	
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.50	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.53	0.63	
Start Exhaust	8.61	0.00	0.10	0.00	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.80	0.00	8.80	
Total Exhaust	15.28	0.04	0.16	0.17	0.10	0.06	0.00	0.81	0.03	0.01	0.00	0.05	0.05	0.02	0.01	0.01	15.63	1.17	16.80	
Diurnal	3.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.17	0.00	3.17	
Hot Soak	4.54	0.00	0.13	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.70	0.00	4.70	
Running	13.50	0.00	0.92	0.00	0.13	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	14.61	0.00	14.61	
Resting	2.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.84	0.00	2.84	
Total	39.32	0.04	1.22	0.17	0.26	0.06	0.00	0.81	0.08	0.01	0.00	0.05	0.06	0.02	0.01	0.01	40.96	1.17	42.13	
Carbon Monoxide Emissions																				
Run Exhaust	232.52	0.85	0.81	0.83	0.35	0.47	0.23	6.30	0.13	0.05	0.02	24.39	0.10	0.06	0.10	0.03	234.26	32.97	267.23	
Idle Exhaust	0.00	0.00	0.34	0.09	0.30	0.29	0.00	7.47	0.04	0.09	0.00	0.00	0.33	0.06	0.00	0.00	1.00	8.00	9.00	
Start Exhaust	100.98	0.00	1.99	0.00	1.32	0.00	0.01	0.00	0.35	0.00	0.02	0.00	0.11	0.00	0.01	0.00	104.78	0.00	104.78	
Total Exhaust	333.49	0.85	3.14	0.92	1.97	0.76	0.23	13.77	0.52	0.13	0.04	24.39	0.54	0.12	0.11	0.03	340.04	40.97	381.01	
Oxides of Nitrogen Emissions																				
Run Exhaust	12.86	0.10	0.25	2.03	0.13	4.78	0.02	13.62	0.05	0.44	0.02	0.28	0.04	0.95	0.05	0.40	13.42	22.59	36.00	
Idle Exhaust	0.00	0.00	0.00	0.15	0.00	0.32	0.00	2.73	0.00	0.04	0.00	0.00	0.00	0.22	0.00	0.00	0.01	3.45	3.46	
Start Exhaust	7.59	0.00	0.54	0.00	0.12	1.61	0.00	1.27	0.04	0.09	0.00	0.00	0.01	0.12	0.00	0.00	8.31	3.09	11.40	
Total Exhaust	20.45	0.10	0.80	2.18	0.25	6.70	0.02	17.62	0.09	0.57	0.02	0.28	0.05	1.29	0.05	0.40	21.73	29.13	50.86	
PM2.5 Emissions																				
Run Exhaust	0.38	0.01	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.38	0.25	0.63	
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	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.45	0.25	0.71	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.18	0.99	
Brake Wear	6.30	0.08	0.10	0.13	0.06	0.40	0.00	0.36	0.01	0.02	0.00	0.02	0.05	0.07	0.02	0.01	6.55	1.09	7.64	
Total	7.55	0.10	0.11	0.18	0.06	0.46	0.00	0.64	0.01	0.03	0.01	0.03	0.05	0.08	0.02	0.02	7.81	1.52	9.34	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	10181.51	100.94	250.40	146.00	163.69	541.54	1.76	1645.86	37.97	37.92	16.42	154.67	14.11	25.06	52.85	11.10	10718.70	2663.08	13381.78	
SOx	0.95	0.01	0.02	0.01	0.01	0.05	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.25	1.25	

Attachment D

Table D-10

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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	10757448	128722	86474	100745	19661	118401	72	108172	5901	5534	1004	5598	3889	6810	32269	14939	10906717	488922	11395639	
VMT	363152993	4597912	2896605	3501000	951019	6879809	9168	13154790	216739	375972	93996	611863	142417	216568	307602	130586	367770539	29468501	397239040	
Reactive Organic Gas Emissions																				
Run Exhaust	6.45	0.04	0.02	0.15	0.01	0.06	0.00	0.31	0.01	0.00	0.00	0.04	0.00	0.02	0.00	0.01	6.50	0.63	7.13	
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.50	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.53	0.63	
Start Exhaust	8.16	0.00	0.09	0.00	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	8.34	0.00	8.34	
Total Exhaust	14.60	0.04	0.15	0.16	0.10	0.06	0.00	0.81	0.03	0.01	0.00	0.04	0.05	0.02	0.00	0.01	14.94	1.15	16.09	
Diurnal	3.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.07	0.00	3.07	
Hot Soak	4.34	0.00	0.12	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.49	0.00	4.49	
Running	13.04	0.00	0.83	0.00	0.13	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	14.06	0.00	14.06	
Resting	2.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.75	0.00	2.75	
Total	37.80	0.04	1.10	0.16	0.25	0.06	0.00	0.81	0.08	0.01	0.00	0.04	0.06	0.02	0.01	0.01	39.31	1.15	40.47	
Carbon Monoxide Emissions																				
Run Exhaust	225.09	0.85	0.63	0.77	0.30	0.46	0.23	6.38	0.12	0.05	0.02	20.34	0.09	0.05	0.09	0.03	226.56	28.92	255.48	
Idle Exhaust	0.00	0.00	0.33	0.09	0.29	0.29	0.00	7.49	0.04	0.09	0.00	0.00	0.34	0.06	0.00	0.00	1.00	8.02	9.01	
Start Exhaust	99.18	0.00	1.90	0.00	1.28	0.00	0.01	0.00	0.34	0.00	0.02	0.00	0.11	0.00	0.01	0.00	102.84	0.00	102.84	
Total Exhaust	324.26	0.85	2.86	0.86	1.87	0.75	0.24	13.87	0.49	0.14	0.04	20.34	0.53	0.12	0.10	0.03	330.39	36.94	367.33	
Oxides of Nitrogen Emissions																				
Run Exhaust	12.14	0.09	0.22	1.76	0.11	4.55	0.02	13.06	0.04	0.43	0.02	0.23	0.04	0.86	0.05	0.40	12.64	21.39	34.02	
Idle Exhaust	0.00	0.00	0.00	0.14	0.00	0.30	0.00	2.67	0.00	0.04	0.00	0.00	0.00	0.20	0.00	0.00	0.01	3.35	3.36	
Start Exhaust	7.35	0.00	0.52	0.00	0.12	1.54	0.00	1.23	0.04	0.09	0.00	0.00	0.01	0.13	0.00	0.00	8.03	2.99	11.02	
Total Exhaust	19.49	0.09	0.74	1.90	0.23	6.39	0.02	16.96	0.08	0.57	0.02	0.23	0.05	1.19	0.05	0.40	20.68	27.72	48.41	
PM2.5 Emissions																				
Run Exhaust	0.35	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.36	0.25	0.61	
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	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.06	
Total Exhaust	0.42	0.01	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.42	0.25	0.68	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.18	0.99	
Brake Wear	6.28	0.08	0.10	0.13	0.05	0.40	0.00	0.37	0.01	0.02	0.00	0.02	0.05	0.07	0.02	0.01	6.52	1.09	7.62	
Total	7.50	0.10	0.11	0.17	0.06	0.46	0.00	0.65	0.01	0.03	0.00	0.02	0.05	0.08	0.02	0.02	7.76	1.53	9.28	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	9951.03	100.47	244.37	144.90	161.64	541.05	1.79	1643.12	37.26	38.02	16.10	155.58	14.39	24.93	52.05	11.08	10478.65	2659.16	13137.81	
SOx	0.93	0.01	0.02	0.01	0.01	0.05	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.24	1.22	

Attachment D

Table D-11

2032 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	10894923	132040	86250	102702	19853	120392	75	108691	5931	5631	1009	5630	4022	6883	32375	15212	11044437	497181	11541618	
VMT	364511578	4659935	2872304	3523631	952485	6961711	9399	13375612	216080	381175	94522	615291	146208	219168	307530	131618	369110106	29868142	398978248	
Reactive Organic Gas Emissions																				
Run Exhaust	6.30	0.04	0.02	0.15	0.01	0.06	0.00	0.31	0.00	0.00	0.00	0.04	0.00	0.01	0.00	0.01	6.35	0.61	6.96	
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.50	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.10	0.53	0.63	
Start Exhaust	7.80	0.00	0.09	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	7.98	0.00	7.98	
Total Exhaust	14.10	0.04	0.13	0.16	0.10	0.06	0.00	0.81	0.03	0.01	0.00	0.04	0.05	0.02	0.00	0.01	14.43	1.14	15.57	
Diurnal	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00	3.00	
Hot Soak	4.19	0.00	0.11	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.33	0.00	4.33	
Running	12.70	0.00	0.76	0.00	0.12	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	13.64	0.00	13.64	
Resting	2.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.69	0.00	2.69	
Total	36.67	0.04	1.01	0.16	0.25	0.06	0.00	0.81	0.08	0.01	0.00	0.04	0.06	0.02	0.01	0.01	38.08	1.14	39.22	
Carbon Monoxide Emissions																				
Run Exhaust	220.32	0.85	0.50	0.72	0.26	0.45	0.23	6.43	0.11	0.05	0.02	19.46	0.08	0.05	0.08	0.03	221.59	28.04	249.63	
Idle Exhaust	0.00	0.00	0.32	0.09	0.29	0.28	0.00	7.49	0.04	0.09	0.00	0.00	0.34	0.07	0.00	0.00	0.99	8.02	9.01	
Start Exhaust	98.22	0.00	1.83	0.00	1.24	0.00	0.01	0.00	0.33	0.00	0.02	0.00	0.11	0.00	0.01	0.00	101.76	0.00	101.76	
Total Exhaust	318.54	0.85	2.65	0.81	1.79	0.74	0.24	13.93	0.47	0.14	0.03	19.46	0.53	0.12	0.09	0.03	324.34	36.06	360.40	
Oxides of Nitrogen Emissions																				
Run Exhaust	11.63	0.09	0.19	1.54	0.10	4.33	0.02	12.55	0.04	0.43	0.01	0.21	0.04	0.78	0.04	0.39	12.07	20.30	32.37	
Idle Exhaust	0.00	0.00	0.00	0.14	0.00	0.28	0.00	2.61	0.00	0.04	0.00	0.00	0.00	0.19	0.00	0.00	0.01	3.25	3.26	
Start Exhaust	7.20	0.00	0.49	0.00	0.11	1.47	0.00	1.19	0.04	0.09	0.00	0.00	0.01	0.13	0.00	0.00	7.86	2.88	10.74	
Total Exhaust	18.83	0.09	0.69	1.67	0.21	6.08	0.02	16.34	0.07	0.56	0.02	0.21	0.05	1.10	0.05	0.39	19.94	26.43	46.37	
PM2.5 Emissions																				
Run Exhaust	0.34	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.34	0.24	0.58	
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	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.06	
Total Exhaust	0.40	0.01	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.40	0.25	0.65	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.18	1.00	
Brake Wear	6.31	0.08	0.10	0.12	0.05	0.40	0.00	0.37	0.01	0.02	0.00	0.02	0.05	0.07	0.02	0.01	6.55	1.10	7.64	
Total	7.50	0.10	0.11	0.17	0.06	0.46	0.00	0.65	0.01	0.03	0.00	0.02	0.05	0.08	0.02	0.02	7.76	1.53	9.29	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	9810.50	100.55	239.69	144.36	159.85	540.96	1.81	1639.29	36.69	38.17	16.16	156.45	14.66	24.79	51.46	11.06	10330.82	2655.62	12986.44	
SOx	0.92	0.01	0.02	0.01	0.01	0.05	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.24	1.20	

Attachment D

Table D-12

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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	11011919	135026	86381	104947	20065	122200	77	109271	5966	5710	1015	5661	4141	6956	32555	15474	11162119	505245	11667364	
VMT	365289646	4708135	2860791	3556625	955624	7053659	9621	13616064	215692	386277	95049	618719	149465	221729	307882	132595	369883770	30293803	400177574	
Reactive Organic Gas Emissions																				
Run Exhaust	6.17	0.04	0.02	0.14	0.01	0.05	0.00	0.31	0.00	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	6.21	0.60	6.81
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.50	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.10	0.53	0.63
Start Exhaust	7.48	0.00	0.08	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	7.64	0.00	7.64
Total Exhaust	13.64	0.04	0.13	0.15	0.10	0.06	0.00	0.81	0.03	0.01	0.00	0.04	0.05	0.01	0.00	0.01	0.00	13.95	1.13	15.09
Diurnal	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.93	0.00	2.93
Hot Soak	4.03	0.00	0.10	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.16	0.00	4.16
Running	12.36	0.00	0.67	0.00	0.12	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	13.22	0.00	13.22
Resting	2.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.62	0.00	2.62
Total	35.58	0.04	0.91	0.15	0.24	0.06	0.00	0.81	0.08	0.01	0.00	0.04	0.07	0.01	0.01	0.01	0.00	36.88	1.13	38.01
Carbon Monoxide Emissions																				
Run Exhaust	215.86	0.85	0.45	0.68	0.24	0.45	0.23	6.47	0.10	0.05	0.02	18.50	0.06	0.05	0.08	0.03	0.00	217.03	27.07	244.10
Idle Exhaust	0.00	0.00	0.32	0.09	0.28	0.28	0.00	7.51	0.04	0.09	0.00	0.00	0.35	0.07	0.00	0.00	0.00	0.98	8.04	9.02
Start Exhaust	97.24	0.00	1.77	0.00	1.20	0.00	0.01	0.00	0.33	0.00	0.02	0.00	0.11	0.00	0.01	0.00	0.00	100.68	0.00	100.68
Total Exhaust	313.10	0.85	2.54	0.77	1.72	0.73	0.24	13.99	0.46	0.14	0.03	18.50	0.51	0.11	0.08	0.03	0.00	318.69	35.11	353.80
Oxides of Nitrogen Emissions																				
Run Exhaust	11.18	0.08	0.17	1.34	0.09	4.12	0.02	12.11	0.04	0.42	0.01	0.19	0.03	0.70	0.04	0.38	0.00	11.59	19.34	30.93
Idle Exhaust	0.00	0.00	0.00	0.13	0.00	0.27	0.00	2.56	0.00	0.04	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.01	3.17	3.18
Start Exhaust	7.07	0.00	0.47	0.00	0.11	1.40	0.00	1.15	0.03	0.09	0.00	0.00	0.01	0.14	0.00	0.00	0.00	7.70	2.78	10.48
Total Exhaust	18.25	0.08	0.65	1.48	0.20	5.78	0.02	15.82	0.07	0.55	0.02	0.19	0.04	1.01	0.04	0.38	0.00	19.30	25.29	44.59
PM2.5 Emissions																				
Run Exhaust	0.32	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.32	0.24	0.56
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	0.00
Start Exhaust	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.06
Total Exhaust	0.37	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.38	0.24	0.62
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.82	0.19	1.00
Brake Wear	6.32	0.08	0.10	0.12	0.05	0.40	0.00	0.37	0.01	0.02	0.00	0.02	0.05	0.07	0.02	0.01	0.00	6.56	1.10	7.66
Total	7.50	0.10	0.11	0.17	0.06	0.46	0.00	0.66	0.01	0.03	0.00	0.02	0.05	0.08	0.02	0.02	0.00	7.75	1.53	9.28
Fuel Consumption (1000 gallons) and SO2																				
Fuel	9675.35	100.47	236.36	144.37	158.52	542.29	1.83	1639.63	36.21	38.31	16.19	157.32	14.86	24.64	51.00	11.04	0.00	10190.33	2658.08	12848.41
SOx	0.91	0.01	0.02	0.01	0.01	0.05	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.24	1.18

Attachment D

Table D-13

2035 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	11232616	140300	86693	109211	20495	125801	83	110936	6041	5862	1026	5724	4370	7109	32993	15967	11384316	520909	11905225	
VMT	366870498	4787919	2843256	3617428	963501	7239411	10006	14109895	215522	396366	96102	625576	155728	226922	309065	134393	371463678	31137908	402601586	
Reactive Organic Gas Emissions																				
Run Exhaust	5.94	0.04	0.01	0.13	0.01	0.05	0.00	0.31	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.01	5.98	0.58	6.56	
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.51	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.10	0.53	0.63	
Start Exhaust	6.91	0.00	0.07	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	7.06	0.00	7.06	
Total Exhaust	12.85	0.04	0.11	0.14	0.09	0.06	0.00	0.82	0.02	0.01	0.00	0.03	0.05	0.01	0.00	0.01	13.14	1.11	14.25	
Diurnal	2.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78	0.00	2.78	
Hot Soak	3.73	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	0.00	0.00	3.85	0.00	3.85	
Running	11.75	0.00	0.45	0.00	0.11	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	12.37	0.00	12.37	
Resting	2.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.48	0.00	2.48	
Total	33.59	0.04	0.65	0.14	0.23	0.06	0.00	0.82	0.08	0.01	0.00	0.03	0.07	0.01	0.01	0.01	34.63	1.11	35.74	
Carbon Monoxide Emissions																				
Run Exhaust	208.43	0.85	0.37	0.60	0.19	0.43	0.22	6.49	0.08	0.05	0.01	14.79	0.04	0.04	0.07	0.03	209.41	23.27	232.68	
Idle Exhaust	0.00	0.00	0.30	0.09	0.27	0.27	0.00	7.60	0.03	0.09	0.00	0.00	0.35	0.07	0.00	0.00	0.95	8.12	9.07	
Start Exhaust	95.66	0.00	1.65	0.00	1.11	0.00	0.01	0.00	0.31	0.00	0.01	0.00	0.11	0.00	0.01	0.00	98.87	0.00	98.87	
Total Exhaust	304.09	0.85	2.32	0.69	1.58	0.69	0.23	14.09	0.43	0.14	0.03	14.79	0.49	0.11	0.08	0.03	309.24	31.39	340.63	
Oxides of Nitrogen Emissions																				
Run Exhaust	10.49	0.08	0.14	1.03	0.07	3.69	0.02	11.34	0.03	0.41	0.01	0.15	0.02	0.56	0.04	0.37	10.82	17.61	28.43	
Idle Exhaust	0.00	0.00	0.00	0.13	0.00	0.24	0.00	2.51	0.00	0.03	0.00	0.00	0.00	0.14	0.00	0.00	0.01	3.04	3.05	
Start Exhaust	6.90	0.00	0.44	0.00	0.10	1.26	0.00	1.09	0.03	0.09	0.00	0.00	0.01	0.14	0.00	0.00	7.48	2.58	10.06	
Total Exhaust	17.38	0.08	0.58	1.15	0.18	5.18	0.02	14.93	0.06	0.53	0.01	0.15	0.03	0.84	0.04	0.37	18.31	23.23	41.54	
PM2.5 Emissions																				
Run Exhaust	0.28	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.29	0.24	0.52	
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	
Total Exhaust	0.34	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.34	0.24	0.58	
Tire Wear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.82	0.19	1.01	
Brake Wear	6.35	0.08	0.09	0.12	0.05	0.39	0.00	0.38	0.01	0.02	0.00	0.02	0.05	0.07	0.02	0.01	6.58	1.10	7.68	
Total	7.49	0.10	0.10	0.17	0.06	0.46	0.00	0.67	0.01	0.03	0.00	0.02	0.05	0.08	0.02	0.01	7.74	1.54	9.27	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	9460.53	100.28	230.75	144.48	156.61	545.66	1.86	1645.42	35.52	38.56	15.89	159.06	15.24	24.39	50.32	11.01	9966.72	2668.87	12635.60	
SOx	0.89	0.01	0.02	0.01	0.01	0.05	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.23	1.15	

Attachment D

Table D-14

2036 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	11351674	142797	87146	111361	20709	127732	86	112080	6081	5936	1032	5755	4465	7192	33271	16202	11504462	529056	12033518	
VMT	368147993	4827093	2842082	3648909	967441	7340030	10165	14376700	215684	401480	96629	629004	158214	229634	309990	135251	372748199	31588100	404336299	
Reactive Organic Gas Emissions																				
Run Exhaust	5.86	0.04	0.01	0.13	0.01	0.05	0.00	0.31	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.01	5.89	0.57	6.46	
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.51	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.10	0.54	0.64	
Start Exhaust	6.68	0.00	0.07	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	6.83	0.00	6.83	
Total Exhaust	12.54	0.04	0.11	0.14	0.09	0.06	0.00	0.82	0.02	0.01	0.00	0.03	0.05	0.01	0.00	0.01	12.82	1.11	13.93	
Diurnal	2.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.72	0.00	2.72	
Hot Soak	3.60	0.00	0.08	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.71	0.00	3.71	
Running	11.51	0.00	0.43	0.00	0.11	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	12.10	0.00	12.10	
Resting	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42	0.00	2.42	
Total	32.78	0.04	0.62	0.14	0.22	0.06	0.00	0.82	0.07	0.01	0.00	0.03	0.07	0.01	0.01	0.01	33.78	1.11	34.89	
Carbon Monoxide Emissions																				
Run Exhaust	205.73	0.85	0.33	0.57	0.18	0.42	0.22	6.48	0.08	0.05	0.01	13.17	0.03	0.04	0.07	0.03	206.65	21.61	228.25	
Idle Exhaust	0.00	0.00	0.29	0.09	0.26	0.26	0.00	7.66	0.03	0.09	0.00	0.00	0.35	0.07	0.00	0.00	0.93	8.17	9.10	
Start Exhaust	95.17	0.00	1.59	0.00	1.07	0.00	0.01	0.00	0.30	0.00	0.01	0.00	0.11	0.00	0.01	0.00	98.27	0.00	98.27	
Total Exhaust	300.90	0.85	2.21	0.66	1.51	0.68	0.22	14.14	0.42	0.14	0.02	13.17	0.49	0.11	0.07	0.03	305.85	29.78	335.62	
Oxides of Nitrogen Emissions																				
Run Exhaust	10.23	0.07	0.13	0.89	0.07	3.49	0.02	11.08	0.03	0.40	0.01	0.14	0.02	0.50	0.04	0.36	10.54	16.94	27.49	
Idle Exhaust	0.00	0.00	0.00	0.12	0.00	0.22	0.00	2.49	0.00	0.03	0.00	0.00	0.00	0.13	0.00	0.00	0.01	3.00	3.00	
Start Exhaust	6.85	0.00	0.42	0.00	0.10	1.20	0.00	1.06	0.03	0.09	0.00	0.00	0.01	0.14	0.00	0.00	7.41	2.49	9.90	
Total Exhaust	17.09	0.07	0.55	1.02	0.17	4.91	0.02	14.64	0.06	0.52	0.01	0.14	0.03	0.77	0.04	0.36	17.96	22.43	40.39	
PM2.5 Emissions																				
Run Exhaust	0.27	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.27	0.23	0.51	
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	
Total Exhaust	0.32	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.32	0.24	0.56	
Tire Wear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.82	0.20	1.02	
Brake Wear	6.37	0.08	0.09	0.12	0.05	0.39	0.00	0.39	0.01	0.02	0.00	0.01	0.05	0.07	0.02	0.01	6.60	1.11	7.70	
Total	7.50	0.10	0.10	0.16	0.05	0.45	0.00	0.68	0.01	0.03	0.00	0.02	0.05	0.08	0.02	0.01	7.74	1.54	9.28	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	9390.49	100.33	228.94	144.73	155.92	548.78	1.87	1653.15	35.27	38.71	15.96	159.94	15.36	24.30	50.10	11.00	9893.92	2680.94	12574.86	
SOx	0.88	0.01	0.02	0.01	0.01	0.05	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.22	1.14	

Attachment D

Table D-15

2037 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	11469713	145129	87670	113399	20925	129618	88	113315	6132	6009	1037	5786	4543	7284	33578	16424	11623686	536965	12160651	
VMT	369434943	4862470	2843044	3678440	971785	7441627	10310	14648586	215998	406517	97156	632432	160091	232554	311060	136058	374044388	32038683	406083071	
Reactive Organic Gas Emissions																				
Run Exhaust	5.80	0.04	0.01	0.12	0.01	0.05	0.00	0.31	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	5.83	0.56	6.39
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.52	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.10	0.54	0.64
Start Exhaust	6.48	0.00	0.06	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	6.63	0.00	6.63
Total Exhaust	12.28	0.04	0.10	0.14	0.09	0.06	0.00	0.83	0.02	0.01	0.00	0.02	0.06	0.01	0.00	0.01	0.00	12.56	1.10	13.66
Diurnal	2.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.66	0.00	2.66
Hot Soak	3.49	0.00	0.08	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.60	0.00	3.60
Running	11.30	0.00	0.41	0.00	0.11	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	11.87	0.00	11.87
Resting	2.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.38	0.00	2.38
Total	32.10	0.04	0.60	0.14	0.22	0.06	0.00	0.83	0.07	0.01	0.00	0.02	0.07	0.01	0.01	0.01	0.00	33.06	1.10	34.17
Carbon Monoxide Emissions																				
Run Exhaust	203.72	0.85	0.30	0.54	0.16	0.41	0.21	6.46	0.07	0.05	0.01	10.43	0.03	0.04	0.06	0.03	0.00	204.58	18.80	223.38
Idle Exhaust	0.00	0.00	0.28	0.09	0.26	0.26	0.00	7.73	0.03	0.09	0.00	0.00	0.35	0.07	0.00	0.00	0.00	0.92	8.23	9.15
Start Exhaust	94.80	0.00	1.53	0.00	1.03	0.00	0.01	0.00	0.30	0.00	0.01	0.00	0.11	0.00	0.01	0.00	0.00	97.79	0.00	97.79
Total Exhaust	298.52	0.85	2.12	0.62	1.45	0.66	0.22	14.19	0.40	0.14	0.02	10.43	0.49	0.11	0.07	0.03	0.00	303.28	27.03	330.32
Oxides of Nitrogen Emissions																				
Run Exhaust	10.03	0.07	0.12	0.77	0.06	3.31	0.02	10.87	0.03	0.39	0.01	0.11	0.02	0.45	0.04	0.36	0.00	10.32	16.33	26.65
Idle Exhaust	0.00	0.00	0.00	0.12	0.00	0.21	0.00	2.49	0.00	0.03	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.01	2.96	2.97
Start Exhaust	6.83	0.00	0.40	0.00	0.09	1.14	0.00	1.04	0.03	0.09	0.00	0.00	0.01	0.14	0.00	0.00	0.00	7.37	2.41	9.78
Total Exhaust	16.87	0.07	0.52	0.89	0.16	4.66	0.02	14.40	0.06	0.51	0.01	0.11	0.03	0.71	0.04	0.36	0.00	17.70	21.71	39.40
PM2.5 Emissions																				
Run Exhaust	0.26	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.26	0.23	0.49
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	0.00
Start Exhaust	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05
Total Exhaust	0.31	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.31	0.23	0.55
Tire Wear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.82	0.20	1.02
Brake Wear	6.39	0.08	0.09	0.12	0.05	0.39	0.00	0.39	0.01	0.03	0.00	0.01	0.05	0.07	0.02	0.01	0.00	6.62	1.11	7.73
Total	7.51	0.10	0.10	0.16	0.05	0.45	0.00	0.69	0.01	0.03	0.00	0.02	0.05	0.08	0.02	0.01	0.00	7.75	1.54	9.30
Fuel Consumption (1000 gallons) and SO2																				
Fuel	9336.64	100.37	227.41	144.97	155.40	551.36	1.88	1661.23	35.08	38.88	15.99	160.81	15.41	24.25	49.94	11.00	0.00	9837.76	2692.87	12530.63
SOx	0.88	0.01	0.02	0.01	0.01	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.22	1.13

Attachment D

Table D-16

2018 Summer Planning 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	9183366	62527	121728	77994	18071	84532	96	80816	5900	3917	938	5181	1986	6194	36134	10685	9368219	331848	9700067	
VMT	359541558	2687439	4508688	3216042	995410	5220413	6459	9483401	269275	283265	88274	566560	84525	196134	340431	108747	365834618	21762001	387596619	
Reactive Organic Gas Emissions																				
Run Exhaust	16.18	0.07	0.27	0.34	0.13	1.12	0.01	1.91	0.03	0.10	0.00	0.24	0.01	0.03	0.04	0.01	16.67	3.82	20.49	
Idle Exhaust	0.00	0.00	0.06	0.01	0.02	0.01	0.00	0.41	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.11	0.44	0.55	
Start Exhaust	17.41	0.00	0.31	0.00	0.10	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.84	0.00	17.84	
Total Exhaust	33.58	0.07	0.64	0.35	0.25	1.14	0.01	2.32	0.06	0.10	0.00	0.24	0.04	0.03	0.04	0.01	34.62	4.26	38.88	
Diurnal	7.71	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	7.74	0.00	7.74	
Hot Soak	7.94	0.00	0.31	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.30	0.00	8.30	
Running	17.94	0.00	1.90	0.00	0.20	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.01	0.00	20.10	0.00	20.10	
Resting	6.18	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.19	0.00	6.19	
Total	73.36	0.07	2.87	0.35	0.50	1.14	0.01	2.32	0.10	0.10	0.01	0.24	0.04	0.03	0.07	0.01	76.96	4.26	81.22	
Carbon Monoxide Emissions																				
Run Exhaust	569.50	0.78	6.92	2.22	3.40	3.92	0.38	8.82	0.74	0.32	0.03	24.37	0.23	0.08	1.29	0.04	582.48	40.56	623.04	
Idle Exhaust	0.00	0.00	0.50	0.08	0.21	0.19	0.00	4.05	0.04	0.05	0.00	0.00	0.18	0.03	0.00	0.00	0.92	4.40	5.33	
Start Exhaust	112.20	0.00	3.66	0.00	2.00	0.00	0.01	0.00	0.44	0.00	0.02	0.00	0.06	0.00	0.01	0.00	118.41	0.00	118.41	
Total Exhaust	681.70	0.78	11.08	2.30	5.61	4.11	0.39	12.86	1.22	0.37	0.05	24.37	0.47	0.12	1.30	0.04	701.82	44.96	746.78	
Oxides of Nitrogen Emissions																				
Run Exhaust	39.66	0.36	1.35	9.92	0.74	21.10	0.04	51.67	0.18	1.57	0.02	1.99	0.05	1.76	0.19	0.52	42.24	88.89	131.12	
Idle Exhaust	0.00	0.00	0.01	0.21	0.00	0.96	0.00	5.55	0.00	0.13	0.00	0.00	0.00	0.33	0.00	0.00	0.01	7.18	7.19	
Start Exhaust	14.02	0.00	1.10	0.00	0.15	0.94	0.00	1.19	0.04	0.05	0.00	0.00	0.00	0.05	0.00	0.00	15.32	2.22	17.54	
Total Exhaust	53.67	0.36	2.45	10.13	0.89	22.99	0.05	58.41	0.23	1.75	0.03	1.99	0.05	2.14	0.19	0.52	57.56	98.29	155.85	
PM2.5 Emissions																				
Run Exhaust	0.68	0.04	0.01	0.07	0.00	0.73	0.00	0.96	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.01	0.69	1.87	2.56	
Idle Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	
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	0.78	0.04	0.01	0.08	0.00	0.73	0.00	0.97	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.01	0.79	1.90	2.68	
Tire Wear	0.79	0.01	0.01	0.01	0.00	0.02	0.00	0.09	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.13	0.94	
Brake Wear	6.22	0.05	0.17	0.12	0.06	0.32	0.00	0.27	0.02	0.02	0.00	0.02	0.03	0.07	0.02	0.01	6.52	0.87	7.40	
Total	7.79	0.09	0.18	0.21	0.07	1.07	0.00	1.34	0.02	0.06	0.01	0.03	0.03	0.08	0.02	0.02	8.12	2.90	11.02	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	15039.23	78.89	445.05	161.20	201.95	525.75	1.70	1547.33	55.61	36.52	18.65	141.55	9.53	26.81	68.93	10.63	15840.66	2528.69	18369.34	
SOx	1.41	0.01	0.04	0.02	0.02	0.06	0.00	0.16	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.49	0.25	1.73	

