Environmental Protection Agency
2019 & 2020 Targeted Airshed Grant Program

RFA Number: EPA-OAR-OAQPS-20-01

Switch-On: A Large-Scale Deployment of Zero Emission Freight Trucks

EMISSION INVENTORIES ATTACHMENT

Prepared by: South Coast Air Quality Management District

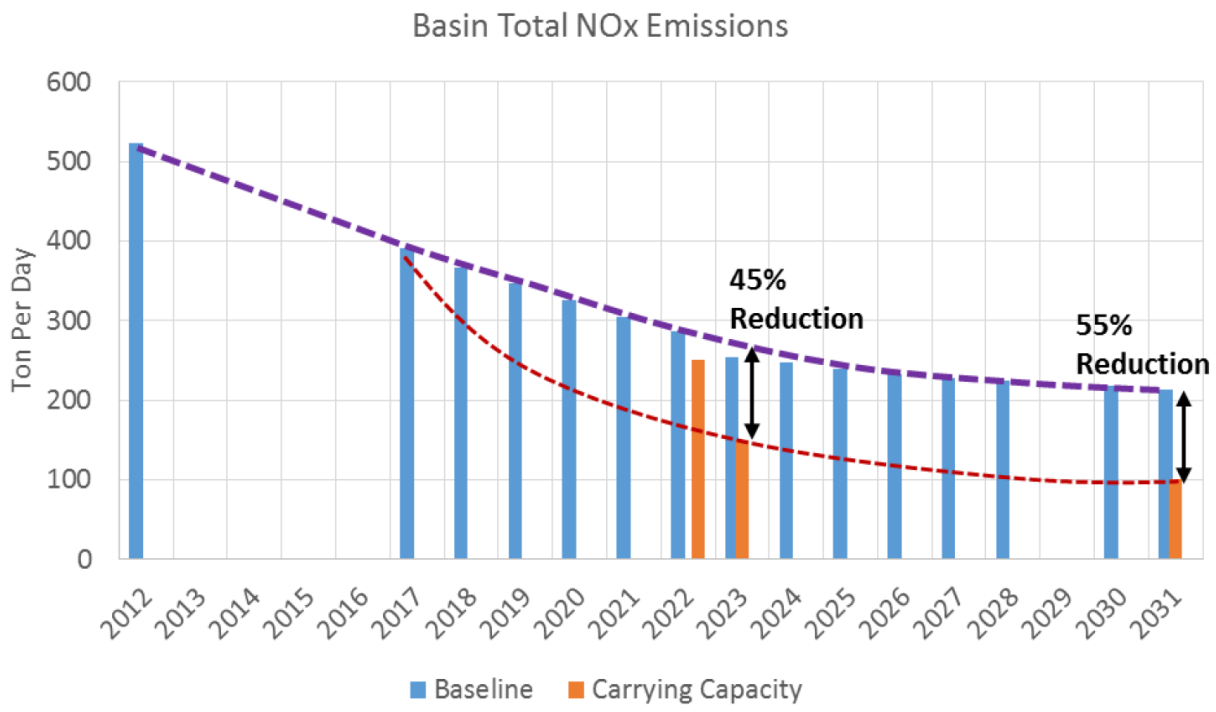
April 10, 2020

Emissions Inventory

South Coast AQMD's 2016 Air Quality Management Plan (AQMP) specifies an emission reduction strategy for the attainment of five national ambient air quality standards (NAAQS) shown below.

Standard	Concentration	Classification	Latest Attainment Year
2008 8-hour Ozone	75 ppb	Extreme	2031
2012 Annual PM2.5	12 µg/m³	Moderate Serious	2021 2025
2006 24-hour PM2.5	35 µg/m³	Serious	2019
1997 8-hour Ozone	80 ppb	Extreme	2023
1979 1-hour Ozone	120 ppb	Extreme	2022

The 2016 AQMP includes stationary and mobile source strategies to ensure that attainment deadlines are met for the upcoming NAAQS listed above. The 2016 AQMP includes a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methodology. Based on the inventory and modeling results for the 2016 AQMP, 522 tons per day (tpd) of total NOx 2012 emissions are projected to drop down to 255 and 214 tpd of NOx in 8-hour ozone attainment years of 2023 and 2031 respectively. The attainment analysis shows that total NOx emissions must be reduced to 141 tpd in 2023 and 96 tpd in 2031 to attain the 8-hour ozone standards. This represents an additional 45 percent and 55 percent in NOx reductions in 2023 and 2031, beyond currently projected 2031 levels, in order to attain the 8-hour ozone standards. The attainment strategy to meet the 8-hour ozone standard in 2023 should lead to sufficient NOx reductions to meet the 1-hour ozone standard in 2022. Since NOx emissions also lead to the formation of PM2.5, the NOx reductions required to meet the ozone standards should also meet the annual and 24-hour PM2.5 standards.