Attachment D

Table D-17

2022 Summer Planning 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	9721203	90057	102437	85456	18496	92732	66	93054	5832	4150	964	5304	2563	6354	34091	12199	9885652	389306	10274957	
VMT	361694286	3654388	3629105	3374702	978029	5968837	6548	10837663	240795	316404	90329	579937	102708	200786	324253	117488	367066052	25050207	392116260	
Reactive Organic Gas Emissions																				
Run Exhaust	10.45	0.06	0.13	0.25	0.06	0.35	0.00	0.82	0.02	0.02	0.00	0.06	0.01	0.03	0.02	0.01	10.68	1.59	12.27	
Idle Exhaust	0.00	0.00	0.05	0.01	0.02	0.01	0.00	0.47	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.10	0.49	0.60	
Start Exhaust	12.81	0.00	0.20	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.11	0.00	13.11	
Total Exhaust	23.26	0.06	0.37	0.26	0.16	0.35	0.00	1.28	0.04	0.03	0.00	0.06	0.04	0.03	0.02	0.01	23.90	2.08	25.98	
Diurnal	6.42	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	6.44	0.00	6.44	
Hot Soak	6.50	0.00	0.22	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.76	0.00	6.76	
Running	15.56	0.00	1.33	0.00	0.16	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01	0.00	17.11	0.00	17.11	
Resting	5.31	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.32	0.00	5.32	
Total	57.05	0.06	1.94	0.26	0.36	0.35	0.00	1.28	0.09	0.03	0.01	0.06	0.05	0.03	0.04	0.01	59.53	2.08	61.62	
Carbon Monoxide Emissions																				
Run Exhaust	386.65	0.85	3.25	1.55	1.48	1.47	0.23	5.96	0.40	0.09	0.03	31.34	0.16	0.08	0.54	0.04	392.74	41.38	434.12	
Idle Exhaust	0.00	0.00	0.42	0.09	0.21	0.22	0.00	6.00	0.04	0.06	0.00	0.00	0.23	0.04	0.00	0.00	0.91	6.41	7.32	
Start Exhaust	103.52	0.00	2.73	0.00	1.68	0.00	0.01	0.00	0.40	0.00	0.02	0.00	0.07	0.00	0.01	0.00	108.44	0.00	108.44	
Total Exhaust	490.17	0.85	6.40	1.64	3.38	1.70	0.23	11.96	0.83	0.15	0.06	31.34	0.46	0.12	0.55	0.04	502.09	47.79	549.88	
Oxides of Nitrogen Emissions																				
Run Exhaust	22.77	0.23	0.71	5.81	0.38	10.58	0.03	36.42	0.11	0.76	0.02	0.31	0.05	1.52	0.11	0.46	24.17	56.09	80.26	
Idle Exhaust	0.00	0.00	0.00	0.19	0.00	0.66	0.00	6.01	0.00	0.07	0.00	0.00	0.00	0.31	0.00	0.00	0.01	7.24	7.25	
Start Exhaust	10.62	0.00	0.84	0.00	0.14	1.75	0.00	2.14	0.04	0.08	0.00	0.00	0.01	0.07	0.00	0.00	11.65	4.04	15.69	
Total Exhaust	33.39	0.23	1.56	6.00	0.52	12.99	0.03	44.57	0.15	0.91	0.03	0.31	0.05	1.90	0.11	0.46	35.83	67.37	103.20	
PM2.5 Emissions																				
Run Exhaust	0.59	0.03	0.00	0.06	0.00	0.24	0.00	0.33	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.59	0.68	1.28	
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	0.68	0.03	0.00	0.06	0.00	0.24	0.00	0.33	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.68	0.69	1.37	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.15	0.96	
Brake Wear	6.26	0.06	0.13	0.13	0.06	0.37	0.00	0.31	0.01	0.02	0.00	0.02	0.04	0.07	0.02	0.01	6.53	0.99	7.51	
Total	7.73	0.10	0.15	0.20	0.06	0.63	0.00	0.75	0.02	0.03	0.01	0.03	0.04	0.08	0.02	0.02	8.02	1.83	9.85	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	13406.08	96.89	346.44	159.74	190.72	552.62	1.55	1652.65	47.77	37.46	18.40	147.38	11.26	26.49	62.96	11.12	14085.19	2684.34	16769.53	
SOx	1.26	0.01	0.03	0.02	0.02	0.06	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.32	0.26	1.58	

Attachment D

Table D-18

2023 Summer Planning 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	9868253	96221	99257	87331	18725	92409	64	95542	5826	4159	970	5335	2712	6393	33692	12560	10029499	399950	10429450	
VMT	363058006	3840479	3489837	3398648	979785	6143579	6819	11188577	235991	323909	90856	583365	107297	202054	321144	119509	368289735	25800120	394089855	
Reactive Organic Gas Emissions																				
Run Exhaust	9.67	0.06	0.10	0.24	0.05	0.05	0.00	0.31	0.01	0.00	0.00	0.06	0.01	0.03	0.02	0.01	9.87	0.75	10.62	
Idle Exhaust	0.00	0.00	0.05	0.01	0.02	0.01	0.00	0.48	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.10	0.51	0.61	
Start Exhaust	11.93	0.00	0.18	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.21	0.00	12.21	
Total Exhaust	21.60	0.06	0.33	0.25	0.14	0.06	0.00	0.79	0.04	0.01	0.00	0.06	0.04	0.03	0.02	0.01	22.17	1.26	23.43	
Diurnal	6.20	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	6.21	0.00	6.21	
Hot Soak	6.24	0.00	0.20	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.48	0.00	6.48	
Running	15.16	0.00	1.23	0.00	0.16	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01	0.00	16.61	0.00	16.61	
Resting	5.15	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.16	0.00	5.16	
Total	54.34	0.06	1.78	0.25	0.34	0.06	0.00	0.79	0.09	0.01	0.00	0.06	0.05	0.03	0.03	0.01	56.64	1.26	57.89	
Carbon Monoxide Emissions																				
Run Exhaust	359.29	0.86	2.74	1.43	1.22	0.44	0.22	5.04	0.35	0.04	0.03	31.52	0.15	0.07	0.44	0.04	364.44	39.45	403.89	
Idle Exhaust	0.00	0.00	0.41	0.09	0.22	0.24	0.00	6.67	0.04	0.06	0.00	0.00	0.25	0.04	0.00	0.00	0.91	7.10	8.01	
Start Exhaust	101.51	0.00	2.58	0.00	1.62	0.00	0.01	0.00	0.39	0.00	0.02	0.00	0.07	0.00	0.01	0.00	106.21	0.00	106.21	
Total Exhaust	460.80	0.86	5.73	1.52	3.06	0.68	0.23	11.71	0.77	0.10	0.05	31.52	0.47	0.12	0.45	0.04	471.56	46.55	518.12	
Oxides of Nitrogen Emissions																				
Run Exhaust	20.23	0.21	0.61	5.09	0.32	6.58	0.03	25.68	0.10	0.52	0.02	0.31	0.05	1.45	0.10	0.44	21.45	40.29	61.73	
Idle Exhaust	0.00	0.00	0.00	0.18	0.00	0.46	0.00	5.21	0.00	0.05	0.00	0.00	0.00	0.30	0.00	0.00	0.01	6.20	6.21	
Start Exhaust	9.97	0.00	0.78	0.00	0.14	2.10	0.00	2.34	0.04	0.10	0.00	0.00	0.01	0.07	0.00	0.00	10.94	4.61	15.55	
Total Exhaust	30.20	0.21	1.40	5.27	0.46	9.13	0.03	33.23	0.14	0.66	0.02	0.31	0.05	1.83	0.10	0.44	32.39	51.09	83.48	
PM2.5 Emissions																				
Run Exhaust	0.56	0.02	0.00	0.05	0.00	0.05	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.56	0.38	0.95	
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	0.64	0.02	0.00	0.05	0.00	0.05	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.65	0.39	1.04	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.16	0.97	
Brake Wear	6.28	0.07	0.13	0.13	0.06	0.38	0.00	0.32	0.01	0.02	0.00	0.02	0.04	0.07	0.02	0.01	6.55	1.01	7.56	
Total	7.73	0.10	0.14	0.19	0.06	0.45	0.00	0.66	0.02	0.02	0.01	0.03	0.04	0.08	0.02	0.02	8.01	1.56	9.57	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	13009.09	99.15	329.17	158.46	188.64	546.23	1.57	1619.24	46.21	37.15	17.62	148.25	11.68	26.36	61.57	11.19	13665.55	2646.03	16311.58	
SOx	1.22	0.01	0.03	0.02	0.02	0.06	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.28	0.26	1.54	

Attachment D

Table D-19

2024 Summer Planning 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	9956024	101316	96729	89352	18831	96639	63	98517	5824	4310	976	5367	2862	6430	33327	12907	10114636	414838	10529474	
VMT	362312808	3982207	3377600	3425943	974886	6281275	7104	11486021	231713	331728	91382	586794	111917	203278	318279	121381	367425689	26418626	393844315	
Reactive Organic Gas Emissions																				
Run Exhaust	8.95	0.05	0.09	0.22	0.04	0.06	0.00	0.31	0.01	0.01	0.00	0.06	0.01	0.02	0.01	0.01	9.11	0.74	9.85	
Idle Exhaust	0.00	0.00	0.04	0.01	0.02	0.01	0.00	0.50	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.10	0.52	0.62	
Start Exhaust	11.05	0.00	0.16	0.00	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.31	0.00	11.31	
Total Exhaust	19.99	0.05	0.30	0.23	0.13	0.06	0.00	0.81	0.04	0.01	0.00	0.06	0.04	0.03	0.01	0.01	20.52	1.26	21.78	
Diurnal	5.96	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	5.97	0.00	5.97	
Hot Soak	5.96	0.00	0.19	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.19	0.00	6.19	
Running	14.72	0.00	1.15	0.00	0.15	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.01	0.00	16.09	0.00	16.09	
Resting	4.96	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.97	0.00	4.97	
Total	51.60	0.05	1.65	0.23	0.32	0.06	0.00	0.81	0.08	0.01	0.00	0.06	0.05	0.03	0.03	0.01	53.75	1.26	55.01	
Carbon Monoxide Emissions																				
Run Exhaust	333.34	0.85	2.32	1.32	1.00	0.45	0.22	5.31	0.25	0.04	0.03	31.15	0.14	0.07	0.42	0.03	337.73	39.24	376.96	
Idle Exhaust	0.00	0.00	0.40	0.09	0.22	0.25	0.00	6.89	0.04	0.07	0.00	0.00	0.26	0.04	0.00	0.00	0.91	7.34	8.25	
Start Exhaust	98.64	0.00	2.46	0.00	1.56	0.00	0.01	0.00	0.38	0.00	0.02	0.00	0.08	0.00	0.01	0.00	103.14	0.00	103.14	
Total Exhaust	431.98	0.85	5.18	1.41	2.78	0.71	0.23	12.20	0.67	0.10	0.05	31.15	0.48	0.12	0.43	0.03	441.78	46.57	488.36	
Oxides of Nitrogen Emissions																				
Run Exhaust	18.02	0.18	0.53	4.47	0.27	6.06	0.02	21.53	0.08	0.43	0.02	0.31	0.04	1.38	0.09	0.39	19.08	34.75	53.82	
Idle Exhaust	0.00	0.00	0.00	0.18	0.00	0.43	0.00	4.33	0.00	0.04	0.00	0.00	0.00	0.29	0.00	0.00	0.01	5.27	5.28	
Start Exhaust	9.31	0.00	0.74	0.00	0.14	1.97	0.00	1.98	0.04	0.09	0.00	0.00	0.01	0.08	0.00	0.00	10.24	4.12	14.36	
Total Exhaust	27.33	0.18	1.27	4.64	0.41	8.46	0.03	27.84	0.12	0.57	0.02	0.31	0.05	1.75	0.09	0.39	29.32	44.14	73.46	
PM2.5 Emissions																				
Run Exhaust	0.53	0.02	0.00	0.05	0.00	0.05	0.00	0.20	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.54	0.35	0.88	
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	0.08	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	0.61	0.02	0.00	0.05	0.00	0.05	0.00	0.20	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.62	0.35	0.97	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.16	0.97	
Brake Wear	6.27	0.07	0.12	0.13	0.06	0.39	0.00	0.33	0.01	0.02	0.00	0.02	0.04	0.07	0.02	0.01	6.53	1.03	7.56	
Total	7.68	0.10	0.14	0.19	0.06	0.45	0.00	0.64	0.02	0.03	0.01	0.03	0.04	0.08	0.02	0.02	7.96	1.54	9.50	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	12539.03	100.11	314.78	157.29	184.78	550.22	1.60	1640.37	45.75	38.27	17.14	149.17	12.05	26.19	61.67	10.70	13176.79	2672.32	15849.11	
SOx	1.18	0.01	0.03	0.02	0.02	0.06	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.23	0.26	1.49	

Attachment D

Table D-20

2025 Summer Planning 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		Grand Total
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	
Vehicles	10044475	106006	94679	91407	18998	100846	63	101120	5822	4537	981	5398	3013	6467	33043	13231	10201073	429013	10630087
VMT	361596396	4102592	3283885	3451924	973023	6406790	7439	11778260	228042	338774	91909	590222	116477	204500	315800	123031	366612969	26996092	393609062
Reactive Organic Gas Emissions																			
Run Exhaust	8.35	0.05	0.07	0.21	0.03	0.06	0.00	0.31	0.01	0.00	0.00	0.06	0.01	0.02	0.01	0.01	8.49	0.72	9.22
Idle Exhaust	0.00	0.00	0.04	0.01	0.02	0.01	0.00	0.51	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.54	0.64
Start Exhaust	10.24	0.00	0.15	0.00	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.49	0.00	10.49
Total Exhaust	18.59	0.05	0.27	0.22	0.13	0.06	0.00	0.82	0.03	0.01	0.00	0.06	0.05	0.03	0.01	0.01	19.08	1.26	20.34
Diurnal	5.77	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	5.78	0.00	5.78
Hot Soak	5.72	0.00	0.18	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.93	0.00	5.93
Running	14.34	0.00	1.09	0.00	0.15	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.01	0.00	15.63	0.00	15.63
Resting	4.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.83	0.00	4.83
Total	49.24	0.05	1.54	0.22	0.31	0.06	0.00	0.82	0.08	0.01	0.00	0.06	0.05	0.03	0.03	0.01	51.26	1.26	52.52
Carbon Monoxide Emissions																			
Run Exhaust	312.21	0.85	1.98	1.22	0.83	0.46	0.22	5.56	0.27	0.04	0.02	30.95	0.14	0.07	0.32	0.04	315.99	39.19	355.19
Idle Exhaust	0.00	0.00	0.39	0.09	0.22	0.26	0.00	7.07	0.04	0.07	0.00	0.00	0.27	0.05	0.00	0.00	0.92	7.54	8.46
Start Exhaust	95.52	0.00	2.35	0.00	1.50	0.00	0.01	0.00	0.37	0.00	0.02	0.00	0.08	0.00	0.01	0.00	99.86	0.00	99.86
Total Exhaust	407.73	0.85	4.72	1.31	2.55	0.72	0.23	12.64	0.68	0.11	0.05	30.95	0.49	0.12	0.32	0.04	416.77	46.74	463.51
Oxides of Nitrogen Emissions																			
Run Exhaust	16.24	0.16	0.46	3.91	0.23	5.60	0.02	17.24	0.08	0.44	0.01	0.31	0.04	1.30	0.08	0.43	17.16	29.39	46.56
Idle Exhaust	0.00	0.00	0.00	0.17	0.00	0.40	0.00	3.33	0.00	0.04	0.00	0.00	0.00	0.28	0.00	0.00	0.01	4.23	4.23
Start Exhaust	8.72	0.00	0.70	0.00	0.13	1.86	0.00	1.60	0.04	0.09	0.00	0.00	0.01	0.09	0.00	0.00	9.60	3.64	13.24
Total Exhaust	24.96	0.16	1.16	4.08	0.37	7.86	0.02	22.18	0.11	0.57	0.02	0.31	0.05	1.67	0.08	0.43	26.77	37.26	64.03
PM2.5 Emissions																			
Run Exhaust	0.51	0.02	0.00	0.05	0.00	0.04	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.51	0.28	0.79
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	0.08	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	0.59	0.02	0.00	0.05	0.00	0.04	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.59	0.29	0.88
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.16	0.97
Brake Wear	6.26	0.07	0.12	0.13	0.06	0.39	0.00	0.34	0.01	0.02	0.00	0.02	0.04	0.07	0.02	0.01	6.52	1.05	7.57
Total	7.64	0.10	0.13	0.19	0.06	0.45	0.00	0.61	0.01	0.02	0.01	0.03	0.04	0.08	0.02	0.02	7.92	1.50	9.42
Fuel Consumption (1000 gallons) and SO2																			
Fuel	12068.98	100.24	301.56	155.90	181.31	551.64	1.63	1653.72	43.27	37.68	16.68	150.08	12.42	25.99	58.66	11.24	12684.50	2686.50	15371.00
SOx	1.13	0.01	0.03	0.02	0.02	0.06	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.19	0.26	1.45

Attachment D

Table D-21

2026 Summer Planning 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		Grand Total
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	
Vehicles	10210137	111020	92322	92773	19057	104114	63	102777	5826	4742	987	5429	3163	6505	32760	13541	10364314	440901	10805216
VMT	362742033	4227770	3183271	3453071	965873	6485069	7735	12003308	225084	345782	92435	593650	121040	205751	313616	124597	367651087	27438998	395090085
Reactive Organic Gas Emissions																			
Run Exhaust	7.93	0.05	0.06	0.20	0.03	0.06	0.00	0.31	0.01	0.00	0.00	0.06	0.01	0.02	0.01	0.01	8.05	0.71	8.76
Idle Exhaust	0.00	0.00	0.04	0.01	0.02	0.01	0.00	0.52	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.54	0.64
Start Exhaust	9.61	0.00	0.14	0.00	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.85	0.00	9.85
Total Exhaust	17.54	0.05	0.24	0.21	0.12	0.06	0.00	0.83	0.03	0.01	0.00	0.06	0.05	0.02	0.01	0.01	18.00	1.25	19.25
Diurnal	5.64	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.65	0.00	5.65
Hot Soak	5.54	0.00	0.16	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.74	0.00	5.74
Running	14.08	0.00	1.03	0.00	0.14	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	15.31	0.00	15.31
Resting	4.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.72	0.00	4.72
Total	47.52	0.05	1.44	0.21	0.29	0.06	0.00	0.83	0.08	0.01	0.00	0.06	0.05	0.02	0.02	0.01	49.42	1.25	50.67
Carbon Monoxide Emissions																			
Run Exhaust	296.98	0.85	1.66	1.12	0.69	0.47	0.22	5.76	0.24	0.04	0.03	30.94	0.13	0.07	0.26	0.03	300.21	39.29	339.50
Idle Exhaust	0.00	0.00	0.38	0.09	0.22	0.27	0.00	7.17	0.04	0.07	0.00	0.00	0.28	0.05	0.00	0.00	0.92	7.66	8.58
Start Exhaust	93.47	0.00	2.25	0.00	1.45	0.00	0.01	0.00	0.36	0.00	0.02	0.00	0.08	0.00	0.01	0.00	97.64	0.00	97.64
Total Exhaust	390.45	0.85	4.29	1.22	2.36	0.74	0.23	12.94	0.63	0.12	0.05	30.94	0.50	0.12	0.27	0.03	398.77	46.95	445.72
Oxides of Nitrogen Emissions																			
Run Exhaust	14.91	0.14	0.40	3.39	0.20	5.41	0.02	16.17	0.07	0.43	0.01	0.31	0.04	1.23	0.07	0.42	15.72	27.50	43.22
Idle Exhaust	0.00	0.00	0.00	0.17	0.00	0.38	0.00	3.14	0.00	0.04	0.00	0.00	0.00	0.27	0.00	0.00	0.01	4.00	4.01
Start Exhaust	8.28	0.00	0.65	0.00	0.13	1.84	0.00	1.53	0.04	0.09	0.00	0.00	0.01	0.09	0.00	0.00	9.12	3.55	12.66
Total Exhaust	23.19	0.14	1.05	3.56	0.33	7.63	0.02	20.84	0.11	0.56	0.02	0.31	0.05	1.59	0.07	0.42	24.84	35.05	59.89
PM2.5 Emissions																			
Run Exhaust	0.49	0.02	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.49	0.27	0.76
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	0.08	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	0.56	0.02	0.00	0.05	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.57	0.28	0.85
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.12	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.17	0.98
Brake Wear	6.28	0.07	0.12	0.13	0.06	0.40	0.00	0.34	0.01	0.02	0.00	0.02	0.04	0.07	0.02	0.01	6.53	1.06	7.60
Total	7.64	0.10	0.13	0.19	0.06	0.46	0.00	0.61	0.01	0.02	0.01	0.03	0.04	0.08	0.02	0.02	7.91	1.50	9.42
Fuel Consumption (1000 gallons) and SO2																			
Fuel	11725.44	100.80	287.94	153.38	177.24	549.70	1.66	1654.91	41.99	37.69	16.60	150.95	12.79	25.79	57.32	11.23	12320.98	2684.46	15005.44
SOx	1.10	0.01	0.03	0.02	0.02	0.06	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.15	0.26	1.41

Attachment D

Table D-22

2027 Summer Planning 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		Grand Total
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	
Vehicles	10339920	115175	90529	94245	19105	107378	64	104043	5827	4960	993	5461	3310	6548	32543	13834	10492292	451644	10943936
VMT	363426576	4331596	3102660	3458194	958676	6572916	8037	12243643	222523	353701	92962	597078	125447	207282	311789	126014	368248670	27890424	396139094
Reactive Organic Gas Emissions																			
Run Exhaust	7.55	0.05	0.05	0.18	0.02	0.06	0.00	0.31	0.01	0.00	0.00	0.06	0.01	0.02	0.01	0.01	7.65	0.69	8.34
Idle Exhaust	0.00	0.00	0.04	0.01	0.02	0.01	0.00	0.52	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.55	0.65
Start Exhaust	9.04	0.00	0.13	0.00	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.25	0.00	9.25
Total Exhaust	16.58	0.05	0.22	0.20	0.11	0.06	0.00	0.84	0.03	0.01	0.00	0.06	0.05	0.02	0.01	0.01	17.01	1.24	18.25
Diurnal	5.50	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.52	0.00	5.52
Hot Soak	5.35	0.00	0.15	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.54	0.00	5.54
Running	13.76	0.00	0.98	0.00	0.14	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	14.94	0.00	14.94
Resting	4.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.61	0.00	4.61
Total	45.80	0.05	1.36	0.20	0.28	0.06	0.00	0.84	0.08	0.01	0.00	0.06	0.06	0.02	0.02	0.01	47.61	1.24	48.85
Carbon Monoxide Emissions																			
Run Exhaust	283.56	0.85	1.43	1.04	0.58	0.47	0.22	5.93	0.21	0.05	0.03	30.09	0.12	0.07	0.21	0.03	286.36	38.52	324.88
Idle Exhaust	0.00	0.00	0.37	0.09	0.22	0.28	0.00	7.25	0.04	0.08	0.00	0.00	0.30	0.05	0.00	0.00	0.92	7.75	8.67
Start Exhaust	91.41	0.00	2.16	0.00	1.40	0.00	0.01	0.00	0.35	0.00	0.02	0.00	0.08	0.00	0.01	0.00	95.44	0.00	95.44
Total Exhaust	374.97	0.85	3.96	1.13	2.20	0.75	0.23	13.18	0.59	0.12	0.05	30.09	0.50	0.12	0.22	0.03	382.72	46.27	428.99
Oxides of Nitrogen Emissions																			
Run Exhaust	13.78	0.12	0.35	2.94	0.17	5.23	0.02	15.38	0.06	0.42	0.02	0.31	0.04	1.15	0.06	0.41	14.49	25.97	40.46
Idle Exhaust	0.00	0.00	0.00	0.16	0.00	0.36	0.00	3.02	0.00	0.04	0.00	0.00	0.00	0.26	0.00	0.00	0.01	3.84	3.85
Start Exhaust	7.89	0.00	0.61	0.00	0.13	1.81	0.00	1.47	0.04	0.09	0.00	0.00	0.01	0.10	0.00	0.00	8.68	3.48	12.16
Total Exhaust	21.67	0.12	0.96	3.10	0.30	7.41	0.02	19.88	0.10	0.55	0.02	0.31	0.05	1.50	0.06	0.41	23.19	33.29	56.48
PM2.5 Emissions																			
Run Exhaust	0.46	0.02	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.46	0.27	0.73
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	0.08	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	0.54	0.02	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.54	0.27	0.81
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.12	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.17	0.98
Brake Wear	6.29	0.08	0.11	0.13	0.06	0.40	0.00	0.35	0.01	0.02	0.00	0.02	0.04	0.07	0.02	0.01	6.54	1.07	7.61
Total	7.62	0.10	0.12	0.18	0.06	0.46	0.00	0.62	0.01	0.02	0.01	0.03	0.04	0.08	0.02	0.02	7.90	1.51	9.41
Fuel Consumption (1000 gallons) and SO2																			
Fuel	11405.15	101.01	276.13	150.98	172.89	547.32	1.68	1654.57	40.77	37.77	16.63	151.83	13.12	25.59	55.99	11.20	11982.36	2680.26	14662.62
SOx	1.07	0.01	0.03	0.02	0.02	0.06	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.12	0.26	1.38

Attachment D

Table D-23

2029 Summer Planning 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	10617951	123051	87890	97285	19352	113258	67	106292	5862	5289	992	5536	3607	6664	32250	14386	10767971	471760	11239731	
VMT	365460089	4511591	2976404	3471502	952655	6724920	8645	12703913	219000	365343	92942	605007	134254	211359	308858	128404	370152847	28722039	398874887	
Reactive Organic Gas Emissions																				
Run Exhaust	6.99	0.04	0.04	0.17	0.02	0.06	0.00	0.31	0.01	0.00	0.00	0.05	0.01	0.02	0.01	0.01	7.07	0.66	7.73	
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.53	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.55	0.65	
Start Exhaust	8.10	0.00	0.11	0.00	0.07	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.29	0.00	8.29	
Total Exhaust	15.09	0.04	0.18	0.18	0.10	0.06	0.00	0.84	0.03	0.01	0.00	0.05	0.05	0.02	0.01	0.01	15.46	1.22	16.67	
Diurnal	5.27	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.28	0.00	5.28	
Hot Soak	5.00	0.00	0.14	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.17	0.00	5.17	
Running	13.13	0.00	0.92	0.00	0.13	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	14.24	0.00	14.24	
Resting	4.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.41	0.00	4.41	
Total	42.90	0.04	1.25	0.18	0.26	0.06	0.00	0.84	0.08	0.01	0.00	0.05	0.06	0.02	0.01	0.01	44.56	1.22	45.78	
Carbon Monoxide Emissions																				
Run Exhaust	263.75	0.85	1.03	0.89	0.41	0.47	0.23	6.21	0.16	0.05	0.02	27.06	0.11	0.06	0.13	0.03	265.85	35.62	301.47	
Idle Exhaust	0.00	0.00	0.35	0.09	0.22	0.28	0.00	7.34	0.04	0.08	0.00	0.00	0.32	0.06	0.00	0.00	0.92	7.86	8.78	
Start Exhaust	88.27	0.00	1.99	0.00	1.30	0.00	0.01	0.00	0.34	0.00	0.02	0.00	0.09	0.00	0.01	0.00	92.02	0.00	92.02	
Total Exhaust	352.02	0.85	3.37	0.98	1.93	0.76	0.24	13.55	0.53	0.13	0.04	27.06	0.51	0.12	0.14	0.03	358.79	43.47	402.27	
Oxides of Nitrogen Emissions																				
Run Exhaust	12.07	0.10	0.26	2.22	0.13	4.73	0.02	13.50	0.05	0.41	0.02	0.30	0.04	0.98	0.05	0.39	12.64	22.63	35.26	
Idle Exhaust	0.00	0.00	0.00	0.15	0.00	0.32	0.00	2.70	0.00	0.04	0.00	0.00	0.00	0.23	0.00	0.00	0.01	3.44	3.45	
Start Exhaust	7.31	0.00	0.55	0.00	0.12	1.67	0.00	1.31	0.04	0.09	0.00	0.00	0.01	0.11	0.00	0.00	8.03	3.19	11.22	
Total Exhaust	19.39	0.10	0.81	2.37	0.25	6.73	0.02	17.50	0.08	0.54	0.02	0.30	0.05	1.33	0.05	0.39	20.67	29.26	49.93	
PM2.5 Emissions																				
Run Exhaust	0.41	0.01	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.41	0.25	0.66	
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	0.48	0.01	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.48	0.26	0.74	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.12	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.82	0.18	0.99	
Brake Wear	6.32	0.08	0.11	0.13	0.06	0.40	0.00	0.36	0.01	0.02	0.00	0.02	0.05	0.07	0.02	0.01	6.57	1.09	7.66	
Total	7.60	0.10	0.12	0.18	0.06	0.46	0.00	0.63	0.01	0.03	0.01	0.03	0.05	0.08	0.02	0.02	7.87	1.52	9.39	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	10901.91	101.46	257.29	147.15	166.45	542.99	1.74	1649.37	38.79	37.80	16.48	153.81	13.79	25.23	53.73	11.13	11450.18	2668.94	14119.12	
SOx	1.02	0.01	0.02	0.01	0.01	0.06	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	1.07	0.25	1.32	

Attachment D

Table D-24

2030 Summer Planning 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	10690302	125912	87135	99081	19491	116022	69	107358	5874	5426	998	5567	3750	6735	32226	14666	10839845	480766	11320610	
VMT	364300147	4558946	2934524	3488099	950937	6802882	8902	12927400	217613	370767	93469	608435	138430	213884	308048	129521	368952068	29099934	398052002	
Reactive Organic Gas Emissions																				
Run Exhaust	6.73	0.04	0.03	0.16	0.02	0.06	0.00	0.31	0.01	0.00	0.00	0.05	0.00	0.02	0.01	0.01	6.79	0.64	7.44	
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.53	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.56	0.66	
Start Exhaust	7.65	0.00	0.10	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.83	0.00	7.83	
Total Exhaust	14.38	0.04	0.16	0.17	0.10	0.06	0.00	0.84	0.03	0.01	0.00	0.05	0.05	0.02	0.01	0.01	14.73	1.20	15.93	
Diurnal	5.11	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.12	0.00	5.12	
Hot Soak	4.80	0.00	0.13	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.96	0.00	4.96	
Running	12.70	0.00	0.90	0.00	0.12	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	13.79	0.00	13.79	
Resting	4.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.28	0.00	4.28	
Total	41.27	0.04	1.20	0.17	0.25	0.06	0.00	0.84	0.08	0.01	0.00	0.05	0.06	0.02	0.01	0.01	42.88	1.20	44.08	
Carbon Monoxide Emissions																				
Run Exhaust	254.56	0.85	0.83	0.83	0.35	0.47	0.23	6.30	0.14	0.05	0.02	24.39	0.10	0.06	0.10	0.03	256.34	32.97	289.31	
Idle Exhaust	0.00	0.00	0.34	0.09	0.21	0.28	0.00	7.37	0.04	0.08	0.00	0.00	0.33	0.06	0.00	0.00	0.92	7.89	8.81	
Start Exhaust	86.60	0.00	1.90	0.00	1.26	0.00	0.01	0.00	0.33	0.00	0.02	0.00	0.09	0.00	0.01	0.00	90.20	0.00	90.20	
Total Exhaust	341.16	0.85	3.07	0.92	1.83	0.75	0.24	13.67	0.50	0.13	0.04	24.39	0.52	0.12	0.11	0.03	347.46	40.86	388.32	
Oxides of Nitrogen Emissions																				
Run Exhaust	11.35	0.09	0.23	1.93	0.11	4.51	0.02	12.88	0.04	0.41	0.02	0.28	0.04	0.90	0.04	0.38	11.85	21.38	33.23	
Idle Exhaust	0.00	0.00	0.00	0.15	0.00	0.31	0.00	2.62	0.00	0.04	0.00	0.00	0.00	0.22	0.00	0.00	0.01	3.32	3.33	
Start Exhaust	7.05	0.00	0.52	0.00	0.12	1.61	0.00	1.27	0.04	0.09	0.00	0.00	0.01	0.12	0.00	0.00	7.73	3.09	10.82	
Total Exhaust	18.40	0.09	0.75	2.07	0.23	6.43	0.02	16.76	0.08	0.54	0.02	0.28	0.05	1.24	0.04	0.38	19.59	27.79	47.38	
PM2.5 Emissions																				
Run Exhaust	0.38	0.01	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.38	0.25	0.63	
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	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.45	0.25	0.71	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.18	0.99	
Brake Wear	6.30	0.08	0.10	0.13	0.06	0.40	0.00	0.36	0.01	0.02	0.00	0.02	0.05	0.07	0.02	0.01	6.55	1.09	7.64	
Total	7.55	0.10	0.11	0.18	0.06	0.46	0.00	0.64	0.01	0.03	0.01	0.03	0.05	0.08	0.02	0.02	7.81	1.52	9.34	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	10629.56	100.94	250.38	146.00	163.73	541.45	1.76	1644.61	37.96	37.91	16.42	154.67	14.10	25.09	52.85	11.10	11166.77	2661.76	13828.52	
SOx	1.00	0.01	0.02	0.01	0.01	0.05	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	0.25	1.29	

Attachment D

Table D-25

2031 Summer Planning 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	10757448	128722	86474	100745	19661	118401	72	108172	5901	5534	1004	5598	3889	6810	32269	14939	10906717	488922	11395639	
VMT	363152993	4597912	2896605	3501000	951019	6879809	9168	13154790	216739	375972	93996	611863	142417	216568	307602	130586	367770539	29468501	397239040	
Reactive Organic Gas Emissions																				
Run Exhaust	6.50	0.04	0.02	0.15	0.01	0.06	0.00	0.31	0.01	0.00	0.00	0.04	0.00	0.02	0.00	0.01	6.56	0.63	7.18	
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.53	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.56	0.66	
Start Exhaust	7.25	0.00	0.09	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.42	0.00	7.42	
Total Exhaust	13.75	0.04	0.14	0.16	0.10	0.06	0.00	0.84	0.03	0.01	0.00	0.04	0.05	0.02	0.01	0.01	14.08	1.18	15.26	
Diurnal	4.95	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.96	0.00	4.96	
Hot Soak	4.60	0.00	0.12	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.75	0.00	4.75	
Running	12.26	0.00	0.81	0.00	0.12	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	13.25	0.00	13.25	
Resting	4.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15	0.00	4.15	
Total	39.71	0.04	1.08	0.16	0.25	0.06	0.00	0.84	0.08	0.01	0.00	0.04	0.06	0.02	0.01	0.01	41.19	1.18	42.38	
Carbon Monoxide Emissions																				
Run Exhaust	246.37	0.85	0.64	0.77	0.31	0.46	0.23	6.38	0.12	0.05	0.02	20.34	0.09	0.05	0.09	0.03	247.87	28.92	276.79	
Idle Exhaust	0.00	0.00	0.33	0.09	0.21	0.28	0.00	7.39	0.04	0.09	0.00	0.00	0.34	0.06	0.00	0.00	0.92	7.91	8.83	
Start Exhaust	85.08	0.00	1.82	0.00	1.22	0.00	0.01	0.00	0.32	0.00	0.02	0.00	0.09	0.00	0.01	0.00	88.55	0.00	88.55	
Total Exhaust	331.46	0.85	2.79	0.86	1.73	0.74	0.24	13.77	0.48	0.13	0.03	20.34	0.51	0.11	0.10	0.03	337.34	36.83	374.17	
Oxides of Nitrogen Emissions																				
Run Exhaust	10.72	0.09	0.20	1.67	0.10	4.30	0.02	12.36	0.04	0.41	0.01	0.23	0.03	0.82	0.04	0.37	11.16	20.24	31.40	
Idle Exhaust	0.00	0.00	0.00	0.14	0.00	0.29	0.00	2.55	0.00	0.04	0.00	0.00	0.00	0.20	0.00	0.00	0.01	3.22	3.23	
Start Exhaust	6.83	0.00	0.49	0.00	0.11	1.54	0.00	1.23	0.03	0.09	0.00	0.00	0.01	0.13	0.00	0.00	7.48	2.99	10.47	
Total Exhaust	17.55	0.09	0.69	1.82	0.21	6.13	0.02	16.13	0.07	0.54	0.02	0.23	0.05	1.14	0.04	0.37	18.65	26.45	45.10	
PM2.5 Emissions																				
Run Exhaust	0.35	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.36	0.25	0.61	
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	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.06	
Total Exhaust	0.42	0.01	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.42	0.25	0.67	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.18	0.99	
Brake Wear	6.28	0.08	0.10	0.13	0.05	0.40	0.00	0.37	0.01	0.02	0.00	0.02	0.05	0.07	0.02	0.01	6.52	1.09	7.62	
Total	7.50	0.10	0.11	0.17	0.06	0.46	0.00	0.64	0.01	0.03	0.00	0.02	0.05	0.08	0.02	0.02	7.76	1.53	9.28	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	10389.13	100.47	244.36	144.90	161.67	540.96	1.79	1641.87	37.26	38.00	16.10	155.58	14.39	24.95	52.05	11.08	10916.76	2657.83	13574.58	
SOx	0.97	0.01	0.02	0.01	0.01	0.05	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02	0.24	1.26	

Attachment D

Table D-26

2032 Summer Planning 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		Grand Total
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	
Vehicles	10894923	132040	86250	102702	19853	120392	75	108691	5931	5631	1009	5630	4022	6883	32375	15212	11044437	497181	11541618
VMT	364511578	4659935	2872304	3523631	952485	6961711	9399	13375612	216080	381175	94522	615291	146208	219168	307530	131618	369110106	29868142	398978248
Reactive Organic Gas Emissions																			
Run Exhaust	6.35	0.04	0.02	0.15	0.01	0.06	0.00	0.31	0.00	0.00	0.00	0.04	0.00	0.01	0.00	0.01	6.39	0.61	7.01
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.53	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.10	0.56	0.66
Start Exhaust	6.94	0.00	0.08	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.10	0.00	7.10
Total Exhaust	13.28	0.04	0.13	0.16	0.09	0.06	0.00	0.84	0.03	0.01	0.00	0.04	0.05	0.02	0.00	0.01	13.60	1.17	14.77
Diurnal	4.84	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.85	0.00	4.85
Hot Soak	4.43	0.00	0.12	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.58	0.00	4.58
Running	11.94	0.00	0.74	0.00	0.12	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	12.85	0.00	12.85
Resting	4.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.05	0.00	4.05
Total	38.55	0.04	0.99	0.16	0.24	0.06	0.00	0.84	0.08	0.01	0.00	0.04	0.06	0.02	0.01	0.01	39.94	1.17	41.11
Carbon Monoxide Emissions																			
Run Exhaust	241.12	0.85	0.51	0.72	0.27	0.45	0.23	6.43	0.11	0.05	0.02	19.46	0.08	0.05	0.08	0.03	242.42	28.04	270.45
Idle Exhaust	0.00	0.00	0.32	0.09	0.21	0.28	0.00	7.39	0.04	0.09	0.00	0.00	0.34	0.06	0.00	0.00	0.91	7.92	8.83
Start Exhaust	84.29	0.00	1.75	0.00	1.18	0.00	0.01	0.00	0.31	0.00	0.01	0.00	0.09	0.00	0.01	0.00	87.64	0.00	87.64
Total Exhaust	325.41	0.85	2.58	0.81	1.66	0.73	0.24	13.83	0.46	0.14	0.03	19.46	0.51	0.11	0.09	0.03	330.97	35.95	366.92
Oxides of Nitrogen Emissions																			
Run Exhaust	10.27	0.08	0.17	1.46	0.09	4.09	0.02	11.87	0.03	0.40	0.01	0.21	0.03	0.74	0.04	0.37	10.66	19.21	29.88
Idle Exhaust	0.00	0.00	0.00	0.14	0.00	0.27	0.00	2.49	0.00	0.03	0.00	0.00	0.00	0.19	0.00	0.00	0.01	3.12	3.13
Start Exhaust	6.69	0.00	0.47	0.00	0.11	1.47	0.00	1.19	0.03	0.09	0.00	0.00	0.01	0.13	0.00	0.00	7.32	2.88	10.20
Total Exhaust	16.95	0.08	0.65	1.60	0.20	5.83	0.02	15.55	0.07	0.53	0.01	0.21	0.04	1.05	0.04	0.37	17.99	25.22	43.21
PM2.5 Emissions																			
Run Exhaust	0.34	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.34	0.24	0.58
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	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.06
Total Exhaust	0.40	0.01	0.00	0.04	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.40	0.25	0.65
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.81	0.18	1.00
Brake Wear	6.31	0.08	0.10	0.12	0.05	0.40	0.00	0.37	0.01	0.02	0.00	0.02	0.05	0.07	0.02	0.01	6.55	1.10	7.64
Total	7.50	0.10	0.11	0.17	0.06	0.46	0.00	0.65	0.01	0.03	0.00	0.02	0.05	0.08	0.02	0.02	7.76	1.53	9.29
Fuel Consumption (1000 gallons) and SO2																			
Fuel	10242.64	100.55	239.68	144.36	159.89	540.86	1.81	1638.04	36.68	38.15	16.16	156.45	14.66	24.80	51.46	11.06	10762.97	2654.28	13417.24
SOx	0.96	0.01	0.02	0.01	0.01	0.05	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.24	1.24

Attachment D

Table D-27

2033 Summer Planning 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	11011919	135026	86381	104947	20065	122200	77	109271	5966	5710	1015	5661	4141	6956	32555	15474	11162119	505245	11667364	
VMT	365289646	4708135	2860791	3556625	955624	7053659	9621	13616064	215692	386277	95049	618719	149465	221729	307882	132595	369883770	30293803	400177574	
Reactive Organic Gas Emissions																				
Run Exhaust	6.20	0.04	0.02	0.14	0.01	0.05	0.00	0.31	0.00	0.00	0.00	0.04	0.00	0.01	0.00	0.01	6.25	0.60	6.85	
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.53	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.10	0.56	0.66	
Start Exhaust	6.65	0.00	0.08	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.81	0.00	6.81	
Total Exhaust	12.85	0.04	0.12	0.15	0.09	0.06	0.00	0.84	0.03	0.01	0.00	0.04	0.05	0.01	0.00	0.01	13.15	1.16	14.32	
Diurnal	4.73	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.74	0.00	4.74	
Hot Soak	4.27	0.00	0.11	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.41	0.00	4.41	
Running	11.62	0.00	0.66	0.00	0.11	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	12.45	0.00	12.45	
Resting	3.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.96	0.00	3.96	
Total	37.42	0.04	0.90	0.15	0.23	0.06	0.00	0.84	0.08	0.01	0.00	0.04	0.06	0.01	0.01	0.01	38.71	1.16	39.87	
Carbon Monoxide Emissions																				
Run Exhaust	236.19	0.85	0.46	0.68	0.24	0.45	0.23	6.47	0.10	0.05	0.02	18.50	0.06	0.05	0.08	0.03	237.38	27.07	264.46	
Idle Exhaust	0.00	0.00	0.32	0.09	0.21	0.27	0.00	7.41	0.04	0.09	0.00	0.00	0.35	0.07	0.00	0.00	0.90	7.93	8.84	
Start Exhaust	83.48	0.00	1.70	0.00	1.14	0.00	0.01	0.00	0.31	0.00	0.01	0.00	0.09	0.00	0.01	0.00	86.73	0.00	86.73	
Total Exhaust	319.67	0.85	2.47	0.77	1.59	0.72	0.24	13.89	0.44	0.14	0.03	18.50	0.49	0.11	0.09	0.03	325.02	35.01	360.03	
Oxides of Nitrogen Emissions																				
Run Exhaust	9.87	0.08	0.16	1.28	0.08	3.89	0.02	11.45	0.03	0.40	0.01	0.19	0.03	0.66	0.04	0.36	10.23	18.31	28.55	
Idle Exhaust	0.00	0.00	0.00	0.13	0.00	0.26	0.00	2.45	0.00	0.03	0.00	0.00	0.00	0.17	0.00	0.00	0.01	3.04	3.05	
Start Exhaust	6.57	0.00	0.45	0.00	0.11	1.40	0.00	1.15	0.03	0.09	0.00	0.00	0.01	0.14	0.00	0.00	7.17	2.78	9.95	
Total Exhaust	16.44	0.08	0.62	1.41	0.18	5.55	0.02	15.05	0.06	0.52	0.01	0.19	0.04	0.97	0.04	0.36	17.41	24.13	41.54	
PM2.5 Emissions																				
Run Exhaust	0.32	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.32	0.24	0.56	
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	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.06	
Total Exhaust	0.37	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.38	0.24	0.62	
Tire Wear	0.80	0.01	0.01	0.01	0.00	0.02	0.00	0.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.82	0.19	1.00	
Brake Wear	6.32	0.08	0.10	0.12	0.05	0.40	0.00	0.37	0.01	0.02	0.00	0.02	0.05	0.07	0.02	0.01	6.56	1.10	7.66	
Total	7.50	0.10	0.11	0.17	0.06	0.46	0.00	0.66	0.01	0.03	0.00	0.02	0.05	0.08	0.02	0.02	7.75	1.53	9.28	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	10101.69	100.47	236.35	144.37	158.56	542.19	1.83	1638.38	36.21	38.29	16.19	157.32	14.86	24.65	51.00	11.04	10616.69	2656.72	13273.40	
SOx	0.95	0.01	0.02	0.01	0.01	0.05	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.24	1.22	

Attachment D

Table D-28

2035 Summer Planning 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		Grand Total
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	
Vehicles	11232616	140300	86693	109211	20495	125801	83	110936	6041	5862	1026	5724	4370	7109	32993	15967	11384316	520909	11905225
VMT	366870498	4787919	2843256	3617428	963501	7239411	10006	14109895	215522	396366	96102	625576	155728	226922	309065	134393	371463678	31137908	402601586
Reactive Organic Gas Emissions																			
Run Exhaust	5.96	0.04	0.01	0.13	0.01	0.05	0.00	0.31	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.01	6.00	0.58	6.58
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.54	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.10	0.56	0.66
Start Exhaust	6.15	0.00	0.07	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.30	0.00	6.30
Total Exhaust	12.11	0.04	0.11	0.14	0.09	0.06	0.00	0.85	0.02	0.01	0.00	0.03	0.05	0.01	0.00	0.01	12.39	1.14	13.54
Diurnal	4.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.50	0.00	4.50
Hot Soak	3.96	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	0.00	0.00	4.08	0.00	4.08
Running	11.03	0.00	0.44	0.00	0.11	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	11.64	0.00	11.64
Resting	3.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.77	0.00	3.77
Total	35.36	0.04	0.65	0.14	0.22	0.06	0.00	0.85	0.08	0.01	0.00	0.03	0.06	0.01	0.01	0.01	36.38	1.14	37.53
Carbon Monoxide Emissions																			
Run Exhaust	227.98	0.85	0.37	0.60	0.20	0.43	0.23	6.49	0.09	0.05	0.01	14.79	0.04	0.04	0.07	0.03	228.98	23.27	252.25
Idle Exhaust	0.00	0.00	0.30	0.09	0.20	0.26	0.00	7.50	0.03	0.09	0.00	0.00	0.35	0.07	0.00	0.00	0.88	8.01	8.89
Start Exhaust	82.16	0.00	1.58	0.00	1.06	0.00	0.01	0.00	0.29	0.00	0.01	0.00	0.09	0.00	0.01	0.00	85.21	0.00	85.21
Total Exhaust	310.14	0.85	2.25	0.69	1.45	0.69	0.23	13.99	0.41	0.14	0.03	14.79	0.47	0.11	0.08	0.03	315.07	31.28	346.35
Oxides of Nitrogen Emissions																			
Run Exhaust	9.26	0.07	0.13	0.98	0.06	3.48	0.02	10.73	0.03	0.38	0.01	0.15	0.02	0.53	0.03	0.35	9.56	16.67	26.23
Idle Exhaust	0.00	0.00	0.00	0.13	0.00	0.23	0.00	2.39	0.00	0.03	0.00	0.00	0.00	0.14	0.00	0.00	0.01	2.91	2.92
Start Exhaust	6.40	0.00	0.42	0.00	0.10	1.26	0.00	1.09	0.03	0.09	0.00	0.00	0.01	0.14	0.00	0.00	6.96	2.58	9.54
Total Exhaust	15.67	0.07	0.55	1.10	0.16	4.97	0.02	14.21	0.06	0.50	0.01	0.15	0.03	0.81	0.03	0.35	16.53	22.16	38.69
PM2.5 Emissions																			
Run Exhaust	0.28	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.29	0.24	0.52
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05
Total Exhaust	0.34	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.34	0.24	0.58
Tire Wear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.82	0.19	1.01
Brake Wear	6.35	0.08	0.09	0.12	0.05	0.39	0.00	0.38	0.01	0.02	0.00	0.02	0.05	0.07	0.02	0.01	6.58	1.10	7.68
Total	7.49	0.10	0.10	0.17	0.06	0.46	0.00	0.67	0.01	0.03	0.00	0.02	0.05	0.08	0.02	0.01	7.74	1.54	9.27
Fuel Consumption (1000 gallons) and SO2																			
Fuel	9877.84	100.28	230.74	144.48	156.65	545.56	1.86	1644.16	35.51	38.54	15.89	159.06	15.24	24.39	50.32	11.01	10384.04	2667.48	13051.53
SOx	0.93	0.01	0.02	0.01	0.01	0.05	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.23	1.19

Attachment D

Table D-29

2036 Summer Planning 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		Grand Total	
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel		
Vehicles	11351674	142797	87146	111361	20709	127732	86	112080	6081	5936	1032	5755	4465	7192	33271	16202	11504462	529056	12033518	
VMT	368147993	4827093	2842082	3648909	967441	7340030	10165	14376700	215684	401480	96629	629004	158214	229634	309990	135251	372748199	31588100	404336299	
Reactive Organic Gas Emissions																				
Run Exhaust	5.87	0.04	0.01	0.13	0.01	0.05	0.00	0.31	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.01	5.91	0.57	6.48	
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.54	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.10	0.57	0.67	
Start Exhaust	5.94	0.00	0.06	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.09	0.00	6.09	
Total Exhaust	11.82	0.04	0.10	0.14	0.09	0.06	0.00	0.85	0.02	0.01	0.00	0.03	0.05	0.01	0.00	0.01	12.09	1.14	13.23	
Diurnal	4.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.40	0.00	4.40	
Hot Soak	3.82	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	0.00	0.00	3.94	0.00	3.94	
Running	10.80	0.00	0.42	0.00	0.11	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	11.38	0.00	11.38	
Resting	3.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.68	0.00	3.68	
Total	34.51	0.04	0.61	0.14	0.22	0.06	0.00	0.85	0.07	0.01	0.00	0.03	0.07	0.01	0.01	0.01	35.50	1.14	36.63	
Carbon Monoxide Emissions																				
Run Exhaust	224.99	0.85	0.34	0.57	0.18	0.42	0.22	6.48	0.08	0.05	0.01	13.17	0.03	0.04	0.07	0.03	225.92	21.61	247.53	
Idle Exhaust	0.00	0.00	0.29	0.09	0.19	0.26	0.00	7.56	0.03	0.09	0.00	0.00	0.35	0.07	0.00	0.00	0.86	8.06	8.92	
Start Exhaust	81.76	0.00	1.52	0.00	1.02	0.00	0.01	0.00	0.29	0.00	0.01	0.00	0.09	0.00	0.01	0.00	84.70	0.00	84.70	
Total Exhaust	306.75	0.85	2.15	0.66	1.39	0.67	0.23	14.04	0.40	0.14	0.02	13.17	0.47	0.11	0.07	0.03	311.48	29.67	341.15	
Oxides of Nitrogen Emissions																				
Run Exhaust	9.04	0.07	0.12	0.85	0.06	3.30	0.02	10.49	0.02	0.37	0.01	0.14	0.02	0.47	0.03	0.34	9.32	16.04	25.35	
Idle Exhaust	0.00	0.00	0.00	0.12	0.00	0.21	0.00	2.37	0.00	0.03	0.00	0.00	0.00	0.13	0.00	0.00	0.01	2.87	2.87	
Start Exhaust	6.36	0.00	0.40	0.00	0.09	1.20	0.00	1.06	0.03	0.09	0.00	0.00	0.01	0.14	0.00	0.00	6.90	2.49	9.39	
Total Exhaust	15.40	0.07	0.52	0.98	0.15	4.71	0.02	13.92	0.05	0.49	0.01	0.14	0.03	0.74	0.03	0.34	16.22	21.40	37.62	
PM2.5 Emissions																				
Run Exhaust	0.27	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.27	0.23	0.51	
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	
Total Exhaust	0.32	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.32	0.24	0.56	
Tire Wear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.82	0.20	1.02	
Brake Wear	6.37	0.08	0.09	0.12	0.05	0.39	0.00	0.39	0.01	0.02	0.00	0.01	0.05	0.07	0.02	0.01	6.60	1.11	7.70	
Total	7.50	0.10	0.10	0.16	0.05	0.45	0.00	0.68	0.01	0.03	0.00	0.02	0.05	0.08	0.02	0.01	7.74	1.54	9.28	
Fuel Consumption (1000 gallons) and SO2																				
Fuel	9804.92	100.33	228.93	144.73	155.95	548.67	1.87	1651.87	35.26	38.70	15.96	159.94	15.36	24.29	50.10	11.00	10308.35	2679.54	12987.89	
SOx	0.92	0.01	0.02	0.01	0.01	0.05	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.22	1.18	

Attachment D

Table D-30

2037 Summer Planning 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		Grand Total
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	
Vehicles	11469713	145129	87670	113399	20925	129618	88	113315	6132	6009	1037	5786	4543	7284	33578	16424	11623686	536965	12160651
VMT	369434943	4862470	2843044	3678440	971785	7441627	10310	14648586	215998	406517	97156	632432	160091	232554	311060	136058	374044388	32038683	406083071
Reactive Organic Gas Emissions																			
Run Exhaust	5.80	0.04	0.01	0.12	0.01	0.05	0.00	0.31	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.01	5.84	0.56	6.40
Idle Exhaust	0.00	0.00	0.03	0.01	0.02	0.01	0.00	0.55	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.10	0.57	0.67
Start Exhaust	5.77	0.00	0.06	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.91	0.00	5.91
Total Exhaust	11.57	0.04	0.10	0.14	0.09	0.06	0.00	0.86	0.02	0.01	0.00	0.02	0.05	0.01	0.00	0.01	11.84	1.13	12.98
Diurnal	4.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.32	0.00	4.32
Hot Soak	3.71	0.00	0.08	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.82	0.00	3.82
Running	10.60	0.00	0.40	0.00	0.10	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	11.16	0.00	11.16
Resting	3.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.61	0.00	3.61
Total	33.80	0.04	0.59	0.14	0.21	0.06	0.00	0.86	0.07	0.01	0.00	0.02	0.07	0.01	0.01	0.01	34.75	1.13	35.88
Carbon Monoxide Emissions																			
Run Exhaust	222.77	0.85	0.31	0.54	0.17	0.41	0.22	6.46	0.08	0.05	0.01	10.43	0.03	0.04	0.06	0.03	223.64	18.80	242.44
Idle Exhaust	0.00	0.00	0.28	0.09	0.19	0.25	0.00	7.63	0.03	0.09	0.00	0.00	0.35	0.07	0.00	0.00	0.85	8.12	8.97
Start Exhaust	81.47	0.00	1.47	0.00	0.98	0.00	0.01	0.00	0.28	0.00	0.01	0.00	0.09	0.00	0.01	0.00	84.30	0.00	84.30
Total Exhaust	304.23	0.85	2.06	0.62	1.33	0.66	0.22	14.09	0.39	0.14	0.02	10.43	0.46	0.11	0.07	0.03	308.79	26.92	335.71
Oxides of Nitrogen Emissions																			
Run Exhaust	8.86	0.07	0.11	0.74	0.05	3.13	0.02	10.28	0.02	0.37	0.01	0.11	0.02	0.43	0.03	0.34	9.12	15.46	24.58
Idle Exhaust	0.00	0.00	0.00	0.12	0.00	0.20	0.00	2.37	0.00	0.03	0.00	0.00	0.00	0.12	0.00	0.00	0.01	2.83	2.84
Start Exhaust	6.34	0.00	0.39	0.00	0.09	1.14	0.00	1.04	0.03	0.09	0.00	0.00	0.01	0.14	0.00	0.00	6.86	2.41	9.27
Total Exhaust	15.21	0.07	0.50	0.86	0.14	4.46	0.02	13.69	0.05	0.48	0.01	0.11	0.03	0.68	0.03	0.34	15.99	20.70	36.69
PM2.5 Emissions																			
Run Exhaust	0.26	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.26	0.23	0.49
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	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05
Total Exhaust	0.31	0.01	0.00	0.03	0.00	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.31	0.23	0.55
Tire Wear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.82	0.20	1.02
Brake Wear	6.39	0.08	0.09	0.12	0.05	0.39	0.00	0.39	0.01	0.03	0.00	0.01	0.05	0.07	0.02	0.01	6.62	1.11	7.73
Total	7.51	0.10	0.10	0.16	0.05	0.45	0.00	0.69	0.01	0.03	0.00	0.02	0.05	0.08	0.02	0.01	7.75	1.54	9.30
Fuel Consumption (1000 gallons) and SO2																			
Fuel	9748.92	100.37	227.40	144.97	155.43	551.26	1.88	1659.95	35.08	38.87	15.99	160.81	15.41	24.24	49.94	11.00	10250.05	2691.45	12941.50
SOx	0.91	0.01	0.02	0.01	0.01	0.04	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.22	1.17