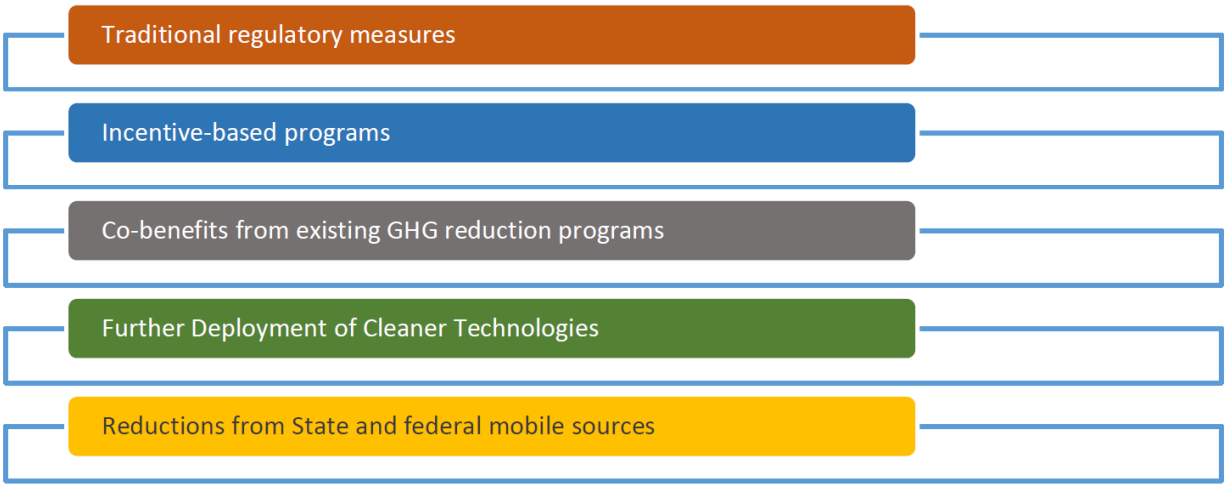


The 2016 AQMP eliminates a reliance on future unknown and unspecified technology measures to meet the attainment of the NAAQS, to the maximum extent feasible. This is due to the belief that the majority of zero emission and near-zero emission technologies required for fast approaching attainment deadlines as early as 2022 and 2023 already commercially available or will soon be commercially available. Hence it is possible to specify technology and implementation pathways to attainment. It is understood that the 2016 AQMP some Clean Air Act §182(e)(5) flexibility by U.S. EPA given the need for continued technology and cost effectiveness, as well as new funding and incentive programs.

The 2016 AQMP also takes credit for co-benefits from other local, state, and federal efforts addressing GHG reductions, energy efficiency, transportation, and goods movement, which will lead to further air quality improvements. Due to South Coast AQMD's limited authority to regulate mobile sources in the South Coast Air Basin, attainment cannot be achieved without state and federal actions. Proposed measures include a new ultra low NOx federal engine emission standard for heavy-duty trucks and CARB mobile source regulations including the Advanced Clean Trucks, Truck and Bus Regulation, Innovative Clean Transit, Drayage Truck, Cargo Handling Equipment, and Fleet Reporting regulations.

Another strategy outlined in the 2016 AQMP is to identify and secure additional funding to implement early deployment and early commercialization of zero and near-zero emission technologies in the mobile source category including medium- and heavy-duty trucks, transit buses, and cargo handling equipment such as yard tractors, top handlers, RTG cranes, and ocean going vessels. The 2016 AQMP prioritizes maximizing emission reductions by utilizing zero emission technologies wherever feasible and cost effective near-zero emission technologies in other applications, when a regulatory approach is not yet practical or would require more time to achieve near-term emission reductions required to meet the NAAQS. A full life cycle emissions analysis will be considered in determining the full emissions profile and cost effectiveness of zero and near-zero emission technologies. There will be special consideration of strategies contributing to the economic vitality of the region, needs of the public and small businesses, and maximizing emission reductions in Environmental Justice or Disadvantaged Communities.

The overall strategy for the 2016 AQMP is a combined approach including stationary and mobile source emission reductions from regulatory control measures; incentive based programs; co-benefits from climate change, mobile source strategies and reductions from state (vehicles and cargo handling equipment) and federal sources (aircraft, locomotives, ocean going vessels). This combined approach for the 2016 AQMP is shown below. Since mobile sources comprise 88 percent of the total NOx emissions in the South Coast Air Basin for 2012, the focus for the proposals for the 2019 & 2020 EPA Targeted Airshed Grant solicitation will be on battery electric heavy-duty drayage trucks; battery electric heavy-duty refuse trucks; fuel cell transit buses; and ocean going vessels.