Attachment E

Attachment E:

Diesel Emissions in South Coast Air Basin

Attachment E

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

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.17	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.17
30	Oil and Gas Production (combustion)	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03
40	Petroleum Refining (Combustion)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	Manufacturing and Industrial	0.15	0.16	0.57	2.85	0.01	0.02	0.02	0.02	0.05	0.16	0.60
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.09
60	Service and Commercial	0.10	0.08	0.93	0.24	0.00	0.07	0.07	0.07	0.00	0.10	1.10
99	Other (Fuel Combustion)	0.80	0.61	2.84	1.21	0.07	0.40	0.38	0.37	0.25	0.68	3.16
430	Mineral Processes	0.10	0.08	0.06	0.07	0.02	0.74	0.08	0.06	0.04	0.09	0.08
710	Light Duty Passenger Auto (LDA)	0.05	0.05	0.26	0.50	0.00	0.03	0.03	0.03	7.18	0.05	0.25
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.86	0.00	0.02
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.03	0.06	0.00	0.00	0.00	0.00	2.43	0.01	0.02
724	Medium Duty Trucks (T3)	0.02	0.01	0.08	0.21	0.00	0.01	0.01	0.01	1.72	0.01	0.07
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.30	0.26	8.02	1.72	0.01	0.06	0.06	0.06	0.34	0.26	7.61
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.10	0.09	2.66	0.58	0.01	0.02	0.02	0.02	0.14	0.09	2.52
744	Medium Heavy Duty Diesel Truck (T6)	1.30	1.14	24.21	4.14	0.06	0.77	0.77	0.73	0.85	1.14	22.99
746	Heavy Heavy Duty Diesel Trucks (HHD)	3.46	2.31	61.42	13.04	0.16	1.03	1.02	0.98	1.73	2.32	58.41
760	Diesel Urban Buses (UB)	5.08	0.24	1.99	24.37	0.00	0.00	0.00	0.00	0.60	0.24	1.99
772	Diesel School Buses (SB)	0.04	0.03	2.23	0.12	0.00	0.01	0.01	0.01	0.02	0.03	2.14
778	Motor Coaches	0.05	0.05	0.89	0.20	0.00	0.02	0.02	0.02	0.02	0.05	0.85
779	Diesel Other Buses (OB)	0.06	0.06	0.95	0.18	0.00	0.03	0.03	0.03	0.04	0.06	0.90
780	Motor Homes (MH)	0.01	0.01	0.55	0.04	0.00	0.02	0.02	0.01	0.03	0.01	0.52
820	Trains	0.82	0.69	15.10	3.55	0.02	0.37	0.37	0.34	0.01	0.69	15.10
833	Ocean Going Vessels	1.71	1.44	30.62	4.16	1.57	0.53	0.53	0.49	0.02	1.44	30.62
835	Commercial Harbor Crafts	0.39	0.33	5.86	1.25	0.00	0.25	0.25	0.23	0.00	0.33	5.86
840	Recreational Boats	0.21	0.17	0.59	0.26	0.00	0.01	0.01	0.01	0.00	0.26	0.87
860	Off-Road Equipment	5.42	4.51	37.91	24.45	0.05	1.79	1.79	1.64	0.05	4.98	42.75
861	Off-Road Equipment (PERP)	0.90	0.76	8.83	4.80	0.01	0.34	0.34	0.31	0.01	0.76	8.83
870	Farm Equipment	0.12	0.10	0.61	0.43	0.00	0.04	0.04	0.03	0.00	0.12	0.74
Total		21.22	13.20	207.49	88.49	2.01	6.57	5.89	5.49	16.40	13.88	208.30

Attachment E

TABLE E-2
2022 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.14	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.18
30	Oil and Gas Production (combustion)	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.15	0.16	0.55	2.88	0.01	0.02	0.02	0.02	0.05	0.16	0.58
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.09
60	Service and Commercial	0.10	0.09	1.06	0.25	0.00	0.08	0.08	0.07	0.00	0.10	1.27
99	Other (Fuel Combustion)	0.78	0.59	2.38	1.11	0.17	0.40	0.38	0.37	0.27	0.66	2.64
430	Mineral Processes	0.10	0.08	0.17	0.07	0.10	0.74	0.08	0.06	0.04	0.10	0.19
710	Light Duty Passenger Auto (LDA)	0.04	0.04	0.15	0.50	0.00	0.02	0.02	0.02	8.14	0.04	0.15
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.96	0.00	0.01
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.08	0.00	0.00	0.00	0.00	2.74	0.01	0.02
724	Medium Duty Trucks (T3)	0.02	0.02	0.06	0.26	0.00	0.01	0.01	0.01	1.82	0.02	0.06
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.22	0.19	4.73	1.21	0.01	0.04	0.04	0.04	0.46	0.19	4.49
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.08	0.07	1.59	0.43	0.00	0.02	0.02	0.02	0.18	0.07	1.51
744	Medium Heavy Duty Diesel Truck (T6)	0.40	0.35	13.61	1.71	0.06	0.26	0.25	0.24	1.30	0.35	12.99
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.43	1.26	46.83	12.10	0.17	0.35	0.35	0.33	2.38	1.28	44.57
760	Diesel Urban Buses (UB)	4.12	0.06	0.31	31.34	0.00	0.00	0.00	0.00	0.62	0.06	0.31
772	Diesel School Buses (SB)	0.03	0.03	1.98	0.12	0.00	0.01	0.01	0.01	0.02	0.03	1.90
778	Motor Coaches	0.02	0.01	0.46	0.10	0.00	0.00	0.00	0.00	0.04	0.01	0.44
779	Diesel Other Buses (OB)	0.01	0.01	0.50	0.05	0.00	0.01	0.01	0.01	0.07	0.01	0.47
780	Motor Homes (MH)	0.01	0.01	0.48	0.04	0.00	0.01	0.01	0.01	0.03	0.01	0.46
820	Trains	0.81	0.68	15.87	3.83	0.02	0.37	0.37	0.34	0.01	0.68	15.88
833	Ocean Going Vessels	1.78	1.49	30.62	4.34	1.64	0.55	0.55	0.51	0.02	1.49	30.62
835	Commercial Harbor Crafts	0.39	0.33	5.76	1.23	0.00	0.24	0.24	0.23	0.00	0.33	5.76
840	Recreational Boats	0.20	0.17	0.57	0.25	0.00	0.01	0.01	0.01	0.00	0.25	0.85
860	Off-Road Equipment	3.94	3.30	23.68	16.47	0.04	1.14	1.13	1.04	0.01	3.67	26.37
861	Off-Road Equipment (PERP)	0.64	0.54	5.38	4.59	0.01	0.19	0.19	0.17	0.01	0.54	5.38
870	Farm Equipment	0.10	0.08	0.47	0.39	0.00	0.03	0.03	0.03	0.00	0.10	0.58
Total		16.39	9.59	157.50	83.41	2.26	4.51	3.83	3.55	19.18	10.17	157.79

Attachment E

**TABLE E-3
2023 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN**

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.14	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.18
30	Oil and Gas Production (combustion)	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.15	0.16	0.55	2.90	0.01	0.02	0.02	0.02	0.05	0.17	0.59
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.09
60	Service and Commercial	0.10	0.09	1.07	0.26	0.00	0.08	0.08	0.07	0.00	0.10	1.28
99	Other (Fuel Combustion)	0.78	0.60	2.38	1.11	0.17	0.40	0.39	0.37	0.27	0.66	2.65
430	Mineral Processes	0.11	0.08	0.17	0.07	0.10	0.74	0.08	0.06	0.04	0.10	0.19
710	Light Duty Passenger Auto (LDA)	0.04	0.03	0.13	0.49	0.00	0.02	0.02	0.02	8.35	0.03	0.13
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.99	0.00	0.01
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.09	0.00	0.00	0.00	0.00	2.81	0.01	0.02
724	Medium Duty Trucks (T3)	0.02	0.01	0.05	0.27	0.00	0.01	0.01	0.01	1.84	0.01	0.05
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.21	0.18	4.14	1.12	0.01	0.04	0.04	0.04	0.48	0.18	3.93
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.07	0.07	1.40	0.40	0.00	0.02	0.02	0.02	0.19	0.07	1.33
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	9.53	0.69	0.06	0.05	0.05	0.05	1.48	0.06	9.13
746	Heavy Heavy Duty Diesel Trucks (HHD)	1.90	0.76	34.94	11.81	0.16	0.25	0.24	0.23	2.71	0.79	33.23
760	Diesel Urban Buses (UB)	4.14	0.06	0.31	31.52	0.00	0.00	0.00	0.00	0.62	0.06	0.31
772	Diesel School Buses (SB)	0.03	0.03	1.91	0.12	0.00	0.01	0.01	0.01	0.02	0.03	1.83
778	Motor Coaches	0.01	0.01	0.33	0.08	0.00	0.00	0.00	0.00	0.04	0.01	0.31
779	Diesel Other Buses (OB)	0.00	0.00	0.37	0.02	0.00	0.00	0.00	0.00	0.07	0.00	0.35
780	Motor Homes (MH)	0.01	0.01	0.47	0.04	0.00	0.01	0.01	0.01	0.03	0.01	0.44
820	Trains	0.83	0.69	16.13	3.90	0.02	0.37	0.37	0.34	0.01	0.69	16.13
833	Ocean Going Vessels	1.72	1.45	29.47	4.25	1.60	0.54	0.54	0.49	0.02	1.45	29.47
835	Commercial Harbor Crafts	0.39	0.33	5.77	1.22	0.00	0.25	0.25	0.23	0.00	0.33	5.77
840	Recreational Boats	0.20	0.17	0.57	0.25	0.00	0.01	0.01	0.01	0.00	0.25	0.84
860	Off-Road Equipment	3.75	3.12	22.11	16.34	0.04	1.06	1.06	0.97	0.02	3.46	24.57
861	Off-Road Equipment (PERP)	0.63	0.53	5.16	4.72	0.01	0.18	0.18	0.16	0.01	0.53	5.16
870	Farm Equipment	0.09	0.08	0.45	0.39	0.00	0.03	0.03	0.03	0.00	0.09	0.54
Total		15.27	8.54	137.69	82.12	2.22	4.10	3.42	3.16	20.07	9.10	138.60

Attachment E

**TABLE E-4
2024 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN**

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.14	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.18
30	Oil and Gas Production (combustion)	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.16	0.16	0.55	2.92	0.01	0.02	0.02	0.02	0.05	0.17	0.59
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.09
60	Service and Commercial	0.10	0.09	1.08	0.26	0.00	0.08	0.08	0.07	0.00	0.10	1.29
99	Other (Fuel Combustion)	0.79	0.61	2.38	1.12	0.17	0.41	0.39	0.38	0.27	0.67	2.65
430	Mineral Processes	0.11	0.08	0.17	0.07	0.10	0.74	0.08	0.06	0.04	0.10	0.19
710	Light Duty Passenger Auto (LDA)	0.03	0.03	0.11	0.48	0.00	0.01	0.01	0.01	8.49	0.03	0.11
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	1.00	0.00	0.01
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.09	0.00	0.00	0.00	0.00	2.86	0.01	0.02
724	Medium Duty Trucks (T3)	0.02	0.01	0.05	0.28	0.00	0.01	0.01	0.01	1.85	0.01	0.05
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.19	0.17	3.64	1.04	0.01	0.04	0.04	0.04	0.50	0.17	3.46
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.07	0.06	1.24	0.37	0.00	0.02	0.02	0.02	0.20	0.06	1.18
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	8.83	0.71	0.06	0.05	0.05	0.05	1.51	0.06	8.46
746	Heavy Heavy Duty Diesel Trucks (HHD)	1.95	0.78	29.26	12.30	0.16	0.21	0.21	0.20	2.78	0.81	27.84
760	Diesel Urban Buses (UB)	4.08	0.06	0.31	31.15	0.00	0.00	0.00	0.00	0.63	0.06	0.31
772	Diesel School Buses (SB)	0.03	0.03	1.83	0.12	0.00	0.01	0.01	0.01	0.03	0.03	1.75
778	Motor Coaches	0.01	0.01	0.25	0.08	0.00	0.00	0.00	0.00	0.04	0.01	0.24
779	Diesel Other Buses (OB)	0.00	0.00	0.34	0.02	0.00	0.00	0.00	0.00	0.08	0.00	0.33
780	Motor Homes (MH)	0.01	0.01	0.41	0.03	0.00	0.02	0.02	0.02	0.03	0.01	0.39
820	Trains	0.83	0.69	16.36	3.98	0.02	0.37	0.37	0.34	0.01	0.69	16.36
833	Ocean Going Vessels	1.76	1.48	29.77	4.35	1.70	0.55	0.55	0.51	0.02	1.48	29.77
835	Commercial Harbor Crafts	0.39	0.33	5.79	1.22	0.00	0.25	0.25	0.23	0.00	0.33	5.79
840	Recreational Boats	0.20	0.17	0.57	0.25	0.00	0.01	0.01	0.01	0.00	0.25	0.84
860	Off-Road Equipment	3.54	2.94	20.94	16.16	0.04	0.98	0.98	0.90	0.02	3.26	23.20
861	Off-Road Equipment (PERP)	0.63	0.53	4.99	4.81	0.02	0.17	0.17	0.16	0.01	0.53	4.99
870	Farm Equipment	0.09	0.07	0.42	0.38	0.00	0.03	0.03	0.02	0.00	0.09	0.51
Total		15.08	8.40	129.57	82.23	2.33	3.99	3.32	3.06	20.44	8.94	130.62

Attachment E

**TABLE E-5
2025 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN**

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.14	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.14
30	Oil and Gas Production (combustion)	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.16	0.16	0.57	2.93	0.01	0.02	0.02	0.02	0.05	0.17	0.60
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.09
60	Service and Commercial	0.10	0.09	1.13	0.26	0.00	0.08	0.08	0.07	0.00	0.10	1.33
99	Other (Fuel Combustion)	0.79	0.61	2.39	1.13	0.17	0.42	0.40	0.39	0.28	0.67	2.66
430	Mineral Processes	0.11	0.08	0.21	0.07	0.10	0.74	0.08	0.06	0.04	0.10	0.28
710	Light Duty Passenger Auto (LDA)	0.03	0.03	0.10	0.47	0.00	0.01	0.01	0.01	8.61	0.03	0.09
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	1.02	0.00	0.01
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.09	0.00	0.00	0.00	0.00	2.91	0.01	0.02
724	Medium Duty Trucks (T3)	0.02	0.01	0.05	0.28	0.00	0.01	0.01	0.00	1.86	0.01	0.04
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.18	0.16	3.19	0.96	0.01	0.04	0.04	0.03	0.52	0.16	3.03
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.07	0.06	1.10	0.35	0.00	0.02	0.02	0.02	0.20	0.06	1.05
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	8.20	0.73	0.06	0.04	0.04	0.04	1.55	0.06	7.86
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.00	0.80	23.31	12.74	0.17	0.17	0.17	0.16	2.86	0.82	22.18
760	Diesel Urban Buses (UB)	4.05	0.06	0.31	30.95	0.00	0.00	0.00	0.00	0.63	0.06	0.31
772	Diesel School Buses (SB)	0.03	0.03	1.74	0.12	0.00	0.00	0.00	0.00	0.03	0.03	1.67
778	Motor Coaches	0.01	0.01	0.23	0.09	0.00	0.00	0.00	0.00	0.04	0.01	0.22
779	Diesel Other Buses (OB)	0.00	0.00	0.37	0.03	0.00	0.00	0.00	0.00	0.08	0.00	0.35
780	Motor Homes (MH)	0.01	0.01	0.45	0.04	0.00	0.01	0.01	0.01	0.03	0.01	0.43
820	Trains	0.81	0.68	16.43	4.05	0.02	0.37	0.37	0.34	0.01	0.68	16.44
833	Ocean Going Vessels	1.74	1.47	29.39	4.33	1.69	0.54	0.54	0.50	0.02	1.47	29.39
835	Commercial Harbor Crafts	0.39	0.33	5.79	1.22	0.00	0.25	0.25	0.23	0.00	0.33	5.79
840	Recreational Boats	0.20	0.17	0.56	0.25	0.00	0.01	0.01	0.01	0.00	0.25	0.84
860	Off-Road Equipment	3.43	2.85	19.85	15.97	0.04	0.92	0.92	0.84	0.02	3.16	21.94
861	Off-Road Equipment (PERP)	0.59	0.49	4.25	4.90	0.02	0.13	0.13	0.12	0.01	0.49	4.25
870	Farm Equipment	0.08	0.07	0.40	0.37	0.00	0.02	0.02	0.02	0.00	0.09	0.49
Total		14.90	8.25	120.32	82.37	2.32	3.82	3.15	2.90	20.78	8.78	121.52

Attachment E

**TABLE E-6
2026 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN**

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.14	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.14
30	Oil and Gas Production (combustion)	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.16	0.17	0.57	2.95	0.01	0.02	0.02	0.02	0.05	0.17	0.60
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.09
60	Service and Commercial	0.10	0.09	1.15	0.26	0.00	0.08	0.08	0.08	0.00	0.11	1.35
99	Other (Fuel Combustion)	0.80	0.62	2.39	1.13	0.07	0.42	0.41	0.39	0.28	0.68	2.66
430	Mineral Processes	0.11	0.09	0.22	0.07	0.02	0.74	0.08	0.06	0.04	0.10	0.29
710	Light Duty Passenger Auto (LDA)	0.03	0.02	0.08	0.46	0.00	0.01	0.01	0.01	8.76	0.02	0.08
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	1.04	0.00	0.00
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.10	0.00	0.00	0.00	0.00	2.98	0.01	0.02
724	Medium Duty Trucks (T3)	0.02	0.01	0.04	0.28	0.00	0.00	0.00	0.00	1.88	0.01	0.04
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.17	0.15	2.77	0.89	0.01	0.03	0.03	0.03	0.53	0.15	2.64
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.06	0.06	0.97	0.33	0.00	0.02	0.02	0.01	0.21	0.06	0.92
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	7.96	0.74	0.06	0.04	0.04	0.04	1.57	0.06	7.63
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.03	0.80	21.90	13.04	0.17	0.16	0.16	0.15	2.92	0.83	20.84
760	Diesel Urban Buses (UB)	4.04	0.06	0.31	30.94	0.00	0.00	0.00	0.00	0.63	0.06	0.31
772	Diesel School Buses (SB)	0.03	0.02	1.66	0.12	0.00	0.00	0.00	0.00	0.03	0.02	1.59
778	Motor Coaches	0.01	0.01	0.21	0.09	0.00	0.00	0.00	0.00	0.04	0.01	0.20
779	Diesel Other Buses (OB)	0.00	0.00	0.37	0.03	0.00	0.00	0.00	0.00	0.08	0.00	0.35
780	Motor Homes (MH)	0.01	0.01	0.44	0.03	0.00	0.01	0.01	0.01	0.03	0.01	0.42
820	Trains	0.83	0.70	16.68	4.13	0.02	0.37	0.37	0.34	0.01	0.70	16.69
833	Ocean Going Vessels	1.77	1.49	29.71	4.40	1.72	0.55	0.55	0.51	0.02	1.49	29.71
835	Commercial Harbor Crafts	0.39	0.33	5.79	1.21	0.00	0.25	0.25	0.23	0.00	0.33	5.79
840	Recreational Boats	0.20	0.17	0.56	0.25	0.00	0.01	0.01	0.01	0.00	0.25	0.83
860	Off-Road Equipment	3.37	2.77	18.77	15.92	0.04	0.86	0.86	0.78	0.03	3.05	20.69
861	Off-Road Equipment (PERP)	0.59	0.49	4.16	5.00	0.02	0.13	0.13	0.12	0.01	0.49	4.16
870	Farm Equipment	0.08	0.07	0.38	0.37	0.00	0.02	0.02	0.02	0.00	0.08	0.46
Total		14.89	8.20	117.36	82.78	2.16	3.76	3.09	2.85	21.15	8.70	118.52

Attachment E

**TABLE E-7
2027 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN**

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.13	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.13
30	Oil and Gas Production (combustion)	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.16	0.17	0.57	2.96	0.01	0.02	0.02	0.02	0.05	0.17	0.61
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.09
60	Service and Commercial	0.10	0.09	1.16	0.27	0.00	0.08	0.08	0.08	0.00	0.11	1.36
99	Other (Fuel Combustion)	0.81	0.62	2.39	1.14	0.07	0.43	0.41	0.40	0.28	0.68	2.66
430	Mineral Processes	0.11	0.09	0.22	0.07	0.02	0.74	0.08	0.06	0.04	0.10	0.29
710	Light Duty Passenger Auto (LDA)	0.02	0.02	0.07	0.46	0.00	0.01	0.01	0.01	8.88	0.02	0.06
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05	0.00	0.00
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.10	0.00	0.00	0.00	0.00	3.03	0.01	0.02
724	Medium Duty Trucks (T3)	0.01	0.01	0.04	0.29	0.00	0.00	0.00	0.00	1.90	0.01	0.04
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.16	0.14	2.41	0.82	0.01	0.03	0.03	0.03	0.54	0.14	2.29
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.06	0.05	0.85	0.31	0.00	0.02	0.02	0.01	0.21	0.05	0.81
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	7.72	0.75	0.06	0.04	0.04	0.04	1.59	0.06	7.41
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.06	0.81	20.89	13.28	0.16	0.16	0.16	0.15	2.98	0.84	19.88
760	Diesel Urban Buses (UB)	3.92	0.06	0.31	30.09	0.00	0.00	0.00	0.00	0.64	0.06	0.31
772	Diesel School Buses (SB)	0.03	0.02	1.57	0.12	0.00	0.00	0.00	0.00	0.03	0.02	1.50
778	Motor Coaches	0.01	0.01	0.21	0.09	0.00	0.00	0.00	0.00	0.04	0.01	0.20
779	Diesel Other Buses (OB)	0.00	0.00	0.37	0.03	0.00	0.00	0.00	0.00	0.08	0.00	0.36
780	Motor Homes (MH)	0.01	0.01	0.43	0.03	0.00	0.01	0.01	0.01	0.03	0.01	0.41
820	Trains	0.84	0.70	16.97	4.21	0.02	0.37	0.37	0.34	0.01	0.70	16.97
833	Ocean Going Vessels	1.79	1.51	29.80	4.46	1.74	0.56	0.56	0.52	0.02	1.51	29.80
835	Commercial Harbor Crafts	0.38	0.32	5.77	1.21	0.00	0.25	0.25	0.23	0.00	0.32	5.77
840	Recreational Boats	0.20	0.17	0.56	0.25	0.00	0.01	0.01	0.01	0.00	0.25	0.83
860	Off-Road Equipment	3.29	2.72	17.91	15.83	0.04	0.81	0.80	0.73	0.03	2.99	19.68
861	Off-Road Equipment (PERP)	0.56	0.47	3.65	5.10	0.02	0.10	0.10	0.10	0.01	0.47	3.65
870	Farm Equipment	0.08	0.06	0.36	0.36	0.00	0.02	0.02	0.02	0.00	0.08	0.43
Total		14.70	8.14	114.50	82.26	2.18	3.70	3.02	2.79	21.47	8.63	115.60

Attachment E

TABLE E-8
2029 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.12	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.12
30	Oil and Gas Production (combustion)	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.16	0.17	0.57	2.96	0.01	0.02	0.02	0.02	0.05	0.17	0.61
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.09
60	Service and Commercial	0.11	0.09	1.19	0.27	0.00	0.08	0.08	0.08	0.00	0.11	1.39
99	Other (Fuel Combustion)	0.81	0.63	2.40	1.14	0.08	0.43	0.42	0.40	0.28	0.69	2.67
430	Mineral Processes	0.11	0.09	0.22	0.07	0.02	0.74	0.09	0.06	0.04	0.10	0.29
710	Light Duty Passenger Auto (LDA)	0.02	0.02	0.05	0.45	0.00	0.01	0.01	0.01	9.12	0.02	0.05
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08	0.00	0.00
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.11	0.00	0.00	0.00	0.00	3.13	0.01	0.02
724	Medium Duty Trucks (T3)	0.01	0.01	0.03	0.29	0.00	0.00	0.00	0.00	1.94	0.01	0.03
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.15	0.13	1.82	0.71	0.01	0.03	0.03	0.03	0.56	0.13	1.73
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.06	0.05	0.67	0.27	0.00	0.01	0.01	0.01	0.22	0.05	0.64
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	7.01	0.76	0.06	0.04	0.04	0.04	1.63	0.06	6.73
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.11	0.81	18.40	13.65	0.16	0.16	0.16	0.15	3.10	0.84	17.50
760	Diesel Urban Buses (UB)	3.52	0.05	0.30	27.06	0.00	0.00	0.00	0.00	0.65	0.05	0.30
772	Diesel School Buses (SB)	0.02	0.02	1.38	0.12	0.00	0.00	0.00	0.00	0.03	0.02	1.33
778	Motor Coaches	0.01	0.01	0.19	0.10	0.00	0.00	0.00	0.00	0.04	0.01	0.18
779	Diesel Other Buses (OB)	0.00	0.00	0.38	0.03	0.00	0.00	0.00	0.00	0.08	0.00	0.36
780	Motor Homes (MH)	0.01	0.01	0.41	0.03	0.00	0.01	0.01	0.01	0.03	0.01	0.39
820	Trains	0.86	0.72	17.54	4.37	0.03	0.38	0.38	0.35	0.01	0.72	17.54
833	Ocean Going Vessels	1.84	1.55	30.43	4.58	1.78	0.58	0.58	0.53	0.02	1.55	30.43
835	Commercial Harbor Crafts	0.38	0.32	5.73	1.19	0.00	0.24	0.24	0.23	0.00	0.32	5.73
840	Recreational Boats	0.20	0.16	0.56	0.25	0.00	0.01	0.01	0.01	0.00	0.24	0.82
860	Off-Road Equipment	3.13	2.60	16.24	15.64	0.05	0.71	0.70	0.64	0.02	2.85	17.77
861	Off-Road Equipment (PERP)	0.57	0.48	3.58	5.30	0.02	0.10	0.10	0.09	0.01	0.48	3.58
870	Farm Equipment	0.07	0.06	0.32	0.35	0.00	0.02	0.02	0.02	0.00	0.07	0.39
Total		14.24	8.06	109.67	79.75	2.22	3.60	2.92	2.70	22.07	8.53	110.71

Attachment E

TABLE E-9
2030 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.11
30	Oil and Gas Production (combustion)	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.16	0.17	0.57	2.95	0.01	0.02	0.02	0.02	0.05	0.17	0.61
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.08
60	Service and Commercial	0.11	0.09	1.20	0.27	0.00	0.08	0.08	0.08	0.00	0.11	1.41
99	Other (Fuel Combustion)	0.81	0.63	2.40	1.14	0.08	0.43	0.42	0.40	0.28	0.69	2.67
430	Mineral Processes	0.11	0.09	0.22	0.07	0.02	0.74	0.08	0.06	0.04	0.10	0.29
710	Light Duty Passenger Auto (LDA)	0.02	0.02	0.04	0.44	0.00	0.00	0.00	0.00	9.16	0.02	0.04
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09	0.00	0.00
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.11	0.00	0.00	0.00	0.00	3.15	0.01	0.02
724	Medium Duty Trucks (T3)	0.01	0.01	0.03	0.29	0.00	0.00	0.00	0.00	1.95	0.01	0.03
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.14	0.12	1.58	0.66	0.01	0.03	0.03	0.02	0.57	0.12	1.51
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.05	0.60	0.26	0.00	0.01	0.01	0.01	0.22	0.05	0.57
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	6.70	0.76	0.05	0.04	0.04	0.04	1.65	0.06	6.43
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.13	0.81	17.62	13.77	0.16	0.16	0.16	0.15	3.16	0.84	16.76
760	Diesel Urban Buses (UB)	3.16	0.05	0.28	24.39	0.00	0.00	0.00	0.00	0.65	0.05	0.28
772	Diesel School Buses (SB)	0.02	0.02	1.29	0.12	0.00	0.00	0.00	0.00	0.03	0.02	1.24
778	Motor Coaches	0.01	0.01	0.18	0.10	0.00	0.00	0.00	0.00	0.04	0.01	0.17
779	Diesel Other Buses (OB)	0.00	0.00	0.39	0.03	0.00	0.00	0.00	0.00	0.08	0.00	0.37
780	Motor Homes (MH)	0.01	0.01	0.40	0.03	0.00	0.01	0.01	0.01	0.03	0.01	0.38
820	Trains	0.86	0.72	17.66	4.45	0.03	0.38	0.38	0.35	0.01	0.72	17.67
833	Ocean Going Vessels	1.87	1.57	30.75	4.65	1.80	0.58	0.58	0.54	0.02	1.57	30.75
835	Commercial Harbor Crafts	0.37	0.31	5.70	1.18	0.00	0.24	0.24	0.23	0.00	0.31	5.70
840	Recreational Boats	0.20	0.16	0.55	0.25	0.00	0.01	0.01	0.01	0.00	0.24	0.82
860	Off-Road Equipment	3.13	2.57	15.76	15.65	0.05	0.67	0.67	0.61	0.04	2.81	17.18
861	Off-Road Equipment (PERP)	0.58	0.49	3.55	5.41	0.02	0.09	0.09	0.08	0.01	0.49	3.55
870	Farm Equipment	0.07	0.06	0.30	0.34	0.00	0.02	0.02	0.02	0.00	0.07	0.37
Total		13.92	8.03	108.01	77.37	2.24	3.57	2.89	2.66	22.26	8.49	109.02

Attachment E

TABLE E-10
2031 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.11
30	Oil and Gas Production (combustion)	0.00	0.00	0.03	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.03
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.16	0.17	0.57	2.95	0.01	0.02	0.02	0.02	0.05	0.17	0.61
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.08
60	Service and Commercial	0.11	0.09	1.21	0.28	0.00	0.08	0.08	0.08	0.00	0.11	1.42
99	Other (Fuel Combustion)	0.82	0.63	2.40	1.14	0.08	0.44	0.42	0.40	0.28	0.69	2.67
430	Mineral Processes	0.11	0.09	0.22	0.07	0.02	0.74	0.08	0.06	0.04	0.10	0.28
710	Light Duty Passenger Auto (LDA)	0.02	0.02	0.04	0.44	0.00	0.00	0.00	0.00	9.19	0.02	0.04
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09	0.00	0.00
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.11	0.00	0.00	0.00	0.00	3.17	0.01	0.02
724	Medium Duty Trucks (T3)	0.01	0.01	0.03	0.29	0.00	0.00	0.00	0.00	1.95	0.01	0.03
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.13	0.12	1.37	0.62	0.01	0.02	0.02	0.02	0.58	0.12	1.31
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.05	0.53	0.24	0.00	0.01	0.01	0.01	0.23	0.05	0.51
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	6.39	0.75	0.05	0.04	0.04	0.04	1.66	0.06	6.13
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.16	0.81	16.96	13.87	0.16	0.16	0.16	0.15	3.22	0.84	16.13
760	Diesel Urban Buses (UB)	2.67	0.04	0.23	20.34	0.00	0.00	0.00	0.00	0.65	0.04	0.23
772	Diesel School Buses (SB)	0.02	0.02	1.19	0.12	0.00	0.00	0.00	0.00	0.04	0.02	1.14
778	Motor Coaches	0.01	0.01	0.18	0.10	0.00	0.00	0.00	0.00	0.04	0.01	0.17
779	Diesel Other Buses (OB)	0.00	0.00	0.39	0.03	0.00	0.00	0.00	0.00	0.08	0.00	0.37
780	Motor Homes (MH)	0.01	0.01	0.40	0.03	0.00	0.01	0.01	0.01	0.03	0.01	0.37
820	Trains	0.85	0.72	17.78	4.54	0.03	0.38	0.38	0.35	0.01	0.72	17.78
833	Ocean Going Vessels	1.89	1.59	30.99	4.72	1.82	0.59	0.59	0.54	0.02	1.59	30.99
835	Commercial Harbor Crafts	0.37	0.31	5.67	1.17	0.00	0.24	0.24	0.23	0.00	0.31	5.67
840	Recreational Boats	0.20	0.16	0.55	0.25	0.00	0.01	0.01	0.01	0.00	0.24	0.82
860	Off-Road Equipment	3.10	2.55	15.32	15.60	0.05	0.64	0.64	0.58	0.04	2.78	16.65
861	Off-Road Equipment (PERP)	0.59	0.49	3.51	5.52	0.02	0.09	0.09	0.08	0.02	0.49	3.51
870	Farm Equipment	0.06	0.05	0.29	0.34	0.00	0.02	0.02	0.02	0.00	0.06	0.35
Total		13.43	8.01	106.46	73.53	2.26	3.53	2.85	2.63	22.42	8.46	107.43

Attachment E

TABLE E-11
2032 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.11
30	Oil and Gas Production (combustion)	0.00	0.00	0.03	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.03
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.16	0.17	0.57	2.94	0.01	0.02	0.02	0.02	0.05	0.17	0.61
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.08
60	Service and Commercial	0.11	0.10	1.22	0.28	0.00	0.08	0.08	0.08	0.00	0.11	1.43
99	Other (Fuel Combustion)	0.82	0.63	2.40	1.14	0.08	0.44	0.42	0.40	0.28	0.69	2.67
430	Mineral Processes	0.11	0.09	0.21	0.07	0.02	0.74	0.08	0.06	0.04	0.10	0.28
710	Light Duty Passenger Auto (LDA)	0.02	0.02	0.04	0.43	0.00	0.00	0.00	0.00	9.27	0.02	0.03
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	0.00	0.00
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.12	0.00	0.00	0.00	0.00	3.21	0.01	0.02
724	Medium Duty Trucks (T3)	0.01	0.01	0.03	0.30	0.00	0.00	0.00	0.00	1.97	0.01	0.02
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.13	0.11	1.20	0.58	0.01	0.02	0.02	0.02	0.58	0.11	1.14
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.04	0.48	0.23	0.00	0.01	0.01	0.01	0.23	0.04	0.46
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	6.08	0.74	0.05	0.04	0.04	0.04	1.68	0.06	5.83
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.18	0.81	16.34	13.93	0.16	0.16	0.16	0.15	3.28	0.84	15.55
760	Diesel Urban Buses (UB)	2.55	0.04	0.21	19.46	0.00	0.00	0.00	0.00	0.66	0.04	0.21
772	Diesel School Buses (SB)	0.02	0.02	1.10	0.12	0.00	0.00	0.00	0.00	0.04	0.02	1.05
778	Motor Coaches	0.01	0.01	0.17	0.11	0.00	0.00	0.00	0.00	0.05	0.01	0.16
779	Diesel Other Buses (OB)	0.00	0.00	0.39	0.03	0.00	0.00	0.00	0.00	0.09	0.00	0.37
780	Motor Homes (MH)	0.01	0.01	0.39	0.03	0.00	0.01	0.01	0.01	0.03	0.01	0.37
820	Trains	0.84	0.71	17.74	4.62	0.03	0.37	0.37	0.34	0.01	0.71	17.75
833	Ocean Going Vessels	1.92	1.61	31.37	4.78	1.85	0.60	0.60	0.55	0.02	1.61	31.37
835	Commercial Harbor Crafts	0.36	0.31	5.64	1.15	0.00	0.24	0.24	0.22	0.00	0.31	5.64
840	Recreational Boats	0.20	0.16	0.55	0.25	0.00	0.01	0.01	0.01	0.00	0.24	0.82
860	Off-Road Equipment	3.06	2.52	14.93	15.47	0.05	0.61	0.61	0.55	0.03	2.74	16.18
861	Off-Road Equipment (PERP)	0.59	0.50	3.48	5.62	0.02	0.09	0.09	0.08	0.02	0.50	3.48
870	Farm Equipment	0.06	0.05	0.27	0.33	0.00	0.02	0.02	0.01	0.00	0.06	0.33
Total		13.29	7.98	105.05	72.75	2.28	3.50	2.82	2.60	22.66	8.43	106.00

Attachment E

TABLE E-12
2033 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.11
30	Oil and Gas Production (combustion)	0.00	0.00	0.03	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.03
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.16	0.16	0.57	2.92	0.01	0.02	0.02	0.02	0.05	0.17	0.61
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.08
60	Service and Commercial	0.11	0.10	1.23	0.28	0.00	0.08	0.08	0.08	0.00	0.11	1.44
99	Other (Fuel Combustion)	0.82	0.63	2.40	1.14	0.08	0.44	0.42	0.40	0.28	0.69	2.67
430	Mineral Processes	0.11	0.09	0.21	0.07	0.02	0.74	0.08	0.06	0.04	0.10	0.28
710	Light Duty Passenger Auto (LDA)	0.02	0.02	0.03	0.43	0.00	0.00	0.00	0.00	9.33	0.02	0.03
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.12	0.00	0.00	0.00	0.00	3.24	0.01	0.02
724	Medium Duty Trucks (T3)	0.01	0.01	0.02	0.30	0.00	0.00	0.00	0.00	1.99	0.01	0.02
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.12	0.11	1.05	0.55	0.01	0.02	0.02	0.02	0.59	0.11	1.00
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.04	0.43	0.22	0.00	0.01	0.01	0.01	0.23	0.04	0.41
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	5.78	0.73	0.05	0.04	0.04	0.04	1.71	0.06	5.55
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.20	0.81	15.82	13.99	0.15	0.16	0.16	0.15	3.34	0.84	15.05
760	Diesel Urban Buses (UB)	2.43	0.04	0.19	18.50	0.00	0.00	0.00	0.00	0.66	0.04	0.19
772	Diesel School Buses (SB)	0.02	0.01	1.01	0.11	0.00	0.00	0.00	0.00	0.04	0.01	0.97
778	Motor Coaches	0.01	0.01	0.16	0.11	0.00	0.00	0.00	0.00	0.05	0.01	0.15
779	Diesel Other Buses (OB)	0.00	0.00	0.39	0.03	0.00	0.00	0.00	0.00	0.09	0.00	0.37
780	Motor Homes (MH)	0.01	0.01	0.38	0.03	0.00	0.01	0.01	0.01	0.03	0.01	0.36
820	Trains	0.82	0.69	17.41	4.71	0.03	0.36	0.36	0.33	0.01	0.69	17.41
833	Ocean Going Vessels	1.94	1.63	31.72	4.85	1.87	0.61	0.61	0.56	0.02	1.63	31.72
835	Commercial Harbor Crafts	0.36	0.30	5.60	1.14	0.00	0.24	0.24	0.22	0.00	0.30	5.60
840	Recreational Boats	0.19	0.16	0.55	0.24	0.00	0.01	0.01	0.01	0.00	0.24	0.82
860	Off-Road Equipment	3.05	2.51	14.34	15.50	0.05	0.58	0.57	0.52	0.03	2.73	15.52
861	Off-Road Equipment (PERP)	0.60	0.50	3.43	5.73	0.02	0.08	0.08	0.07	0.02	0.50	3.43
870	Farm Equipment	0.06	0.05	0.26	0.33	0.00	0.02	0.02	0.01	0.00	0.06	0.31
Total		13.17	7.97	103.24	72.07	2.30	3.45	2.77	2.56	22.88	8.40	104.16

Attachment E

TABLE E-13
2035 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.11
30	Oil and Gas Production (combustion)	0.00	0.00	0.03	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.03
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.16	0.16	0.57	2.91	0.01	0.02	0.02	0.02	0.05	0.17	0.61
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.08
60	Service and Commercial	0.11	0.10	1.25	0.28	0.00	0.08	0.08	0.08	0.00	0.11	1.46
99	Other (Fuel Combustion)	0.82	0.63	2.40	1.13	0.08	0.44	0.42	0.41	0.28	0.69	2.67
430	Mineral Processes	0.11	0.09	0.21	0.07	0.02	0.74	0.08	0.06	0.04	0.10	0.28
710	Light Duty Passenger Auto (LDA)	0.02	0.01	0.03	0.43	0.00	0.00	0.00	0.00	9.42	0.01	0.03
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00	0.00
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.12	0.00	0.00	0.00	0.00	3.28	0.01	0.02
724	Medium Duty Trucks (T3)	0.01	0.01	0.02	0.30	0.00	0.00	0.00	0.00	2.01	0.01	0.02
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.12	0.10	0.80	0.49	0.01	0.02	0.02	0.02	0.61	0.10	0.77
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.05	0.04	0.35	0.20	0.00	0.01	0.01	0.01	0.24	0.04	0.34
744	Medium Heavy Duty Diesel Truck (T6)	0.06	0.06	5.18	0.69	0.05	0.04	0.04	0.04	1.75	0.06	4.97
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.25	0.82	14.93	14.09	0.15	0.16	0.16	0.15	3.47	0.85	14.21
760	Diesel Urban Buses (UB)	1.94	0.03	0.15	14.79	0.00	0.00	0.00	0.00	0.67	0.03	0.15
772	Diesel School Buses (SB)	0.01	0.01	0.84	0.11	0.00	0.00	0.00	0.00	0.04	0.01	0.81
778	Motor Coaches	0.01	0.01	0.14	0.11	0.00	0.00	0.00	0.00	0.05	0.01	0.13
779	Diesel Other Buses (OB)	0.00	0.00	0.39	0.03	0.00	0.00	0.00	0.00	0.09	0.00	0.37
780	Motor Homes (MH)	0.01	0.01	0.37	0.03	0.00	0.01	0.01	0.01	0.03	0.01	0.35
820	Trains	0.80	0.67	16.94	4.90	0.03	0.35	0.35	0.32	0.02	0.67	16.94
833	Ocean Going Vessels	2.00	1.68	32.49	5.00	1.92	0.63	0.63	0.58	0.02	1.68	32.49
835	Commercial Harbor Crafts	0.35	0.29	5.53	1.12	0.00	0.23	0.23	0.22	0.00	0.29	5.53
840	Recreational Boats	0.19	0.16	0.54	0.24	0.00	0.01	0.01	0.01	0.00	0.24	0.81
860	Off-Road Equipment	2.95	2.41	13.38	15.62	0.05	0.52	0.52	0.47	0.04	2.62	14.43
861	Off-Road Equipment (PERP)	0.62	0.52	3.40	5.96	0.02	0.08	0.08	0.07	0.02	0.52	3.40
870	Farm Equipment	0.05	0.04	0.23	0.32	0.00	0.01	0.01	0.01	0.00	0.05	0.28
Total		12.66	7.88	100.39	68.96	2.35	3.38	2.70	2.49	23.27	8.30	101.28

Attachment E

TABLE E-14
2036 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.11
30	Oil and Gas Production (combustion)	0.00	0.00	0.03	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.03
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.16	0.16	0.57	2.90	0.01	0.02	0.02	0.02	0.05	0.17	0.61
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.08
60	Service and Commercial	0.11	0.10	1.26	0.29	0.00	0.09	0.08	0.08	0.00	0.11	1.48
99	Other (Fuel Combustion)	0.82	0.63	2.40	1.13	0.08	0.44	0.42	0.41	0.28	0.69	2.67
430	Mineral Processes	0.11	0.09	0.21	0.07	0.02	0.74	0.08	0.06	0.04	0.10	0.28
710	Light Duty Passenger Auto (LDA)	0.02	0.01	0.03	0.43	0.00	0.00	0.00	0.00	9.47	0.01	0.03
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15	0.00	0.00
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.12	0.00	0.00	0.00	0.00	3.30	0.01	0.02
724	Medium Duty Trucks (T3)	0.01	0.01	0.02	0.30	0.00	0.00	0.00	0.00	2.03	0.01	0.02
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.11	0.10	0.70	0.46	0.01	0.02	0.02	0.02	0.62	0.10	0.67
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.04	0.04	0.32	0.19	0.00	0.01	0.01	0.01	0.24	0.04	0.31
744	Medium Heavy Duty Diesel Truck (T6)	0.06	0.06	4.91	0.68	0.05	0.04	0.04	0.04	1.78	0.06	4.71
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.27	0.82	14.64	14.14	0.15	0.16	0.16	0.15	3.54	0.85	13.92
760	Diesel Urban Buses (UB)	1.73	0.03	0.14	13.17	0.00	0.00	0.00	0.00	0.67	0.03	0.14
772	Diesel School Buses (SB)	0.01	0.01	0.77	0.11	0.00	0.00	0.00	0.00	0.04	0.01	0.74
778	Motor Coaches	0.01	0.01	0.13	0.11	0.00	0.00	0.00	0.00	0.05	0.01	0.13
779	Diesel Other Buses (OB)	0.00	0.00	0.38	0.03	0.00	0.00	0.00	0.00	0.09	0.00	0.37
780	Motor Homes (MH)	0.01	0.01	0.36	0.03	0.00	0.01	0.01	0.01	0.03	0.01	0.34
820	Trains	0.75	0.63	16.26	4.99	0.03	0.32	0.32	0.30	0.02	0.63	16.26
833	Ocean Going Vessels	2.03	1.70	29.84	5.07	1.95	0.64	0.64	0.58	0.02	1.70	29.84
835	Commercial Harbor Crafts	0.34	0.29	5.49	1.10	0.00	0.23	0.23	0.22	0.00	0.29	5.49
840	Recreational Boats	0.19	0.16	0.54	0.24	0.00	0.01	0.01	0.01	0.00	0.24	0.80
860	Off-Road Equipment	2.86	2.38	13.04	15.41	0.05	0.49	0.49	0.44	0.02	2.59	14.05
861	Off-Road Equipment (PERP)	0.63	0.53	3.42	6.08	0.02	0.07	0.07	0.07	0.02	0.53	3.42
870	Farm Equipment	0.05	0.04	0.22	0.32	0.00	0.01	0.01	0.01	0.00	0.05	0.27
Total		12.35	7.83	95.91	67.40	2.37	3.33	2.65	2.45	23.46	8.25	96.78

Attachment E

TABLE E-15
2037 BASELINE DIESEL EMISSIONS (TONS/DAY) IN SOUTH COAST AIR BASIN

MSC	Major Source Category (MSC)	annual average									summer planning	
		TOG	VOC	NOX	CO	SOX	PM	PM10	PM25	NH3	VOC	NOX
10	Electric Utilities	0.00	0.00	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.11
30	Oil and Gas Production (combustion)	0.00	0.00	0.03	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.03
40	Petroleum Refining (Combustion)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
50	Manufacturing and Industrial	0.16	0.16	0.57	2.88	0.01	0.02	0.02	0.02	0.05	0.17	0.61
52	Food and Agricultural Processing	0.01	0.01	0.08	0.02	0.00	0.01	0.01	0.01	0.00	0.01	0.08
60	Service and Commercial	0.11	0.10	1.27	0.29	0.00	0.09	0.08	0.08	0.00	0.11	1.49
99	Other (Fuel Combustion)	0.82	0.63	2.40	1.13	0.08	0.44	0.42	0.41	0.28	0.69	2.67
430	Mineral Processes	0.11	0.09	0.21	0.07	0.02	0.74	0.08	0.06	0.04	0.10	0.28
710	Light Duty Passenger Auto (LDA)	0.02	0.01	0.03	0.43	0.00	0.00	0.00	0.00	9.51	0.01	0.03
722	Light Duty Trucks 1 (T1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16	0.00	0.00
723	Light Duty Trucks 2 (T2)	0.01	0.01	0.02	0.13	0.00	0.00	0.00	0.00	3.32	0.01	0.02
724	Medium Duty Trucks (T3)	0.01	0.01	0.02	0.30	0.00	0.00	0.00	0.00	2.04	0.01	0.02
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.11	0.10	0.60	0.44	0.01	0.02	0.02	0.02	0.63	0.10	0.58
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.04	0.04	0.29	0.19	0.00	0.01	0.01	0.01	0.24	0.04	0.28
744	Medium Heavy Duty Diesel Truck (T6)	0.06	0.06	4.66	0.66	0.04	0.04	0.04	0.04	1.80	0.06	4.46
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.29	0.83	14.40	14.19	0.15	0.16	0.16	0.15	3.60	0.86	13.69
760	Diesel Urban Buses (UB)	1.37	0.02	0.11	10.43	0.00	0.00	0.00	0.00	0.68	0.02	0.11
772	Diesel School Buses (SB)	0.01	0.01	0.71	0.11	0.00	0.00	0.00	0.00	0.04	0.01	0.68
778	Motor Coaches	0.01	0.01	0.12	0.11	0.00	0.00	0.00	0.00	0.05	0.01	0.12
779	Diesel Other Buses (OB)	0.00	0.00	0.38	0.03	0.00	0.00	0.00	0.00	0.09	0.00	0.36
780	Motor Homes (MH)	0.01	0.01	0.36	0.03	0.00	0.01	0.01	0.01	0.03	0.01	0.34
820	Trains	0.72	0.61	15.50	5.09	0.03	0.31	0.31	0.28	0.02	0.61	15.50
833	Ocean Going Vessels	2.06	1.73	28.65	5.15	1.97	0.64	0.64	0.59	0.02	1.73	28.65
835	Commercial Harbor Crafts	0.34	0.28	5.45	1.09	0.00	0.23	0.23	0.21	0.00	0.28	5.45
840	Recreational Boats	0.19	0.16	0.54	0.24	0.00	0.01	0.01	0.01	0.00	0.24	0.80
860	Off-Road Equipment	2.95	2.40	12.71	15.72	0.05	0.47	0.47	0.43	0.04	2.60	13.67
861	Off-Road Equipment (PERP)	0.64	0.54	3.43	6.20	0.02	0.07	0.07	0.07	0.02	0.54	3.43
870	Farm Equipment	0.05	0.04	0.21	0.31	0.00	0.01	0.01	0.01	0.00	0.05	0.25
Total		12.10	7.84	92.86	65.24	2.39	3.30	2.62	2.42	23.68	8.26	93.72

Attachment F:

Road Construction Dust Emissions in South Coast Air Basin

Table F-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
2029	5.44	2.66	0.27
2030	5.48	2.68	0.27
2031	5.51	2.70	0.27
2032	5.55	2.72	0.27
2033	5.58	2.73	0.27
2035	5.66	2.77	0.28
2036	5.70	2.79	0.28
2037	5.73	2.80	0.28

Attachment G:

RECLAIM/former-RECLAIM Emissions in South Coast Air Basin and
Coachella Valley

Table G-1

**NOX Emissions of RECLAIM/former-RECLAIM* (Tons/Day) in South Coast Air Basin
and Coachella Valley**

Years	South Coast Air Basin		Coachella Valley		Total RECLAIM	
	Annual	Summer Planning	Annual	Summer Planning	Annual	Summer Planning
2018	17.77	18.15	0.11	0.11	17.88	18.26
2022	14.28	15.05	0.24	0.24	14.52	15.29
2023	14.28	15.05	0.24	0.24	14.52	15.29
2024	14.28	15.05	0.24	0.24	14.52	15.29
2025	13.01	13.51	0.25	0.25	13.26	13.76
2026	12.30	12.79	0.25	0.25	12.55	13.04
2027	11.84	12.34	0.24	0.24	12.08	12.58
2029	11.13	11.61	0.22	0.22	11.35	11.83
2030	10.76	11.25	0.21	0.21	10.97	11.46
2031	10.67	11.15	0.21	0.21	10.88	11.36
2032	10.62	11.10	0.21	0.21	10.83	11.31
2033	10.49	10.97	0.21	0.21	10.70	11.18
2035	10.27	10.74	0.21	0.21	10.48	10.95
2036	10.31	10.79	0.21	0.21	10.52	11.00
2037	10.31	10.79	0.21	0.21	10.52	11.00

*Sunset of the RECLAIM program is 2024 for NOx emissions, and 2025 for SOx emissions. NOx and SOx emissions are no longer regulated under RECLAIM program starting in 2025 and 2026, respectively.

Emissions of NOX for years 2019 through 2024 are based on RECLAIM allocations for annual emissions. Those annual allocations are consistent with the values presented in the 2016 AQMP. The summer planning emissions for the period 2019-2024 are slightly higher than the ones shown in the 2016 AQMP because of the way summer adjustment factors were applied to annual allocations. In the 2016 AQMP, the summer adjustment would be based on the overall reported summer emissions divided by total annual emissions in the RECLAIM universe. In this 2022 AQMP, specific adjustment factors by SCC/SIC pairs are applied to individual allocations within the RECLAIM program, in a similar way as to how non-RECLAIM point sources are treated.

Attachment G

Table G-2

SOX Emissions of RECLAIM/former-RECLAIM* (Tons/Day) in South Coast Air Basin and Coachella Valley

	South Coast Air Basin		Coachella Valley		Total RECLAIM	
Years	Annual	Summer Planning	Annual	Summer Planning	Annual	Summer Planning
2018	5.48	5.50	0	0	5.48	5.50
2022	6.08	6.10	0	0	6.08	6.10
2023	6.08	6.10	0	0	6.08	6.10
2024	6.08	6.10	0	0	6.08	6.10
2025	6.08	6.10	0	0	6.08	6.10
2026	5.52	5.55	0	0	5.52	5.55
2027	5.53	5.55	0	0	5.53	5.55
2029	5.54	5.56	0	0	5.54	5.56
2030	5.54	5.56	0	0	5.54	5.56
2031	5.54	5.56	0	0	5.54	5.56
2032	5.54	5.56	0	0	5.54	5.56
2033	5.54	5.56	0	0	5.54	5.56
2035	5.54	5.56	0	0	5.54	5.56
2036	5.54	5.57	0	0	5.54	5.57
2037	5.54	5.57	0	0	5.54	5.57

Attachment H

Methodology of Area Source Update for 2022 Air Quality Management Plan from South Coast Air Quality Management District

COMMERCIAL AND INDUSTRIAL NATURAL GAS CONSUMPTION	III-H-1
RESIDENTIAL NATURAL GAS CONSUMPTION	III-H-7
LPG TRANSFER AND DISPENSING – FUGITIVE LOSSES	III-H-11
COMMERCIAL AND INDUSTRIAL COMBUSTION OF LPG	III-H-13
OGV TANKERS FUGITIVE LOSSES DURING TRANSIT	III-H-16
ARCHITECTURAL COATINGS AND RELATED SOLVENT	III-H-20
ADHESIVES AND SEALANTS	III-H-27
LIVESTOCK	III-H-29
COMPOSTING - SOLID WASTE (UNSPECIFIED) - CHIPPINGS AND GRINDINGS	III-H-33
COMPOSTING - SOLID WASTE (UNSPECIFIED) – GREENWASTE	III-H-37
COMPOSTING - CO-COMPOSTING - BIOSOLIDS AND GREENWASTE MIX	III-H-42
PAVED ROAD DUST	III-H-46
UNPAVED ROAD AND TRAVEL DUST	III-H-49

**AREA SOURCE EMISSIONS FOR C/Y 2018 for 2022 AQMP
COMMERCIAL AND INDUSTRIAL NATURAL GAS CONSUMPTION**

Emission Inventory Source Category

Miscellaneous Processes/Commercial/Industrial Fuel Combustion

Category of Emission Sources and Description

CES 47142 Industrial - Natural Gas - Unspecified

CES 66787 Industrial - Natural Gas – IC Engines

DESCRIPTION OF CATEGORY

This category estimates the emissions of TSP, SO_x, NO_x, TOG, and CO from the combustion of natural gas in the industrial and commercial sectors.

METHODOLOGY

Natural gas throughput data was provided by SoCalGas for the industrial and commercial sectors. Throughput data for Long Beach, provided separately by SoCalGas, was incorporated into the total. The data was further segregated by end use (see Table 1) based on the factors specified by SoCalGas. All data were consistent with the 2020 California Gas Report.¹

Table 1. 2018 total natural gas throughput (therms) by end use.

End Use	Industrial	Commercial
Space Heating	13,992,772	184,159,407
Water Heating	220,126,105	213,701,946
Other	1,212,529,404	389,720,372

To separate the point source contribution, gas throughput data from Annual Emissions Reporting (AER) was subtracted from the totals shown in Table 1. The subtraction was performed because point sources have distinct emission factors and are accounted for separately in the inventory. Table 2 provides the natural gas usage from 2018 AER, while Table 3 provides the remaining usage after subtraction of the AER portion.

Table 2. 2018 AER throughput (therms) by sector.

Sector	AER throughput
Commercial	152,543,537
Industrial	668,933,379

¹ https://www.socalgas.com/sites/default/files/2020-10/2020_California_Gas_Report_Joint_Utility_Biennial_Comprehensive_Filing.pdf

Table 3. 2018 natural gas throughput (therms) by end use after subtracting the AER contribution.

End Use	Industrial	Commercial
Space Heating	7,522,483	148,490,312
Water Heating	118,339,305	172,310,876
Other	651,853,114	314,237,001

The throughput in Table 3 was allocated to the county level using NAICS 451 - Other Miscellaneous Retail Stores (commercial) and NAICS 339 - Miscellaneous Manufacturing (industrial) as surrogates. The same allocation factor was assumed for all end uses. Figures 1 and 2 demonstrate these surrogates on a sub-county basis. These data are consistent with SCAG’s 2020 RTP/SCS.²

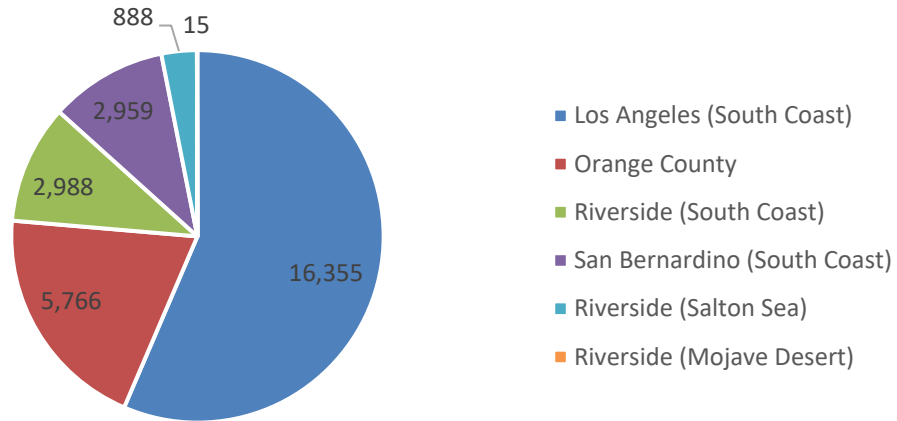


Figure 1. 2018 NAICS 451 (arbitrary units) was used to allocate throughput to the appropriate county and air basin.