Excerpts from South Coast AQMD's AQMP related to emission inventories are below. Following the excerpts are the full Chapter and Appendix from which they were pulled for reference.

From Chapter 3 – Base Year and Future Emissions

On-Road Mobile Sources

CARB's EMFAC 2014 model has undergone extensive revisions from the previous version (EMFAC 2011) to make it more user-friendly, flexible, and 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:

- *Revision of heavy-duty diesel (HD Diesel) truck emission rates: The emission factors for heavy heavy-duty diesel trucks were also updated using new test data on newer trucks (Model Year 2007 and newer) that more accurately represent the effectiveness of the control equipment used to meet the more stringent 2007 and 2010 emission standards.*
- *Incorporation of natural gas vehicles for select vehicle classes: Emission factors for natural gas-powered solid waste collection vehicles and urban buses are now included in EMFAC 2014 as these classes of vehicles have sufficient penetration of natural gas engines to warrant separate treatment.*
- *Accounting for federal and California regulations and standards adopted post-2010: The adopted regulations and standards include the State's Advanced Clean Car Program, the April 2014 amendment to the Truck and Bus Regulation, the Tractor-Trailer Greenhouse Gas Regulation, and the federal HD Greenhouse Gas Regulation.*
- *Socio-econometric modeling of population and VMT: EMFAC 2014 incorporates the use of socioeconomic regression model forecasting methods to predict new vehicle sales and Vehicle Miles Traveled (VMT) growth trends. This allows the use of State and national economic indicators, fuel prices, and regional human population and vehicle ownership characteristics as parameters to more accurately predict vehicle sales and VMT trends.*

More detailed information on the changes incorporated in EMFAC 2014 can be found at http://www.arb.ca.gov/msei/categories.htm.

Figure 3-1 compares the on-road emissions estimated using EMFAC 2011 in the 2012 AQMP and EMFAC 2014 used in the 2016 AQMP, respectively for milestone years 2012, 2023, and 2031. It should be noted that the comparison for 2012 reflects changes in methodologies, whereas the comparison for 2023 and 2031 also includes adopted rules and updated growth projections since the release of EMFAC 2011, which was the basis of the 2012 AQMP on-road emissions.

For 2012, EMFAC 2014's newer methodologies show higher emissions of NOx and VOCs. For the future years 2023 and 2031, in general, the emissions are lower in EMFAC 2014 as compared to EMFAC 2011. The lower emissions can be attributed to additional rules and regulations, more stringent standards, and updates to the heavy-duty emission factors.

Also evident in Figure 3-1 is the change in the rate of emission reductions. The rate of change in the emissions in the early years (2012 to 2023) is significantly larger than that shown further in the later years (2023–2031). This is due to the implementation of the rules and regulations, most of which will be fully implemented by 2023 (e.g., CARB's Truck and Bus rule requires all trucks to meet the 2010 standards by 2023). The effect of the rules and regulations are significant, showing reductions of about 70 percent NOx emissions and close to 60 percent VOC emissions between 2012 and 2023, even with increases in fleet population. More modest reductions are predicted from continued fleet turnover, but fleet growth is beginning to outpace the emissions benefits of fleet turnover in the later years. Further emission reductions will require fleets to adopt the use of even cleaner equipment than the current standards require.