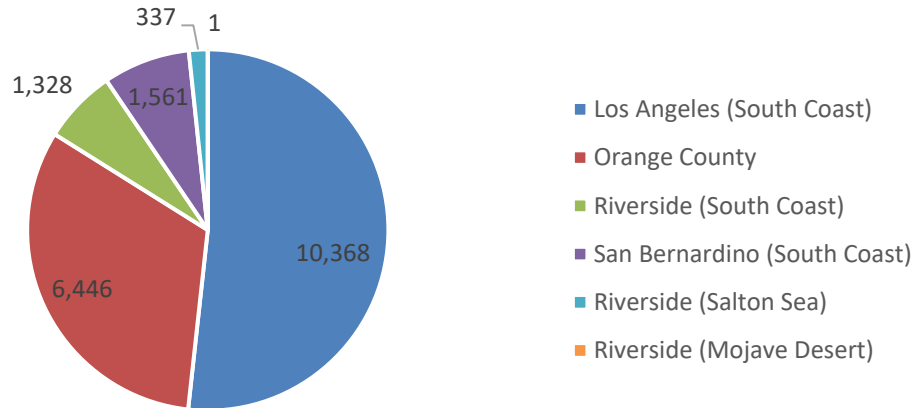


Figure 2. 2018 NAICS 339 (arbitrary units) was used to allocate throughput to the appropriate county and air basin.

² <https://scag.ca.gov/connect-social>

The internal/external combustion ratio derived from AER throughput data (see Figure 3) was then applied to calculate the throughputs for the respective categories. For the industrial categories, this ratio was applied to the total usage as there are only two relevant CES. However, there are separate CES for space and water heating in the commercial sector. Thus, the ratio was only applied to the throughput for the “Other” end uses.



Figure 3. The relative contribution of internal and external combustion in the industrial and commercial sectors as determined from AER throughput data.

NOx emission factors for the base year were determined based on compliance with South Coast AQMD’s rules and proposed control measures (see Table 3). Emission factors from AP-42 were assumed for all other pollutants (see Table 4).³

Table 3. NOx emission factors (lbs/mmscf) by CES.

CES	Source of EF	NOx EF
47142 Industrial - Natural Gas - Unspecified	Rule 1147 NOx Reductions From Miscellaneous Sources	57.42
66787 Industrial - Natural Gas – IC Engines	Rule 1110.2 Emissions from Gaseous And Liquid Fueled Engines	42.60
58735 Commercial - Natural Gas – Space Heating	CMB-03 (2012 AQMP) Reductions from Commercial Space Heating	127.60
58743 Commercial - Natural Gas – Water Heating	Rule 1146.2 Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters	25.52
95024 Commercial – Natural Gas – IC Engines	Rule 1110.2 Emissions from Gaseous And Liquid Fueled Engines	42.60
95025 Commercial – Natural Gas - Other	Rule 1147 NOx Reductions From Miscellaneous Sources	57.42

³ <https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors>

Table 4. US EPA AP-42 emission factors (lbs/mmscf).

Applicable CES	AP-42 Category	TOG	CO	SO2	PM
47142 Industrial - Natural Gas - Unspecified, 58735 Commercial - Natural Gas – Space Heating, 58743 Commercial - Natural Gas – Water Heating, 95025 Commercial – Natural Gas - Other	Large and small boilers	11	84	0.6	7.6
95024 Commercial – Natural Gas – IC Engines, 66787 Industrial - Natural Gas – IC Engines	4-stroke lean-burn engines	40.5 ¹	589 ¹	0.6	10

¹ TOG and CO emission factors provided by rule staff

SUMMARY AND NEW EMISSIONS

Below, 2022 AQMP emissions for 2018 are compared with 2018 emissions from the 2016 AQMP, which used 2012 as the base year with projections based on the socioeconomic forecast from the 2016 RTP.

SCAB CES 47142 emissions for base year, 2018, tons per day (tpy)

Pollutants	2016 AQMP	2022 AQMP
TOG ¹	177	131
NOx	2060	684
CO	849	1000
SOx	14.6	7.15
PM2.5	182	90.5

¹ 2022 AQMP emissions use the emissions factor for TOG, consistent with AP-42

SCAB CES 58735 emissions for base year, 2018, tpy

Pollutants	2016 AQMP	2022 AQMP
TOG	23.7	76.4
NOx	195	886
CO	114	583
SOx	1.83	4.17
PM2.5	24.5	52.8

SCAB CES 58743 emissions for base year, 2018, tpy

Pollutants	2016 AQMP	2022 AQMP
TOG	23.0	88.6
NOx	71.9	206
CO	110	677
SOx	1.83	4.83
PM2.5	23.4	61.2

Attachment H

SCAB CES 66787 emissions for base year, 2018, tpy

Pollutants	2016 AQMP	2022 AQMP
TOG	751	1010
NOx	508	1060
CO	1990	14700
SOx	4.02	15.0
PM2.5	65.7	250

SCAB CES 95024 emissions for base year, 2018, tpy

Pollutants	2016 AQMP	2022 AQMP
TOG	1160	258
NOx	1130	271
CO	3030	3750
SOx	5.84	3.82
PM2.5	100	63.7

SCAB CES 95025 emissions for base year, 2018, tpy

Pollutants	2016 AQMP	2022 AQMP
TOG	85.8	91.6
NOx	845	478
CO	414	700
SOx	7.67	5.00
PM2.5	94.5	63.3

APPENDIX

Overall, NOx emissions are higher for industrial categories, but lower for commercial categories compared to the previous inventory.

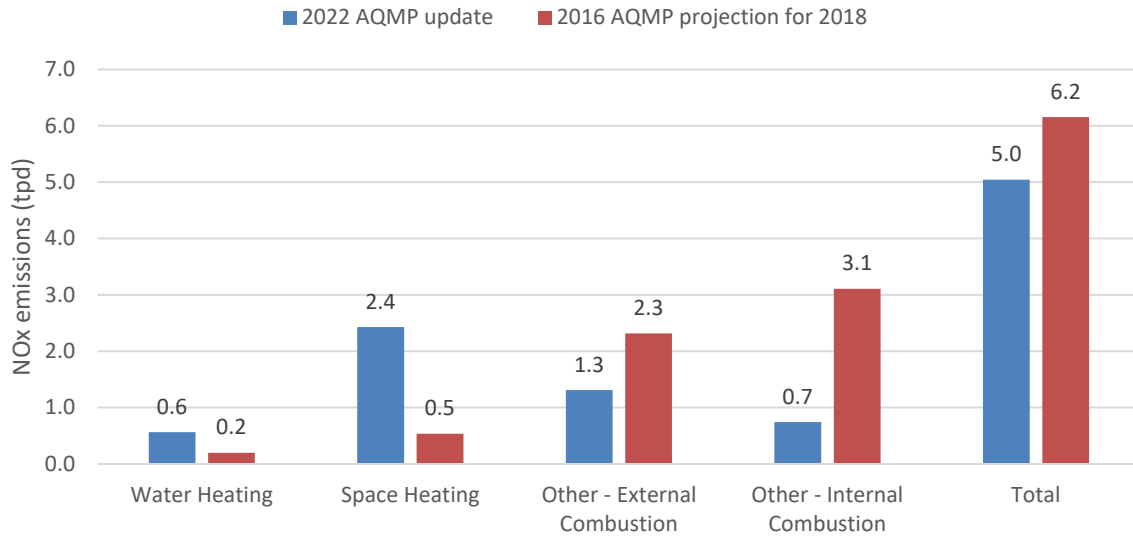


Figure 1. A comparison of the updated and previous emissions inventories for NOx emissions related to commercial natural gas combustion.

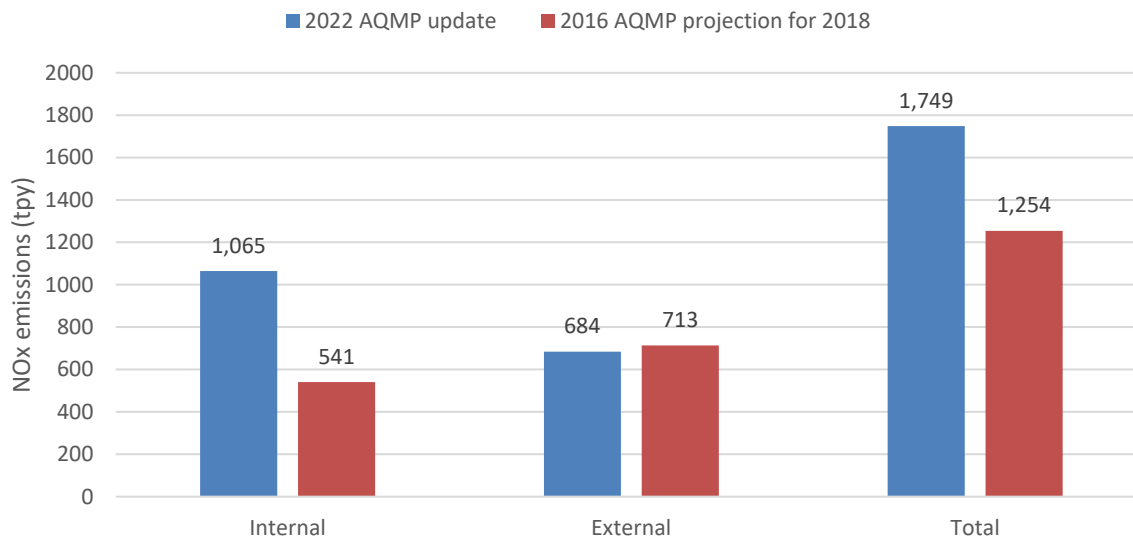


Figure 2. A comparison of the updated and previous emissions inventories for NOx emissions related to industrial natural gas combustion.

AREA SOURCE EMISSIONS FOR C/Y 2018 for 2022 AQMP RESIDENTIAL NATURAL GAS CONSUMPTION

Emission Inventory Source Category

Miscellaneous Processes/Residential Fuel Combustion

Category of Emission Sources and Description

CES 54569 Residential Fuel Combustion - Natural Gas - Space Heating

DESCRIPTION OF CATEGORY

This category estimates the emissions of TSP, SO_x, NO_x, TOG, and CO from the combustion of natural gas in the residential sector.

METHODOLOGY

Natural gas throughput data was provided by SoCalGas for the residential sector. Throughput data for Long Beach, provided separately by SoCalGas, was incorporated into the total. The data was further segregated by end use (see Table 1) assuming constant factors specified by SoCalGas. All data were consistent with the 2020 California Gas Report.⁴

Table 1. 2018 total residential natural gas throughput by end use.

End use	Throughput (therms)
Space Heating	927,413,750
Water Heating	600,331,226
Cooking	105,692,130
Other	178,607,907

Throughput was allocated to the county level using population data as provided in SCAG's 2020 RTP/SCS (see Figure 1).⁵ The same allocation factor was assumed for all end uses.

⁴ [https://www.socalgas.com/sites/default/files/2020-10/2020 California Gas Report Joint Utility Biennial Comprehensive Filing.pdf](https://www.socalgas.com/sites/default/files/2020-10/2020%20California%20Gas%20Report%20Joint%20Utility%20Biennial%20Comprehensive%20Filing.pdf)

⁵ <https://scag.ca.gov/connect-socal>

Attachment H

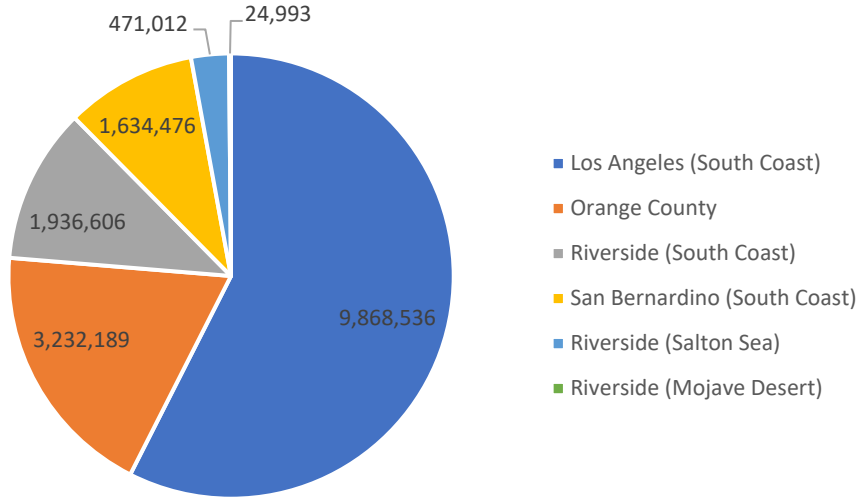


Figure 1. 2018 population by county and air basin as provided by SCAG.

With the exception of the cooking and other categories, for which no controls exist, NOx emission factors for the base year were determined based on compliance with South Coast AQMD’s rules (see Table 3). Emission factors from AP-42 were assumed for all other pollutants (see Table 4).⁶

Table 3. NOx emission factors (lbs/mmscf) by residential category.

Category	Applicable Rule	NOx Emission Factor (lbs/mmscf)
Space Heating	1111. Reduction of NOx Emissions From Natural Gas Fired, Fan-Type Central Furnaces	97.77
Water Heating	1121. Control of Nitrogen Oxides From Residential Type, Natural Gas Fired Water Heaters	24.44
Cooking/Other	US EPA AP-42	94

Table 4. US EPA AP-42 emission factors (lbs/mmscf) for residential furnaces.

TOG	CO	SO2	PM
11	40	0.6	7.6

⁶ <https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors>

SUMMARY AND NEW EMISSIONS

Below, 2022 AQMP emissions for 2018 are compared with 2018 emissions from the 2016 AQMP, which used 2012 as the base year with projections based on the socioeconomic forecast from the 2016 RTP.

SCAB residential space heating emissions for base year, 2018, tons per day (tpy)

Pollutants	2016 AQMP	2022 AQMP
TOG ¹	140	479
NOx	2490	4260
CO	1210	1740
SOx	18.3	26.1
PM2.5	229	331

¹ 2022 AQMP emissions use the emissions factor for TOG, consistent with AP-42

SCAB residential cooking emissions for base year, 2018, tpy

Pollutants	2016 AQMP	2022 AQMP
TOG	28.5	54.6
NOx	575	466
CO	245	198
SOx	3.65	2.98
PM2.5	46.4	37.7

SCAB residential water heating emissions for base year, 2018, tpy

Pollutants	2016 AQMP	2022 AQMP
TOG	143	310
NOx	722	689
CO	1230	1127
SOx	18.6	16.9
PM2.5	234	214

SCAB residential other emissions for base year, 2018, tpy

Pollutants	2016 AQMP	2022 AQMP
TOG	53.7	92.2
NOx	1090	788
CO	463	335
SOx	6.94	5.03
PM2.5	88.0	63.7

APPENDIX

Overall, NOx emissions are higher in the current inventory compared to the previous inventory, with much of the increase stemming from space heating.

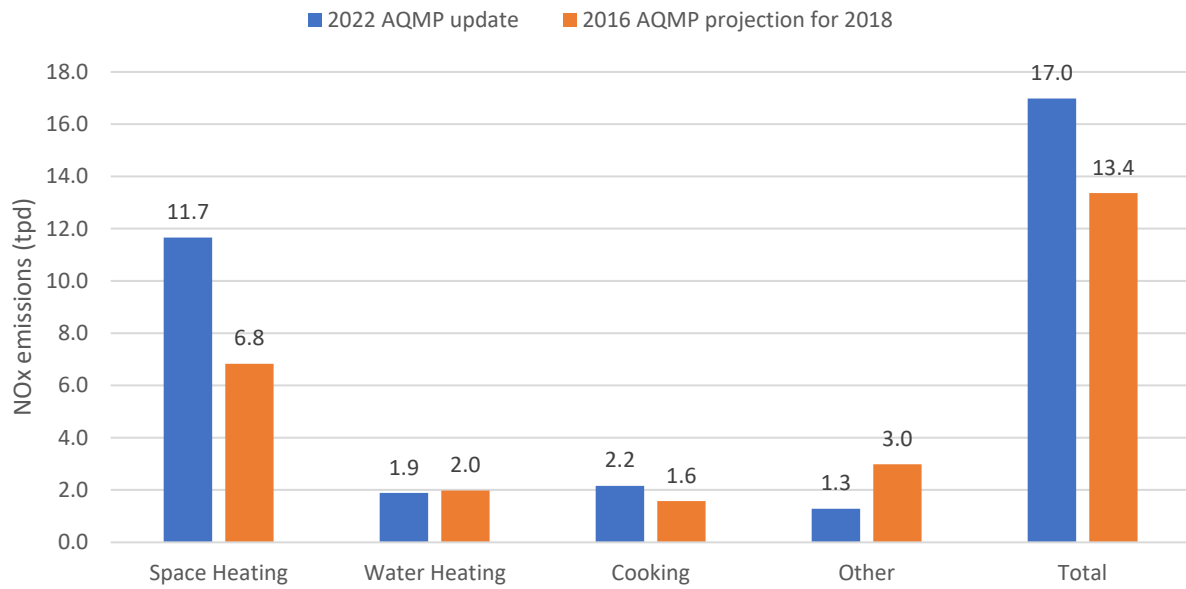


Figure 1. A comparison of the updated and previous emissions inventories for NOx emissions related to residential natural gas combustion.

AREA SOURCE EMISSIONS FOR C/Y 2018 for 2022 AQMP**CES NUMBER 94466****LPG Transfer and Dispensing – Fugitive Losses****DESCRIPTION OF CATEGORY**

This category estimates the emissions of VOC from LPG transfer and dispensing – fugitive losses at residential, commercial, industrial, chemical, agricultural and retail sales facilities.

METHODOLOGY AND ASSUMPTIONS

Methodology used to derive the 2008 TAD sheet reviewed. Documentations showed the methodology, emission factors and assumptions used in the inventory development was thorough and remain valid. Thus, no changes were made to the methodology/emission factors/assumptions. The following updates on activity/population data were made:

- 2018 activity data is used as base year throughput in 2018.
- 2018 population data is used to apportion 2018 state throughput to South Coast AQMD jurisdiction and county/basin level.

SUMMARY NAD NEW EMISSIONS**Emissions for base year, 2018, for South Coast Air Basin only**

Pollutants	2016 AQMP	2022 AQMP
VOC	2.639 tpd	2.251 tpd
NOx		
CO		
SOx		
PM2.5		
NH3		

**AREA SOURCE EMISSIONS FOR CY 2018
COMMERCIAL AND INDUSTRIAL
COMBUSTION OF LPG
(NOT REPORTED VIA AER)**

DESCRIPTION OF CATEGORY:

This analysis provides an estimate of emissions from external & internal combustion of LPG from industrial and commercial sector facilities with non-permitted equipment and emissions not reported through the Annual Emission Reporting (AER) Program. LPG combustion can occur in equipment such as boilers, ovens, heaters (external), or ICEs (internal). Emissions consist of combustion contaminants, i.e. PM, CO, SOx, NOx, and VOC. Emissions estimates include all air basins in the South Coast AQMD (i.e., South Coast Air Basin (SCAB), the Salton Sea Air Basin and the Mojave Desert Air Basin (SSAB & MDSB)).

METHODOLOGY AND ASSUMPTIONS:

The total LPG consumed in California for both the industrial and commercial sectors was obtained from the Energy Information Administration (EIA) of the U.S. Department of Energy calendar year 2018. Previously, EIA reported LPG as propane but now uses the term Hydrocarbon Gaseous Liquid (HCL). EIA however still considers HCL to be propane for reporting purposes. EIA defines industrial activities by North American Industrial Classification System (NAICS) code and also includes agricultural sector consumption (NAICS Code 11) in industrial sector consumption, as shown below:

Industrial	An energy-consuming sector that consists of all facilities and equipment used for producing, processing, or assembling goods The industrial sector encompasses the following types of activity: manufacturing (NAICS codes 31-33); agriculture, forestry, fishing and hunting (NAICS code 11); mining, including oil and gas extraction (NAICS code 21); natural gas distribution (NAICS code 2212); and construction (NAICS code 23). Overall energy use in this sector is largely for process heat and cooling and powering machinery, with lesser amounts used for facility heating, air conditioning, and lighting. Fossil fuels are also used as raw material inputs to manufactured products. Note: This sector includes generators that produce electricity and/or useful thermal output primarily to support the above-mentioned industrial activities.
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The Propane Education and Research Council (PERC) is a national propane industry group and published a detail industry study in 2017. Industrial sector consumption in the South Coast AQMD was estimated by adjusting total EIA industrial sector consumption and excluding agricultural consumption based on the ratio of agricultural to agricultural plus industrial sector propane consumption as reported in the PERC study. Consumption for the industrial sector was further refined by using calendar year 2018 AER data and further subdividing sources into industrial only and commercial only sectors (based on NAICS

code), and for both sectors into external & internal combustion equipment. There were no agricultural (NAICS 11 code) sources in the AER database, so that all non-industrial sector sources are assumed to be commercial sector sources. Consumption for commercial sector sources was adjusted for the South Coast AQMD by applying a factor based on the ratio of manufacturing sector employment in the South Coast AQMD to California.

Total unreported/un-permitted area source emissions for both the industrial and commercial sectors were estimated by first subtracting the AER reported consumption from the total California consumption for each sector (industrial or commercial) and category (external or internal combustion). Then, by applying the appropriate (external/internal combustion) pollutant emissions factors for each adjusted sector (industrial or commercial) to the resulting net consumption amounts. Finally, totals for each category were distributed among counties based on the population ratios provided by SCAG.

ESTIMATION (calculated values are 5 significant digits) by Industrial and Commercial Sectors:

CY 2018 AER Database for South Coast (all areas in South Coast AQMD jurisdiction):

- Industrial⁷: Total LPG usage for internal (portable + stationary) & external combustion equipment in commercial sector in 1000 gallons = 89.261
- Industrial: Total LPG usage for *external* combustion equipment in commercial sector in 1000 gallons = 65.682
- Industrial: Total LPG usage for *internal* combustion equipment in commercial sector in 1000 gallons = 23.579
- Industrial: The ratio of external to internal + external in commercial sector is estimated to be 73.584% (65.682 M gal / 89.261 M gal)
- Industrial: The ratio of internal to internal + external in commercial sector is estimated to be 26.416% (23.579 M gal / 89.261 M gal)

- Commercial: Total LPG usage for internal (portable + stationary) & external combustion equipment in commercial sector in 1000 gallons = 1,098.39
- Commercial: Total LPG usage for *external* combustion equipment in commercial sector in 1000 gallons = 886.67
- Commercial: Total LPG usage for *internal* combustion equipment in commercial sector in 1000 gallons = 211.72
- Commercial: The ratio of external to internal + external in commercial sector is estimated to be 80.725% (886.67 M gal / 1,098.39 M gal)
- Commercial: The ratio of internal to internal + external in commercial sector is estimated to be 19.275% (211.72 M gal / 1,098.39 M gal)

⁷ NAICS Codes: 21, 2212, 23, and 31-33. Excludes agriculture, forestry, fishing and hunting (NAICS code 11).

From EIA and PERC (CA totals):

- Industrial: Total EIA HGL⁸ usage in California for *external and internal* combustion equipment in industrial sector in 1000 barrels⁹ = 5,492
- Industrial: EIA definition of industrial sector includes agriculture NAICS Code 11
- Industrial: Total PERC¹⁰ Industrial and Agricultural sectors propane¹¹ in 1000 gallons = 89,364 (29,935 M gal +59,429 M/gal)
- Industrial: Ratio of total PERC industrial to industrial + agricultural propane in 1000 gallons = 33.498% (29,935 M gal / 89,364 M/gal)
- Industrial: Total LPG usage in California for *external and internal* combustion equipment in adjusted industrial without agricultural sector in 1000 barrels = 1,839.7 (5,492 M barrels x 33.498%)
- Industrial: Total LPG usage in California for *external and internal* combustion equipment in adjusted industrial without agricultural sector in 1000 gallons = 77,267 (1,839.7 M barrels x 42 gallons / barrel)¹²
- Industrial: Total LPG usage in commercial sector in South Coast for *external* combustion equipment in 1000 gallons = 56,857 (77,267 M gal x 73.585%)
- Industrial: Total LPG usage in commercial sector in South Coast for *internal* combustion equipment in 1000 gallons = 20,411 (77,267 M gal x 26.415%)

- Commercial: Total EIA HGL usage in California for *external and internal* combustion equipment in commercial sector in 1000 barrels = 3,262
- Total LPG usage in SCAB for *external and internal* combustion equipment in industrial section in 1000 gallons = 62,433 (1,486.5 M barrels x 42 gallons / barrel)
- Total LPG usage in commercial sector in SCAB for *external* combustion equipment in 1000 gallons = 80.188% x 62,443 = 50,072
- Total LPG usage in commercial sector in SCAB for *internal* combustion equipment in 1000 gallons = 19.812% x 62,443 = 12,371

Area Sources Estimated (South Coast):

- Ratio of manufacturing (industrial and commercial) employment South Coast to State = 45.569%
- Total LPG usage in SCAB for *external and internal* combustion equipment in commercial section in 1000 barrels = 3,262 x 45.569% = 1,486.5

⁸ EIA uses HGL now instead of LPC (per phone conversation with Yvonne Taylor, EIA). All HGL is considered to be propane https://www.eia.gov/state/seds/sep_sum/html/pdf/sum_btu_res.pdf (see footnote c).

⁹ https://www.eia.gov/state/seds/sep_use/ind/pdf/use_ind_CA.pdf (CY 2018).

¹⁰ Propane Education Research C is a national industry group and commissioned the 2017 study (based on 2015 EIA consumption data). <http://www.npga.org/wp-content/uploads/2018/02/2015-Propane-Industry-Impact-on-US-and-State-Economies-FINAL.pdf>

¹¹ Propane is used as a proxy for LPG. <https://www.eia.gov/energyexplained/hydrocarbon-gas-liquids/>

¹² https://www.epa.gov/sites/production/files/2015-08/documents/ii14_july2001.pdf

Attachment H

- Industrial¹³: Total LPG usage for the area source industrial *external* combustion equipment in 1000 gallons = 56,857 – 65.682 = 56,791
- Industrial: Total LPG usage for the area source industrial *internal* combustion equipment in 1000 gallons = 15,019 – 23.579 = 14,995

- Commercial: Total LPG usage for the area source commercial *external* combustion equipment in 1000 gallons = 49,917 – 952.36 = 48,965
- Commercial: Total LPG usage for the area source commercial internal combustion equipment in 1000 gallons = 12,333 – 235.30 = 12,098

- The final emissions were determined by multiplying the estimated area source consumption for both the external and internal portions of the industrial and commercial sectors by the respective AP-42 default emission factors as summarized below:

LPG Estimated Industrial Sector External Combustion Consumption = M gal

Pollutant	VOC	NOx	SOx	CO	PM
Emission Factor (lb/gal)	0.26	12.80	4.60	3.20	0.28
Emissions (lb/yr)	14,765	726,920	261,240	181,730	15,901

LPG Estimate Industrial Sector Internal Combustion Consumption = M gal

Pollutant	VOC	NOx	SOx	CO	PM
Emission Factor (lb/gal)	83.00	139.00	0.35	129.00	5.00
Emissions (lb/yr)	14,765	726,920	261,240	181,730	15,901

LPG Estimated Commercial Sector External Combustion Consumption = M gal

Pollutant	VOC	NOx	SOx	CO	PM
Emission Factor (lb/gal)	0.26	12.80	4.60	3.20	0.28
Emissions (lb/yr)	14,765	726,920	261,240	181,730	15,901

LPG Commercial Sector Internal Combustion Consumption = M gal

Pollutant	VOC	NOx	SOx	CO	PM
Emission Factor (lb/gal)	83.00	139.00	0.35	129.00	5.00
Emissions (lb/yr)	14,765	726,920	261,240	181,730	15,901

¹³ No LPG sources in AER databases with NAICS 11 (agriculture)

AREA SOURCE EMISSIONS FOR C/Y 2018 for 2022 AQMP
CES NUMBER 92925
OGV TANKERS FUGITIVE LOSSES DURING TRANSIT

DESCRIPTION OF CATEGORY

CES	EIC	Name	MSC	SRC	MAT
92925	83384716009999	OGV TANKERS TRANSIT VOC LOSSES	833	847	1622

EIC	83384716201999
EICSUM	833
EICSUMN	Ocean Going Vessels
EICSOU	847
EICSOUN	Tankers
EICMAT	1620
EICMATN	Crude Oil
EICSUB	1999
EICSUBN	TRANSIT VOC LOSSES
EICN	OGV TANKERS TRANSIT VOC LOSSES

This category estimates pressure-related fugitive VOC emissions through the mast riser, pressure vacuum (P/V) valves and other components of OGV tankers during marine transit of crude oil and other petroleum products. This category does not include fugitive losses at berth.

METHODOLOGY AND ASSUMPTIONS

Emissions for the 2018 base year were estimated based on the California State Land Commission's throughput data. The throughput was grouped by product category (crude oil, distillate oil, gasoline, jet kerosene, residual oil), vessel type (tanker, barge), and vessel call purpose (load/discharge) as shown below:

Attachment H

Product Type	Vessel Type	Load/Discharge	2018 Throughput (bbs/yr)
Crude Oil	Tanker	Load	1,294,269
		Discharge	258,405,379
	Barge	Load	413,346
		Discharge	1,745,520
Distillate Oil	Tanker	Load	3,027,144
		Discharge	5,383,705
	Barge	Load	2,829,611
		Discharge	755,239
Gasoline	Tanker	Load	2,737,699
		Discharge	8,253,810
	Barge	Load	450,563
		Discharge	10,290,714
Jet Kerosene	Tanker	Load	2,799,056
		Discharge	14,954,702
	Barge	Load	9,048
		Discharge	693,434
Residual Oil	Tanker	Load	10,991,077
		Discharge	34,626,894
	Barge	Load	24,117,677
		Discharge	6,419,768
Others	Tanker	Load	1,427,250
		Discharge	1,532,663
	Barge	Load	2,267,377
		Discharge	1,530,693
TOTAL			396,956,638

TOG emissions for each group was then calculated using the following equation:

$$TOG \text{ (tons/yr)} = \text{Throughput (bbls/yr)} * 42 \text{ gals/bbl} * \text{Transit Loss EF (lb/week-kgal)} * 1 \text{ kgal/1,000 gal} * 1 \text{ week/7 days} * \text{Transit Duration (days)} * 0.0005 \text{ ton/lb}$$

where:

- Transit Loss EFs, as shown below, are from the AP-42 Table 5.2-6¹⁴ except for the gasoline EF of 1.82 lb/week-kgal which is based on RVP 7. The default factor of 2.7 lb/week-kgal in Table 5.2-6 is based on RVP 10 which is not representative of gasoline products transported in the South Coast waters. For products that were not categorized, the crude oil EF was used as default.

¹⁴ [AP-42 TOG emission factors for petroleum marine vessel sources](#)

Attachment H

Pollutant	Gasoline	Crude Oil	Jet Kerosene	Distillate Oil No. 2	Residual Oil No. 6
TOG (lb/week-kgal)	1.82	1.3	0.005	0.005	0.00003

- Transit Duration is calculated by summing the average anchorage time for tanker vessels in the San Pedro Bay Ports and the average transit time for tanker vessels within 100 nm from the San Pedro Bay Ports as show below:

$$\text{Transit Duration (days)} = [\text{Anchorage Time (hrs)} + \text{Transit Time (hrs)}] * 1 \text{ day}/24 \text{ hrs}$$

$$= (66.5 \text{ hrs} + 6.62 \text{ hrs}) * 1 \text{ day}/24 \text{ hrs} = 3.05 \text{ days}$$

66.5 hrs is the weighted average of anchorage hoteling times for non-chemical tankers based on the 2018 emissions inventories for POLA and POLB¹⁵¹⁶; and

6.62 hrs is the average transit time for tanker vessels to travel 100 nm from and to the San Pedro Bay Ports at a service speed of 15.09 nm/hr, which is the average service speed for non-chemical tanker vessels based on the 2018 IHS data.

For barges, Transit Duration of 0.25 day was assumed

VOC emissions were calculated by applying non-methane hydrocarbon content (NMHC) for each product type. For crude oil, 85% NMHC was assumed per AP 42 Table 5.2-6(c) and 100% NMHC was assumed for other product types.

An Excel spreadsheet of 2018 TOG/VOC emissions calculated based on the above-described methodology is attached for reference.

¹⁵ [Port of Los Angeles Inventory of Air Emissions – 2018](#)

¹⁶ [Port of Long Beach Air Emissions Inventory - 2018](#)

SUMMARY AND NEW EMISSIONS**Emissions for base year, 2018**

Pollutants	2016 AQMP	2022 AQMP
VOC	Not Reported	2,860
TOG	Not Reported	3,329

GROWTH FORECASTING

The growth forecast was based on the non-container cargo forecast for San Pedro Bay Ports by Mercator International LLC¹⁷. Projected emissions from 2020 through 2050 are provided in the attached Excel file.

¹⁷ Mercator International LLC, San Pedro Bay Long-Term Unconstrained Cargo Forecast Final Report, July 12, 2016

**AREA SOURCE EMISSIONS UPDATE FOR 2022 AQMP
ARCHITECTURAL COATINGS AND RELATED SOLVENT**

CES	EICMATN	RULE 1113 CODE	TYPE	COATING CATEGORY
46763	Oil based (organic solvent based) coatings (unspecified)	10	SB	Fire Proofing Coatings
85530	Oil based flat coatings	13	SB	Flats
85621	Oil based floor coatings	14	SB	Floor Coatings
85639	Oil based form release coatings	16	SB	Form Release Compound
46763	Oil based (organic solvent based) coatings (unspecified)	17	SB	Graphic Arts Coatings
85647	Oil based high temperature coatings	18	SB	Industrial Maintenance - High Temperature IM Coatings
85654	Oil based industrial maintenance coatings	19	SB	Industrial Maintenance
85654	Oil based industrial maintenance coatings	19a	SB	Non-Sacrificial Anti-Graffiti Coatings
89797	Oil based lacquers (unspecified)	20	SB	Clear Wood Finishes - Lacquer (includes Lacquer Sanding Sealer)
46763	Oil based (organic solvent based) coatings (unspecified)	21	SB	Low Solids Coatings
46763	Oil based (organic solvent based) coatings (unspecified)	22	SB	Magnesite Cement coatings
89813	Oil based mastic texture	23	SB	Mastic Coatings
85662	Oil based metallic pigmented coatings	24	SB	Metallic Pigmented Coatings
46763	Oil based (organic solvent based) coatings (unspecified)	25	SB	Multi-Color Coatings
89821	Oil based nonflat - low gloss/medium gloss	26	SB	nonflat coatings- low gloss
89821	Oil based nonflat - low gloss/medium gloss	27	SB	non flat coatings - medium gloss
85548	Oil based high gloss nonflat coatings	28	SB	nonflat - high gloss
46763	Oil based (organic solvent based) coatings (unspecified)	29	SB	Pre-Treatment Wash Primers
85399	Oil based primers, sealers, and undercoaters	30	SB	Primers, Sealers, and Undercoaters
85506	Oil based quick dry enamel coatings	31	SB	Quick-Dry Enamels
85407	Oil based quick dry primers, sealers, and undercoaters	32	SB	Quick-Dry Primers, Sealers, and Undercoaters

Attachment H

CES	EICMATN	RULE 1113 CODE	TYPE	COATING CATEGORY
46763	Oil based (organic solvent based) coatings (unspecified)	33	SB	Recycled Coatings
85571	Oil based bituminous roof coatings	34	SB	Roof Coatings
89839	Oil based rust preventative	35	SB	Rust Preventative Coatings
85423	Oil based sanding sealers	36	SB	Clear Wood Finishes - Sanding Sealers
46763	Oil based (organic solvent based) coatings (unspecified)	37	SB	Shellac - Clear
46763	Oil based (organic solvent based) coatings (unspecified)	38	SB	Shellac - Pigmented
89847	Oil based specialty primer, sealer, and undercoater	39	SB	Specialty Primers
89771	Oil based bituminous roof primer	4	SB	Roof Primers - Bituminous
89854	Oil based stains - clear/semitransparent	40	SB	Stains, Interior (Clear/Semitransparent)
85472	Oil based stains - opaque	41	SB	Stains (Clear/Semitransparent/Opaque)
46763	Oil based (organic solvent based) coatings (unspecified)	42	SB	Swimming Pool Coatings - Other
46763	Oil based (organic solvent based) coatings (unspecified)	43	SB	Swimming Pool Coatings - Repair
85696	Oil based traffic coatings	45	SB	Traffic Coatings
89862	Oil based varnish - clear/semitransparent	46	SB	Clear Wood Finishes - Varnish (Clear)
89862	Oil based varnish - clear/semitransparent	47	SB	Clear Wood Finishes -Varnish (Semitransparent)
89870	Oil based waterproofing sealers	48	SB	Waterproofing Sealers
89888	Oil based waterproofing concrete/masonry sealers	49	SB	Waterproofing Concrete/Masonry Sealers
46763	Oil based (organic solvent based) coatings (unspecified)	5	SB	Bond Breakers
89896	Oil based wood preservatives	50	SB	Wood Preservatives - Below-Ground
46763	Oil based (organic solvent based) coatings (unspecified)	51	SB	Default
85696	Oil based traffic coatings	52	SB	Driveway Sealers
85670	Oil based roof coatings	53	SB	Roof Coatings - Aluminum
85589	Oil based concrete curing compounds	54	SB	Concrete Curing Compounds for Roadways and Bridges
89896	Oil based wood preservatives	55	SB	Wood Preservatives - Other

Attachment H

CES	EICMATN	RULE 1113 CODE	TYPE	COATING CATEGORY
85654	Oil based industrial maintenance coatings	56	SB	Industrial Maintenance - Zinc Rich IM Primers
89797	Oil based lacquers (unspecified)	57	SB	Pigmented Lacquer
46763	Oil based (organic solvent based) coatings (unspecified)	58	SB	Concrete Surface Retarder
89888	Oil based waterproofing concrete/masonry sealers	59	SB	Reactive Penetrating Sealers
89797	Oil based lacquers (unspecified)	6	SB	Clear Brushing Lacquer
46763	Oil based (organic solvent based) coatings (unspecified)	60	SB	Sacrificial Anti-Graffiti Coatings
89888	Oil based waterproofing concrete/masonry sealers	61	SB	Stone Consolidant
85589	Oil based concrete curing compounds	7	SB	Concrete -Curing Compounds
85597	Oil based dry fog coatings	8	SB	Dry Fog coatings
89789	Oil based faux finishing	9	SB	Faux - Decorative Coatings
89789	Oil based faux finishing	9a	SB	Faux - Clear Topcoat
89789	Oil based faux finishing	9b	SB	Faux - Glazes
89789	Oil based faux finishing	9c	SB	Faux-Japan
89789	Oil based faux finishing	9d	SB	Faux-Trowel Applied Coatings
46755	Water based coatings (unspecified)	10	WB	Fire Proofing Coatings
85852	Water based flat coatings	13	WB	Flats
85936	Water based floor coatings	14	WB	Floor Coatings
89920	Water based form release compounds	16	WB	Form Release Compound
46755	Water based coatings (unspecified)	17	WB	Graphic Arts Coatings
85944	Water based industrial maintenance coatings	18	WB	Industrial Maintenance - High Temperature IM Coatings
85944	Water based industrial maintenance coatings	19	WB	Industrial Maintenance
85944	Water based industrial maintenance coatings	19a	WB	Non-Sacrificial Anti-Graffiti Coatings
89938	Water based lacquers (unspecified)	20	WB	Clear Wood Finishes - Lacquer (includes Lacquer Sanding Sealer)
46755	Water based coatings (unspecified)	21	WB	Low Solids Coatings
46755	Water based coatings (unspecified)	22	WB	Magnesite Cement coatings
89946	Water based mastic texture	23	WB	Mastic Coatings

Attachment H

CES	EICMATN	RULE 1113 CODE	TYPE	COATING CATEGORY
85951	Water based metallic pigmented coatings	24	WB	Metallic Pigmented Coatings
46755	Water based coatings (unspecified)	25	WB	Multi-Color Coatings
89953	Water based nonflat - low gloss/medium gloss	26	WB	nonflat coatings- low gloss
89953	Water based nonflat - low gloss/medium gloss	27	WB	non flat coatings - medium gloss
85860	Water based high gloss nonflat coatings	28	WB	nonflat - high gloss
46755	Water based coatings (unspecified)	29	WB	Pre-Treatment Wash Primers
85720	Water based primers, sealers, and undercoaters	30	WB	Primers, Sealers, and Undercoaters
46755	Water based coatings (unspecified)	31	WB	Quick-Dry Enamels
85738	Water based quick dry primers, sealers, and undercoaters	32	WB	Quick-Dry Primers, Sealers, and Undercoaters
46755	Water based coatings (unspecified)	33	WB	Recycled Coatings
85894	Water based bituminous roof coatings	34	WB	Roof Coatings
89961	Water based rust preventative	35	WB	Rust Preventative Coatings
85753	Water based sanding sealers	36	WB	Clear Wood Finishes - Sanding Sealers
46755	Water based coatings (unspecified)	37	WB	Shellac - Clear
46755	Water based coatings (unspecified)	38	WB	Shellac - Pigmented
89979	Water based specialty primer, sealer, and undercoater	39	WB	Specialty Primers
89904	Water based bituminous roof primer	4	WB	Roof Primers - Bituminous
89987	Water based stains - clear/semitransparent	40	WB	Stains, Interior (Clear/Semitransparent)
85803	Water based stains - opaque	41	WB	Stains (Clear/Semitransparent/Opaque)
46755	Water based coatings (unspecified)	42	WB	Swimming Pool Coatings - Other
46755	Water based coatings (unspecified)	43	WB	Swimming Pool Coatings - Repair
85977	Water based traffic coatings	45	WB	Traffic Coatings

Attachment H

CES	EICMATN	RULE 1113 CODE	TYPE	COATING CATEGORY
89995	Water based varnishes - clear/semitransparent	46	WB	Clear Wood Finishes - Varnish (Clear)
89995	Water based varnishes - clear/semitransparent	47	WB	Clear Wood Finishes -Varnish (Semitransparent)
90001	Water based waterproofing sealers	48	WB	Waterproofing Sealers
90019	Water based waterproofing concrete/masonry sealers	49	WB	Waterproofing Concrete/Masonry Sealers
46755	Water based coatings (unspecified)	5	WB	Bond Breakers
90027	Water based wood preservatives	50	WB	Wood Preservatives - Below-Ground
46755	Water based coatings (unspecified)	51	WB	Default
85977	Water based traffic coatings	52	WB	Driveway Sealers
85969	Water based roof coatings	53	WB	Roof Coatings - Aluminum
85902	Water based concrete curing compounds	54	WB	Concrete Curing Compounds for Roadways and Bridges
90027	Water based wood preservatives	55	WB	Wood Preservatives - Other
85944	Water based industrial maintenance coatings	56	WB	Industrial Maintenance - Zinc Rich IM Primers
89938	Water based lacquers (unspecified)	57	WB	Pigmented Lacquer
46755	Water based coatings (unspecified)	58	WB	Concrete Surface Retarder
90019	Water based waterproofing concrete/masonry sealers	59	WB	Reactive Penetrating Sealers
89938	Water based lacquers (unspecified)	6	WB	Clear Brushing Lacquer
46755	Water based coatings (unspecified)	60	WB	Sacrificial Anti-Graffiti Coatings
90019	Water based waterproofing concrete/masonry sealers	61	WB	Stone Consolidant
85902	Water based concrete curing compounds	7	WB	Concrete -Curing Compounds
85910	Water based dry fog coatings	8	WB	Dry Fog coatings
89912	Water based faux finishing	9	WB	Faux - Decorative Coatings
89912	Water based faux finishing	9a	WB	Faux - Clear Topcoat
89912	Water based faux finishing	9b	WB	Faux - Glazes
89912	Water based faux finishing	9c	WB	Faux-Japan
89912	Water based faux finishing	9d	WB	Faux-Trowel Applied Coatings

DESCRIPTION CATEGORY

This category estimates the emissions of volatile organic compounds (VOC) from architectural coatings used in the South Coast AQMD.

METHODOLOGY AND ASSUMPTIONS

[Rule 314](#) – Fees for Architectural Coatings (Rule 314) subdivision (e) – Requirement to Submit an Annual Quantity and Emissions Report (AQER) requires architectural coating manufacturers who sell architectural coatings into or within the South Coast AQMD’s jurisdiction and are subject to [Rule 1113](#) – Architectural Coatings (Rule 1113) to electronically submit an AQER by April 1 of each year.

Determination of Reported VOC Emissions for each CES

Annual quantity and emission data reported pursuant to Rule 314 is used to determine the annual Reported VOC Emissions (in tons per day (tpd) and tons per year (tpy)) for each CES listed above, as shown in the equations below.

Reported VOC Emissions (tpd)

$$= (\text{Annual Sales Vol in } \frac{\text{gal}}{\text{year}}) \left(\frac{3.78541 \text{ L}}{1 \text{ gal}} \right) (\text{reported Material VOC in } \frac{\text{g}}{\text{L}}) \left(\frac{1 \text{ lb}}{453.592 \text{ g}} \right) \left(\frac{1 \text{ ton}}{2000 \text{ lbs}} \right) \left(\frac{1 \text{ year}}{365 \text{ days}} \right)$$

Reported VOC Emissions (tpy)

$$= (\text{Annual Sales Vol in } \frac{\text{gal}}{\text{year}}) \left(\frac{3.78541 \text{ L}}{1 \text{ gal}} \right) (\text{reported Material VOC in } \frac{\text{g}}{\text{L}}) \left(\frac{1 \text{ lb}}{453.592 \text{ g}} \right) \left(\frac{1 \text{ ton}}{2000 \text{ lbs}} \right)$$

Determination of colorant emissions

Emissions from colorants are estimated based on the following assumptions:

- (1) Colorant will be added to 80% of all coatings, and
- (2) Four ounces of colorant is added at current VOC of Material (g/L) limit of Rule 1113.

Sales volume reported pursuant to Rule 314 for the calendar year of interest is compiled for the following:

- (1) Flat coating (Rule 1113 code 13),
- (2) Non-flat coatings (Rule 1113 codes 26, 27, and 28),
- (3) Industrial Maintenance (IM) waterborne (Rule 1113 codes 18, 19, 19a, and 56), and
- (4) IM solvent-borne (same categories as waterborne).

The annual emissions are calculated using the following equations:

Attachment H

VOC Emissions = waterborne colorant emissions + solvent-based colorant emissions

VOC Emissions =

$$\left(\frac{\text{Rule 1113 Limit MatVOC } 20 \frac{\text{g}}{\text{L}}}{119.83} \right) \left(\frac{4 \text{ oz colorant}}{128 \text{ oz mat}} \right) \left(\frac{80 \text{ tinted}}{100 \text{ mat}} \right) (\text{Vol}_{\text{IM water}} + \text{Vol}_{\text{flat/non-flat}})$$

$$+$$

$$\left(\frac{\text{Rule 1113 Limit Material VOC } 325 \frac{\text{g}}{\text{L}}}{119.83} \right) \left(\frac{4 \text{ oz colorant}}{128 \text{ oz material}} \right) \left(\frac{80 \text{ tinted}}{100 \text{ material}} \right) (\text{Vol}_{\text{IM solvent}})$$

$$\left(\frac{2000 \text{ lbs}}{1 \text{ ton}} \right) \left(\frac{365 \text{ days}}{1 \text{ year}} \right)$$

Determination of emissions from usage of thinners, additives, and clean-up solvents

The sales volume for solvent based and waterborne coatings reported annually under the Rule 314 can be used to estimate the total volume of thinning, additive, and cleanup solvents using the usage ratios in the Table below.

	Coating Type	Solvent/Additive Usage Ratio*	Notes	VOC Content (lb VOC/gal solvent)
Thinning	Solvent-borne	0.0597	Gal thinning solvent per gal SB coating	25
Additives	Water-borne	0.0044	Gal additive per gal WB coating	110.24
Cleanup	Solvent-borne & Water-borne	0.0160	Gal cleanup solvent per gal SB + WB coating	25

*Table 1 of Attachment A – New Method for Estimating Emissions from Thinning and Cleanup Solvents (ARB, March 2006): [Estimation Methodology: 2006-03-09 New Method for Estimating Emissions from Thinning and Cleanup Solvents \(ca.gov\)](http://www.ca.gov)

To determine emissions for each of these solvents, the following equation is used:

$$\text{VOC Emissions} = \frac{\text{Volume (gal)} \times \text{VOC Content (g/L)}}{119.83 * \times 2000 \text{ lbs/ton} \times 365 \text{ days/yr}}$$

$$* 119.83 = \frac{453.592 \text{ g/lb}}{3.7854 \text{ lbs/gal}}$$

AREA SOURCE EMISSIONS FOR 2022 AQMP

CES # 83030: ADHESIVES AND SEALANTS (SOLVENT BASED)
CES # 83063: ADHESIVES AND SEALANTS (WATER BASED)

DESCRIPTION CATEGORY

This category estimates the emissions of VOC from adhesive and sealant applications.

METHODOLOGY AND ASSUMPTIONS

Pursuant to the reporting requirements of Rule 1168 – Adhesive and Sealant Applications¹⁸, Sections (f)(2)(B), (f)(2)(C), and (f)(2)(F), regulated facilities are required to submit a Quantity & Emission Report (QER) using the approved QER form (1). The QER form contains three (3) tables: General QER, Aerosol QER, and 55 Gallon Exemption QER, each corresponding to the aforementioned rule sections.

Determination of solvent-based and water-based products

Reported sales data is sorted by type, i.e., solvent-based and water-based as reported in the QER for each facility prior to analysis.

Determination of VOC_TPD from data reported in the General QER

Reported sales volume for each product, as reported in the General QER section of the QER, is used to calculate the total VOC_TPD (in tons per day) for each product, using the equation below.

$$VOC_TPD = \frac{\{(Throughput \times VOC\ Material)\}}{(119.83 \times 2000 \times 365)}$$

Once the VOC_TPD for each product is determined, a sum for all products is calculated for each facility.

Determination of VOC_TPD from data reported in the Aerosol QER

Reported product weight sold for each product (in pounds) and their corresponding percent VOC by weight are used to calculate the VOC_TPD for each product.

$$VOC_TPD = \frac{\{(Throughput \times \% VOC\ By\ Weight)\}}{(2000 \times 365)}$$

¹⁸ [Rule 1168 Quantity and Emission Report Form \(08/15/19\)](#)

Again, a total for all aerosol products is determined once the VOC_TPD for each product has been calculated.

Determination of VOC_TPD from data reported in the 55 Gallon Exemption QER

Facilities subject to (f)(2)(F) are users and purchasers of regulated products, not manufacturers as the case with sections (f)(2)(B) and (f)(2)(C). Nevertheless, the VOC_TPD for each product can be determined using the equation below.

$$VOC_TPD = \frac{\{(Throughput \times VOC\ Material)\}}{(119.83 \times 2000 \times 365)}$$

Determination of the overall total VOC_TPD for each year

Once the totals for water-based products, solvent-based products, aerosol products, and 55 gallon exempt products are calculated, they are added to provide a final overall total for each CES (83030 & 83063). The same methodology is used for each reporting year.

Assumptions

The following assumptions are made in the analysis:

- For reported data that has no indication of whether the product is solvent-based or water-based, the product is assumed to be solvent-based.
- Some reports show only one value for both reporting years (2017 & 2018), the value is divided in halves for each year.

**AREA SOURCE EMISSIONS FOR LIVESTOCK
CY 2018 FOR 2022 AQMP**

CES NUMBER	CATEGORY DESCRIPTION
89516	Dairy Cattle
89557	Layers
89573	Swine

CES NUMBER 89516

This category estimates the area source emissions of PM, NH₃ and VOC from dairy cattle. The methodology has two steps: methodology and assumptions, and estimated emissions reduction.

Step 1 – Methodology and Assumptions

There are four types of dairy cattle: milking cows, dry cows, heifers, and calves. Emissions can be estimated for each type of cattle using the emission factors (EF) from the South Coast AQMD April 2011 Technology Assessment (TA) report.¹⁹ A TAD sheet requires a single EF for calculations; therefore, weighted emission factors must be determined first.

Throughput for each type of dairy cattle is determined based on the same distribution as provided in the 2008 baseline inventory where 208,010 dairy cattle (110,991 milking cows, 19,952 dry cows, 47,510 heifers, and 29,548 calves) were reported as indicated in the TA. The resulting percentage of dairy cattle are milking cows 53.4%; dry cows 9.6%; heifers 22.8%; and calves 14.2%.

The total 2018 number of 126,000 dairy cattle was provided by the Santa Ana Water Control Board (SAWCB). The SAWCB 2019 dairy cattle count in the region was reported to be 122,000 (64,000 head in the Chino basin and the remaining 58,000 dairy cattle in the San Jacinto watershed and Riverside/Corona areas) as compared to 126,000 in 2018. The throughput or head count for each type of dairy cattle is estimated by applying the percentage distribution by type to the total dairy cattle count as shown in Table 1.

Table 1 – 2018 Estimated Dairy Cattle (Head/Yr) Throughput

Types	Annual Total Dairy Cattle (head)	Percentage (%)	Throughput (head/yr) = Annual Total Dairy Cattle x Percentage
Milk Cow	126,000	53.4	67,284
Dry Cow		9.6	12,096
Heifer		22.8	28,728
Calf		14.2	17,892

¹⁹ South Coast AQMD, April 2011, TECHNOLOGY ASSESSMENT– 2007 AQMP CM# MCS-05

PM, NH3 and VOC emissions were estimated using equations (1) for each type of dairy cattle.

$$Emission (pollutant,type) = Throughput (type) \times EF (pollutant, type) \quad (1)$$

Where,

Emission: is the total emissions for the type of dairy cattle (milk cow, dry cow, heifer or calf) and for the pollutant (PM, NH3 or VOC) expressed in pound per year (lb/yr).

type: type of dairy cattle (milk cow, dry cow, heifer, or calf).

Throughput: head count by type per year (head/yr).

EF: is the emission factor by pollutant (PM, NH3 or VOC) and type expressed in pounds/head (lb/head). EFs are based on the TA.

Weighted Emission Factors for each pollutant can be determined using equation (2).

$$Pollutant \text{ Weighted Emission Factor } (EF_w) = Total \text{ Pollutant Emissions} / Annual \text{ Total Dairy Cattle} \quad (2)$$

Where,

Pollutant Weighted Emission Factor (EF_w): by pollutant (PM, NH3 or VOC) for all dairy cattle expressed in pound/head (lb/head)

Total Pollutant Emissions: total emissions by pollutant (PM, NH3 or VOC) for each dairy cattle type expressed in pound per year (lb/yr). Total Emissions= Emissions (Milk Cow) + Emissions (Dry Cow) + Emissions (Heifer) + Emissions (Calf)

Table 2 shows the EF_w for each pollutant.

Table 2 – Weighted Emissions Factors for Dairy Cattle by Pollutant

Pollutant	EF _w (lbs/head)
PM10	3.56
NH3	53.564
VOC	9.7002

Step 2 – Estimated Emission Reductions

An assumption is made that the dairy cattle count in 2018 can be distributed between Riverside and San Bernardino counties and is the same as 2019. The distributions are the following:

- Riverside Throughput= 58,000/122,000 x 126,000=59,850
- San Bernardino Throughput= 64,000/122,000 x 126,000=66,150

PM, NH3 and VOC emissions were estimated using equations (3).

$$Emission = Throughput \times Weighted \text{ Emission Factor } (EF_w) \times Control \text{ Factor } (CF)/2000 \quad (3)$$

Where,

Emission: is expressed in ton per year (ton/yr).

Weighted Emission Factor (EF_w): is expressed in pound/head (lb/head).

Control Factor (CF): CFs were derived from Rule 1127 based on the TA¹. CFs for NH₃ are 0.74 and VOC 0.63. PM does not have CF.

Conversion factor for tons to pounds: 2,000 lb per ton.

SUMMARY AND CONCLUSION

A Quality Assurance check was conducted to determine if the estimated emission results were reasonable. Table 3 shows the data taken from the TA and estimates the reduction from 2008 to 2018. Table 4 shows the population reduction from 2008 to 2018 based on the throughput from the SAWCB.

Table 3

Pollutants	2008/2009 Inventory (tons)	2014 Inventory from Survey (tons)	2023 Inventory Projected in TA (tons)	Reduction / year (2008 to 2023)	Reduction in 2018 (tons)	Percentage (%) reduction in 2018
PM10	0.54	0.48	0.25	-0.0193333333	0.34667	36%
NH3	11.29	10	5.21	-0.4053333333	7.23667	36%
VOC	2.25	1.54	0.8	-0.0966666667	1.28333	43%

Table 4

2008 count (from Tech Assessment)	2018 count (SAWCB)	Population reduced
208,010	126,000	39%

As a result, the TA predicts an estimated 36% to 43% reduction and SAWCB count shows an estimated 39% reduction. Therefore, it appears that the estimates based on the TA and SAWCB are reasonable.

An extensive literature search was conducted including USDA, County of San Bernardino and County of Riverside databases for various reporting/census years from 2008 through 2019. While each data source had some useful information, no single source had all the information needed for a precise assessment. In addition, definitions vary from source to source (for example, USDA and SB county include calves with beef cattle counts, whereas the “2011 Tech Assessment – 2007 AQMP CM# MCS-05” (TA) include calves as dairy cattle). However, since the TA based on Santa Ana Water Control Board (SAWCB) data represents the most complete assessment, and was used in a previous assessment, 2018 SAWCB dairy cattle data was obtained and compared with 2008 SAWCB data. It is unlikely that emission factors for animal types have changed since the TA notes they are derived from detailed and independent studies of specific animal types. Using the TA emission factors and 2018 SAWCB data we obtained the following, closely matching, estimates for 2018 “actual” (current estimated) vs TA projected emissions (for example, for NH₃):

- Projected 2018 NH₃ emissions based on 2008 TA Baseline = 7.24 TPD

- Actual SAWCB dairy cattle population decrease from 2008 to 2018 = 39%
- Estimated 2018 NH3 emissions based on actual 2018 SAWCB dairy animal count = Count x Weight Emission Factor x Rule 1127 Control Factor x Conversion Factor for TPD = 126,000 x 53.564 x 0.74 x (1/365x2000) = 6.84 TPD
- Only 3% variation between projected (higher) vs. actual estimated (lower) 2018 NH3 emissions
- County of San Bernardino actual milk production 2008 to 2018 ≈ 49% decrease

CES NUMBER 89557

This category estimates the area source emissions of PM, NH3 and VOC from layers. There was no previous TAD so as requested a new TAD sheet was created.

METHODOLOGY AND ASSUMPTIONS

PM, NH3 and VOC emissions were estimated using equations (4).

$$\text{Emission} = \text{Throughput} \times \text{Emission Factor (EF)} / 2000 \quad (4)$$

Where,

Emission: is expressed in ton per year (ton/yr).

Emission Factor (EF): is expressed in pound/head (lb/head).

Conversion factor: 2,000 pound per ton.

Emission factors are based on Technology Assessment April 2011. Throughput is based on 2017 USDA census of agriculture in Los Angeles, Orange, Riverside and San Bernardino counties²⁰.

CES NUMBER 89573

This category estimates the area source emissions of NH3 and VOC from swine. There was no previous TAD so as requested a new TAD sheet was created.

METHODOLOGY AND ASSUMPTIONS

NH3 and VOC emissions were estimated using equations (4). Emission factors are based on Technology Assessment April 2011. Throughput is based on 2017 USDA census of agriculture in Los Angeles, Orange, Riverside and San Bernardino counties². There is only one swine facility in the Basin. All emissions are allocated to Riverside county.

20

https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/California/

AREA SOURCE EMISSIONS FOR C/Y 2018 for 2022 AQMP**CES NUMBER 90474****COMPOSTING - SOLID WASTE (UNSPECIFIED) - CHIPPINGS AND GRINDINGS****DESCRIPTION OF CATEGORY**

CES	EIC	Name	MSC	SRC	MAT
90474	19917002400116	COMPOSTING - SOLID WASTE (UNSPECIFIED) - CHIPPINGS AND GRINDINGS	199	170	0240

EIC	19917002400116
EICSUM	199
EICSUMN	OTHER (WASTE DISPOSAL)
EICSOU	170
EICSOUN	COMPOSTING
EICMAT	270
EICMATN	SOLID WASTE (UNSPECIFIED)
EICSUB	116
EICSUBN	CHIPPINGS AND GRINDINGS
EICN	COMPOSTING - SOLID WASTE - CHIPPINGS AND GRINDINGS

This category estimates the area source emissions of VOC and NH₃ from the direct land applications (DLAs) of chipped and ground, compostable mulch. Greenwaste, once collected and screened, is chipped and ground to produce multiple products, including, but not limited to, composting feedstock, biomass, alternative daily cover (ADC), and mulch. Mulch is compostable and when used as a ground cover, it may produce VOC and NH₃ emissions over time due to microbiological decomposition activity. Compostable mulch is typically not well managed or controlled once applied to land and therefore, could become a potential source of emissions.

Curbside and non-curbside greenwaste is chipped and ground to produce mulch that is used as a ground cover material on public land (e.g., for erosion control or soil reclamation). There is high potential to emit air pollutants from land applied mulch as the material may undergo microbiological decomposition over time because it would not be well managed or controlled once being spread. If uncomposted and untreated, mulched greenwaste may cause not only airborne emissions, but also threaten the environment and public health from possible pathogen contamination. A recent study showed that direct land applications of chipped and screened but uncomposted greenwaste had significant VOC emissions occurring from greenwaste applied on soil surface. In addition, uncontrolled mulch application piles may go through anaerobic decomposition stages, potentially resulting in methane emissions.

METHODOLOGY AND ASSUMPTIONS

Emission methodology has not been updated since the last emissions inventory. VOC and NH3 emissions from the chipped and ground mulch are estimated based on South Coast AQMD Rule 1133.3 requirements (South Coast AQMD, 2011) and the methodology developed for the 2016 AQMP Control Measure BCM-10 (South Coast AQMD, 2017).

Uncontrolled Emission Factors

This section comes from the 2015 AER guideline report. VOC and NH3 emissions can be estimated using equation (1) when the emissions are not being controlled prior to be released to the atmosphere.

$$\text{Emission} = \text{Throughput} \times \text{Uncontrolled Emission Factor} \quad (1)$$

Where,

Emission: VOC or NH3 emissions expressed in pounds per year (lb/yr).

Throughput: Mass of mulch in tons per year (ton/yr), as received by a facility and produced through chipping and grinding.

Uncontrolled Emission Factor (EF_u): South Coast AQMD default factors that are taken from Rule 1133.3 staff report and are available to estimate the emissions from chipped and ground mulch.

The uncontrolled emission factors are listed under Table 1.

Table 1. Uncontrolled Emission Factors for Chipped and Ground Mulch

Operation	VOC EF _u (lbs/ton of throughput)	NH3 EF _u (lbs/ton of throughput)
Greenwaste Composting	4.67	0.66

Activity Data

Throughput is a new update with the 2018 actual annual throughput the facilities reported to the South Coast AQMD under the Rule 1133 Registration/Annual Update requirements. If the 2018 throughput data was not readily available for the facility, the total actual throughput available in a most recent year

(between 2014 and 2019) was used as a substitute. The following assumptions are made in calculating emissions for this area source category:

- The total actual throughput data provided by each greenwaste composting facility as reported in the Rule 1133 Registration/Annual Update database is accurate.
- The record on the greenwaste composting operations reported to Rule 1133 Registration/Annual Update is comprehensive and is the best resource available.

SUMMARY AND NEW EMISSIONS

Total Throughput

Facilities' annual actual throughput comes from C/Y 2014–2019 Rule 1133 database. Total facility throughput by county and VOC and NH3 emission factors for compostable, chipped and ground mulch are given in Table 2.

Table 2. County-Specific Throughput and VOC and NH3 Emission Factors for Compostable, Chipped and Ground Mulch

County	# of Facilities	Throughput (tons/year)	VOC EF _u (lbs/ton)	NH3 EF _u (lbs/ton)
Los Angeles	11	329,113	4.67	0.66
Orange	3	46,183	4.67	0.66
Riverside*	4	240,884	4.67	0.66
San Bernardino	5	129,911	4.67	0.66
South Coast Air Basin	23	746,091	4.67	0.66

* South Coast Air Basin only.

VOC and NH3 Emissions

VOC and NH3 emissions by county are calculated using equation (1) from throughput and uncontrolled emission factors in Table 2.

Table 3. Total VOC and NH3 Emissions in the South Coast Air Basin

County	Throughput (tons/year)	VOC (tons/year)	NH3 (tons/year)
Los Angeles	329,113	768.5	108.6
Orange	46,183	107.8	15.2
Riverside	240,884	562.5	79.5
San Bernardino	129,911	303.3	42.9

Attachment H

South Coast Air Basin	746,091	1,742	246
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Emissions for Base Year 2018 (for the South Coast Air Basin)²¹

Pollutant	2016 AQMP		2022 AQMP	
	VOC	NH3	VOC	NH3
EF (lbs/ton)	4.16	0.63	4.67	0.66
Emissions (tpy)	1,348	204	1,742	246
Emissions (tpd)	3.69	0.56	4.77	0.67

REFERENCES

1. [South Coast AQMD, Final Staff Report for Proposed Rule 1133.3 – Emission Reductions for Greenwaste Composting Operations, July 2011.](#)
2. [South Coast AQMD, Final 2016 Air Quality Management Plan, Appendix IV-A – South Coast AQMD’s Stationary and Mobile Source Control Measures, page IV-A-98, March 2017](#)

²¹ The 2016 AQMP emissions include both greenwaste composting and chip and grind mulch, while the 2022 AQMP emissions only include chip and grind mulch with greenwaste composting reported in a separate category.

AREA SOURCE EMISSIONS FOR C/Y 2018 for 2022 AQMP
CES NUMBER 90473
COMPOSTING - SOLID WASTE (UNSPECIFIED) - GREENWASTE

DESCRIPTION OF CATEGORY

CES	EIC	Name	MSC	SRC	MAT
90473	19917002400115	COMPOSTING - SOLID WASTE (UNSPECIFIED) - GREENWASTE	199	170	0240

EIC	19917002400115
EICSUM	199
EICSUMN	OTHER (WASTE DISPOSAL)
EICSOU	170
EICSOUN	COMPOSTING
EICMAT	270
EICMATN	SOLID WASTE (UNSPECIFIED)
EICSUB	115
EICSUBN	GREENWASTE
EICN	COMPOSTING - SOLID WASTE - GREENWASTE

This category estimates the area source emissions of VOC and NH₃ from greenwaste composting operations. Greenwaste composting operations produce a finished compost involving the active phase biodegradation and subsequent curing phase of greenwaste materials. Greenwaste composting is microbiological decomposition of greenwaste by itself, or in combination with foodwaste, or up to 20 percent manure, per pile volume basis.

METHODOLOGY AND ASSUMPTIONS

Emission methodology has not been updated since the last emissions inventory. VOC and NH₃ emissions from greenwaste composting operations are estimated based on the methodology developed in the Annual Emission Reporting (AER) guideline document for greenwaste composting operations (South Coast AQMD, 2015) and based on South Coast AQMD Rule 1133.3 requirements (South Coast AQMD, 2011).

Controlled Emission Factors

This section comes from the 2015 AER guideline report. VOC and NH₃ emissions can be estimated using equation (1) when the emissions are being controlled prior to be released to the atmosphere.

$$\text{Emission} = \text{Throughput} \times \text{Controlled Emission Factor} \quad (1)$$

Where,

Emission: VOC or NH3 emissions expressed in pounds per year (lb/yr).

Throughput: Mass of foodwaste, manure, and greenwaste in tons per year (ton/yr) as received by a facility and processed through composting.

Controlled Emission Factor (EF_c): These are factors determined based on the types of emission control that exists at the facility such as best management practices (BMPs) or additional South Coast AQMD approved control system as described below.

- i) *Best Management Practices:* The BMPs are defined as when greenwaste composting piles are covered with at least six inches of finished compost within 24 hours of initial pile formation, and not turned for the first seven days of active phase composting. In addition, for the first fifteen days of initial pile formation and within six hours before turning, the top half of the pile is kept wet to a depth of at least three inches.
- ii) *Add-On Control:* South Coast AQMD approved emission control system is used for greenwaste composting piles (i.e., biofiltration, etc.)

The controlled emission factors are listed under Table 1 for BMPs or Add-On control.

Table 1. Controlled Emission Factors for Greenwaste Composting Operations

Control Method	VOC EF _c (lbs/ton of throughput)	NH3 EF _c (lbs/ton of throughput)
Best Management Practices	2.97*	0.57**
Add-On Control	1.27***	0.29***

* This value assumes 40% control applied to the active phase only

** This value assumes 20% control applied to the active phase only

*** This value assumes 80% control applied to the active phase only

Composite Emission Factors

There is no update of this section since the last emissions inventory. A county-specific composite emission factor for a pollutant is determined using equation (2).

$$CEF = \frac{\sum(TP_i \times EF_{c,i})}{\sum(TP_i)} \quad (2)$$

Where, *CEF* is a composite emission factor for VOC or NH₃, expressed in lb/ton; *TP_i* is the annual actual throughput of greenwaste composting feedstock in tons/yr at a facility *i* (*i* = 1, ..., *n*); *EF_{c,i}* is a controlled emission factor for VOC or NH₃ at a facility *i*. A county-specific CEF is calculated by dividing the sum of BMP controlled or Add-On controlled emissions of VOC or NH₃ by the sum of throughput for all facilities located in that county.

Activity Data

Throughput is a new update with the 2018 actual annual throughput the facilities reported to the South Coast AQMD under the Rule 1133 Registration/Annual Update requirements. If the 2018 throughput data was not readily available for the facility, the total actual throughput available in a most recent year (between 2014 and 2019) was used as a substitute. The following assumptions are made in calculating emissions for this area source category:

- The total actual throughput data provided by each greenwaste composting facility as reported in the Rule 1133 Registration/Annual Update database is accurate.
- The record on the greenwaste composting operations reported to Rule 1133 Registration/Annual Update is comprehensive and is the best resource available.

SUMMARY AND NEW EMISSIONS

Total Throughput and Composite Emission Factors

Facilities' annual actual throughput comes from C/Y 2014–2019 Rule 1133 database. Total facility throughput by county and county-specific, composite VOC and NH₃ emission factors for greenwaste composting operations are given in Table 2.

Table 2. County-Specific Throughput and Composite VOC and NH₃ Emission Factors for Greenwaste Composting Operations

County	# of Facilities	Throughput (tons/year)	CEF _{VOC} (lbs/ton of throughput)	CEF _{NH₃} (lbs/ton of throughput)
Los Angeles	2	20,037	2.97	0.57
Orange	5	24,856	2.97	0.57
Riverside*	4	65,216	1.65	0.35
San Bernardino	2	76,357	2.39	0.47

* South Coast Air Basin only.

VOC and NH3 Emissions

Calculation of VOC and NH3 emissions by county is modified from equation (1) and estimated using equation (3).

$$Emission = Throughput \times CEF$$

where, *Throughput* is the annual total throughput of greenwaste composting feedstock; and *CEF* is a county-specific, composite emission factor for VOC or NH3. Total VOC and NH3 emissions in the South Coast Air Basin are estimated in Table 3 using controlled composite emissions factors shown in Table 2.

Table 3. Total VOC and NH3 Emissions in the South Coast Air Basin

County	Throughput (tons/year)	CEF _{VOC} (lbs/ton)	CEF _{NH3} (lbs/ton)	VOC (tons/year)	NH3 (tons/year)
Los Angeles	20,037	2.97	0.57	29.8	5.71
Orange	24,856	2.97	0.57	36.9	7.08
Riverside	65,216	1.65	0.35	53.9	11.51
San Bernardino	76,357	2.39	0.47	91.1	18.09
South Coast Air Basin	186,465	2.27	0.45	211.6	42.40

Emissions for Base Year 2018 (for the South Coast Air Basin)²²

Pollutant	2016 AQMP		2022 AQMP	
	VOC	NH3	VOC	NH3
CEF (lbs/ton)	4.16	0.63	2.27	0.45
Emissions (tpy)	1,348	204	212	42
Emissions (tpd)	3.69	0.56	0.58	0.12

REFERENCES

1. [South Coast AQMD, Guidelines for Calculating Emissions from Greenwaste Composting and Co-composting Operations, February 2015.](#)

²² The 2016 AQMP emissions include both greenwaste composting and chip and grind mulch, while the 2022 AQMP emissions only include greenwaste composting with chip and grind mulch reported in a separate category.

Attachment H

2. [South Coast AQMD, Final Staff Report for Proposed Rule 1133.3 – Emission Reductions for Greenwaste Composting Operations, July 2011.](#)

AREA SOURCE EMISSIONS FOR C/Y 2018 for 2022 AQMP
CES NUMBER 90475
COMPOSTING - CO-COMPOSTING - BIOSOLIDS AND GREENWASTE MIX

DESCRIPTION OF CATEGORY

CES	EIC	Name	MSC	SRC	MAT
90475	19917002700000	COMPOSTING - CO-COMPOSTING - BIOSOLIDS AND GREENWASTE MIX	199	170	0270

EIC	19917002700000
EICSUM	199
EICSUMN	OTHER (WASTE DISPOSAL)
EICSOU	170
EICSOUN	COMPOSTING
EICMAT	270
EICMATN	CO-COMPOSTING
EICSUB	0
EICSUBN	SUB-CATEGORY UNSPECIFIED
EICN	COMPOSTING - CO-COMPOSTING (BIOSOLIDS AND GREENWASTE MIX)

This category estimates the area source emissions of VOC and NH₃ from co-composting operations that compost biosolids and/or manure with bulking agents in windrows or using add-on control methods, such as aerated static piles (ASP) or in-vessel systems.

METHODOLOGY AND ASSUMPTIONS

The emissions inventory for co-composting operations was quantified based on the methodology developed in the Annual Emission Reporting (AER) guideline document for co-composting operations (South Coast AQMD, 2015) for CES 90472 and updated with 2018 activity data (i.e., annual co-composting feedstock throughput). Emission factors for this category are a function of the type of co-composting feedstock/operations and their corresponding control efficiency (uncontrolled vs. controlled). The VOC and ammonia baseline emission factors were initially developed as part of Rule 1133.2 – Emission Reductions from Co-Composting Operations (adopted 01/10/03), based on the South Coast AQMD source tests conducted in 1995 and 1996 for three windrow co-composting facilities. The baseline emission factors for VOC and ammonia are 1.78 and 2.93 lbs/ton of throughput (i.e., composting feedstock received at the facility), respectively. Baseline emissions from co-composting operations are estimated by multiplying the facilities annual throughput by these average emission factors. Emissions from controlled co-composting operations are estimated by incorporating the efficiency of a control method (e.g., ASP or in-vessel system) as required in Rule 1133.2 into the baseline emission factors.

Attachment H

Under Rule 1133.2, existing co-composting operations that have begun operations on or before January 10, 2003 are required to reduce emissions of VOC and NH₃ by 70% via an Add-on control method, while new co-composting operations that have not started operations as of January 10, 2003 are required 80% reductions in VOC and NH₃ emissions. These emission reduction requirements do not apply to certain composting operations, including greenwaste composting operations, agricultural composting operations, woodwaste composting operations, co-composting operations with a design capacity of less than 1,000 tons of throughput per year, and existing co-composting operations with a design capacity of less than 35,000 tons of throughput per year containing no more than 20% biosolids, by volume. Greenwaste composting operations, by its definition, mean composting greenwaste only or greenwaste in combination of up to 20% manure, by volume.

Co-composting facilities are required to register the facilities operations to the South Coast AQMD as required in Rule 1133 – Composting and Related Operations – General Administrative Requirements, and then to update their operations annually. Facilities annual throughput was collected from the Rule 1133 Registration/Annual Update database for calendar year 2018. In addition, AER database was searched to collect annual throughput if the throughput data could not be found in Rule 1133 database.

The total throughput for each county is a sum of total facilities throughput in that county as reported to Rule 1133 Registration/Annual Update or Annual Emission Reports (AERs) for the calendar year 2018. Note that in the last 2016 AQMP, only Rule 1133 data were retrieved. For the 2022 AQMP, because of missing data from Rule 1133 database, AER records were used to fill in the missing data for selected facilities not reporting to Rule 1133. If the 2018 throughput data was not available, the total throughput available in a most recent year (2015–2018) was used as a substitute.

A control efficiency (i.e., 70% control for existing co-composting operations or 0% for exempt co-composting operations) of each co-composting operation was taken into account to derive controlled emission factors for VOC and NH₃. For exempt co-composting operations, controlled emission factors are assumed to be the same as uncontrolled emission factors. A county-specific composite emission factor for a pollutant is determined by dividing the sum of baseline or controlled emissions of the pollutant by the sum of throughput for all facilities located in the county.

The following assumptions were made in calculating emissions for this area source category:

- The total throughput data provided by each co-composting facility as reported in the AER or Rule 1133 Registration/Annual Update database is accurate.
- The co-composting operations reported to AER or Rule 1133 Registration/Annual Update are comprehensive.

- County-specific composite emission factors are calculated to accommodate two different emission control efficiencies (no control or Add-On control) within the county by taking account of total facilities annual throughput.

SUMMARY AND NEW EMISSIONS

Total Throughput and Emission Factors:

- Facilities annual co-composting throughput comes from CY 2015–2018 AERs or Rule 1133 databases
- Uncontrolled emission factors in lbs/ton = 2.93 for NH3 and 1.78 for VOC
- Con Controlled emission factors (EF_c in lbs/ton) = $2.93 \times (1 - CE_{NH3})$ or $1.78 \times (1 - CE_{VOC})$
Where, CE_{NH3} or CE_{VOC} is a control efficiency of the Add-On control.

Facility	County	Throughput (tons/yr)	CE_{NH3} or CE_{VOC} (%)	NH3 EF_c (lbs/ton)	VOC EF_c (lbs/ton)
A	Los Angeles	2,595	70	0.88	0.53
B	Los Angeles	5,743	70	0.88	0.53
C	Los Angeles	1,878	0	2.93	1.78
D	San Bernardino	192,219	70	0.88	0.53
E	San Bernardino	20,625	0	2.93	1.78
F	San Bernardino	45,000	0	2.93	1.78

Composite Emission Factors:

- County-specific composite emission factors (CEFs) in lbs/ton =

$$CEF_{NH3} = \frac{\sum(TP_i \times 2.93 \times (1 - CE_{NH3,i}))}{\sum TP_i}$$

$$CEF_{VOC} = \frac{\sum(TP_i \times 1.78 \times (1 - CE_{VOC,i}))}{\sum TP_i}$$

Where, CEF_{NH3} or CEF_{VOC} is a composite emission factor for NH3 or VOC, respectively. TP_i is the annual throughput of co-composting feedstock at a facility i ($i = 1, \dots, n$). $CE_{NH3,i}$ or $CE_{VOC,i}$ is a control efficiency of the Add-On control, expressed as a decimal fraction, at a facility i .

- Example 1: Los Angeles County-specific composite emission factor for NH3 ($C-EF_{NH3}$) = $\{(2,595 \times 0.88) + (5,743 \times 0.88) + (1,878 \times 2.93)\} \div 10,216 = 1.26$ lbs/ton
- Example 2: South Coast Air Basin average composite emission factor for NH3 = $\{(10,216 \times 1.26) + (257,844 \times 1.40)\} \div 268,060 = 1.40$ lbs/ton

Attachment H

Facility	County	Total Throughput (tons/yr)	CEF _{NH3} (lbs/ton)	CEF _{VOC} (lbs/ton)
A+B+C	Los Angeles	10,216	1.26	0.76
D+E+F	San Bernardino	257,844	1.40	0.85
South Coast Air Basin		268,060	1.40	0.85

Emissions for Base Year 2018 (for the South Coast Air Basin):

Pollutant	2016 AQMP		2022 AQMP	
	NH3	VOC	NH3	VOC
CEF (lbs/ton)	1.26	0.76	1.40	0.85
Emissions (tpy)	142.15	86.36	187.04	113.63
Emissions (tpd)	0.39	0.24	0.51	0.31

REFERENCES

[South Coast AQMD, Guidelines for Calculating Emissions from Greenwaste Composting and Co-composting Operations, February 2015.](#)

Major Source Category: Paved Road Dust

CES: 83618 PAVED ROAD TRAVEL - FREEWAYS – DUST
47456 PAVED ROAD TRAVEL - (UNSPECIFIED) - DUST
83626 PAVED ROAD TRAVEL - MAJOR STREETS - DUST
83634 PAVED ROAD TRAVEL - COLLECTOR STREETS - DUST
83642 PAVED ROAD TRAVEL - LOCAL STREETS - DUST

SCAG provided 2018 ‘Iodinfo’ data containing traffic volume data for road segments within South Coast AQMD’s jurisdiction, including the Mojave Desert Air Basin (MDAB) and Salton Sea Air Basin (SSAB) portions of Riverside County. Data provided includes the length of each road segment, the air basin containing each segment, area type (urban, suburban, rural, etc.), functional class (local, highway, arterial, collector, etc.), as well as information on the average number of vehicles traversing the road segment by vehicle type (LDV, MDV, LHDT, MHDT, HHDT, and Preloaded Bus). Traffic volume data is available by time of day: AM Peak (6am-9am), Midday (9am-3pm), PM Peak (3pm-7pm), Evening (7pm-9pm), and Night (9pm-6am).

We estimated the PM10 road dust emission factor for each individual road segment and time of day (AM, Midday, PM, Evening, Night) using the US EPA’s AP-42²³ emission factor equation below:

$$E = [k(sL)^{0.91} \times (W)^{1.02}] \times (1 - P/4N)$$

where,

E = the particulate emission factor in units of pounds of particulate matter per VMT,

k = the U.S. EPA AP-42 particle size multiplier (PM10 = 0.0022 lb/VMT),

sL = the roadway-specific silt loading in grams/square meter (g/m²),

W = the average weight of vehicles traveling the road (tons),

P = number of “wet” days, when at least one site per county received at least 0.01 inch of precipitation during the annual averaging period, and

N = the number of days in the annual averaging period (default = 365).

The default values provided in the CARB paved road dust guidance document²⁴ were used for the following parameters: particle size multiplier (k) and number of days in the annual averaging period (N). The average number of rainfall days, P , was taken from local airport data – see Table 1 below. A value of 31 rainfall days was used for SCAB and 17 rainfall days for MDAB and SSAB. The average weight of vehicles traveling the road segment, W , was calculated by taking a weighted average by vehicle type.

²³AP 42, Fifth Edition, Volume I, Chapter 13: Miscellaneous Sources

https://www.epa.gov/sites/production/files/2020-10/documents/13.2.1_paved_roads.pdf

²⁴MISCELLANEOUS PROCESS METHODOLOGY 7.9 Entrained Road Travel, Paved Road Dust:

https://www3.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2018.pdf

Table 1: Days of daily accumulated precipitation larger than 0.01 inch

Year	Airport			
	FUL	ONT	SNA	PSP
2015	23	33	25	15
2016	29	33	32	19
2017	28	27	26	14
2018	28	23	26	12
2019	48	44	46	25
Average	31	32	31	17

County- and roadway-specific silt loading factors, *sL*, were taken from page 6 of the CARB paved road dust guidance document. In order to assign the correct silt loading factor, each road segment was classified based on Area Type and Functional Class. Table 2 describes how Area Type was reclassified into URBAN and RURAL categories and Table 2 displays how each road segment was classified based on both the Area Type and Functional Class.

Table 2: Classifying Road Segments by Area Type

Area Type	
Data	Reclassified as:
1 = Core	URBAN
2 = Central Business District	URBAN
3 = Urban Business District	URBAN
4 = Urban	URBAN
5 = Suburban	URBAN
6 = Rural	RURAL
7 = Mountain	RURAL

We assumed the average weight to be the midpoint of the weight range for each vehicle type (see Table 4 below). Plugging in the average weight of vehicles to the equation above allows you to calculate the PM10 emission factor for each road segment during the five distinct time intervals. Multiplying the emission factor by the length of the road segment gives you the PM10 emissions for that road segment during the specified time interval. Once PM10 emissions are calculated, the corresponding amount of Total PM and PM2.5 emissions can be found by applying the appropriate scaling factor (Total PM = 2.187; PM2.5 = 0.150).

Table 3: Classifying Road Segments by Functional Class

Functional Class	
Data	Reclassified as:
10 = Freeway	FREEWAY
20 = HOV	FREEWAY
30 = Expressway/Parkway	FREEWAY
40 = Principal Arterial	MAJOR
50 = Minor Arterial	MAJOR
60 = Major Collector	COLLECTOR
70 = Minor Collector	COLLECTOR if URBAN, LOCAL if RURAL
80 = Ramps	FREEWAY
90 = Truck Lane	FREEWAY
100 = TAZ Centroid Connector	LOCAL

Table 4: Average Weight by Vehicle Type

Vehicle	Weight (tons)
LDV	2.13
MDV	2.13
LHDT	5.63
MHDT	11.75
HHDT	23.25
BUS	16.00

Major Source Category: Unpaved Road and Travel Dust

CES: 47399 UNPAVED ROAD TRAVEL - CITY AND COUNTY ROADS - DUST
47407 UNPAVED ROAD TRAVEL - U.S. FOREST AND PARK ROADS - DUST
47423 UNPAVED ROAD TRAVEL - B.L.M. ROADS - DUST

The methodology outlined in the CARB unpaved (non-farm) roads guidance document²⁵ was followed in calculating PM Road Dust emissions from unpaved (non-farm) roads. The following default parameters employed in the guidance document were used in this analysis:

- 10 vehicle passes per day on all unpaved roads
- EF = 2 lbs PM10/VMT

We used recent rainfall data at local airports to calculate Annual Rainfall Days – see Table 1 below. We used the following estimates in this analysis (31 in SCAB/LA, 31 in SCAB/Orange, 31 in SCAB/Riverside, 31 in SCAB/SB, 17 in MDAB/Riverside, 17 in SSAB/Riverside)

Table 1: Days of daily accumulated precipitation larger than 0.01 inch

Year	Airport			
	FUL	ONT	SNA	PSP
2015	23	33	25	15
2016	29	33	32	19
2017	28	27	26	14
2018	28	23	26	12
2019	48	44	46	25
Average	31	32	31	17

Unpaved road mileage by category was found from publicly available GIS data. The list below contains links to GIS data for each source category, as well as the Road Type descriptor from the GIS layer's attribute table used (in parentheses). Using ArcMap, each GIS shapefile was projected into a projected coordinate system (UTM NAD 1983 – Zone 11N). Each shapefile was then 'clipped' to each Sub-Air Basin and feature lengths were recalculated. The attribute tables for each Sub-Air Basin and source category were then exported from ArcMap into Excel.

City and County Roads (S1500, S1740):

<https://www.census.gov/cgi-bin/geo/shapefiles/index.php?year=2018&layergroup=Roads>

USFS Roads (Dirt Road, Suitable for Passenger Car, Gravel Road, Suitable for Passenger Car):

<https://data.fs.usda.gov/geodata/edw/datasets.php?xmlKeyword=RoadCore>

²⁵MISCELLANEOUS PROCESS METHODOLOGY 7.10 Unpaved Road Dust, Non-Farm Roads
https://ww3.arb.ca.gov/ei/areasrc/fullpdf/full7-10_2012.pdf

Attachment H

BLM Roads (Primitive Road):

<https://data.doi.gov/dataset/blm-national-ground-transportation-linear-feature-public-display-polylines>

NPS Roads (Native/Dirt):

<https://public-nps.opendata.arcgis.com/datasets/nps-roads-geographic-coordinate-system-1/data>

California State Park Roads (Native Material):

https://opendata.arcgis.com/datasets/45fa4fba9dde4a8dbb23cdd56da40703_0.gdb?outSR=%7B%22lat%22%3A3857%2C%22wkid%22%3A102100%7D

There exists some overlap across unpaved road sources, particularly between city/county and state park roads. Redundant road segments were removed from the state park road GIS source file to reduce double-counting. The following road segments were removed:

- Coyote Canyon Rd (FIDs: 434, 701, 589, 1419, 1129, 416, 1176, 1144)
- Moro Ridge Rd/Trl (FIDs: 1304, 708, 1068, 251)
- S Ridge Trail (FIDs: 12, 329, 913, 161, 16, 820, 1024, 1256, 839, 460, 322, 243)
- Bobcat Ridge Trl (FID: 329)
- Fig Valley Loop (FID: 926)