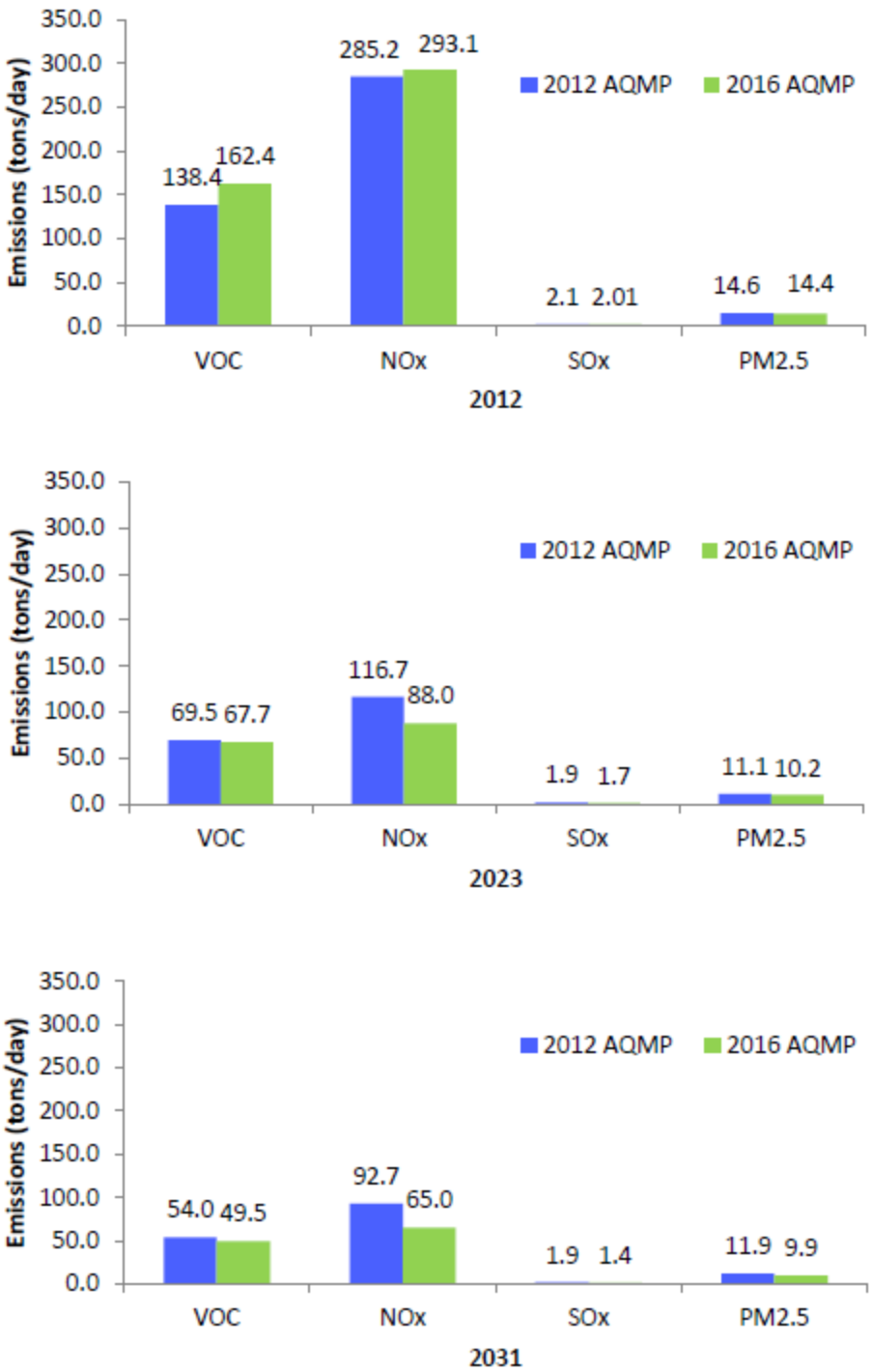


Figure 3-1. Comparison of on-road emissions estimated using EMFAC 2011 in the 2012 AQMP and EMFAC 2014 in the 2016 AQMP. VOC and NOx emissions represent summer planning and Sox and pm2.5 are annual average inventory.

From Appendix III – Base and Future Year Emission Inventory

On-Road Mobile Sources

The 2016 AQMP emission estimates for on-road motor vehicles come from applying the emission rates in CARB's EMFAC2014 model to the transportation activity data provided by the Southern California Association of Governments (SCAG) in its adopted 2016 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 EMFAC2014 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 EMFAC2014 mode 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.

Parameters accounted for by the EMFAC2014 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 EMFAC2014 Model includes the following mobile source data:

(1) Eight vehicle classes (light-duty passenger, 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 , and heavy-heavy-duty-trucks for over 33,000 pounds)

(2) Three vehicle fuel types (gasoline, diesel, and natural gas)

(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 vehicle exhaust processes (starts and running)

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

(8) Seven pollutants (HC, CO, CO2, NOx, PM, SOx)

(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 Caltrans' Direct Travel Impact Model (DTIM). DTIM calculates emissions based on detailed information regarding each link (roadway

segment) in an area for each hour of the day. Traffic volume, traffic speed, vehicle fleet characteristics, ambient temperature, and emission factors of vehicle fleets are all implemented in DTIM.

EMFAC2014 includes more subcategories for some of the major vehicle class categories (i.e., medium-heavy-duty diesel trucks & 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 Final 2016 AQMP are reported by major vehicle class categories to compare with previous inventory reporting.

The characteristics of DTIM include:

(1) Emissions calculations based on specific information, such as link speed, link volume, and temperature

(2) Spatial and temporal distribution of emissions to provide hourly gridded emissions

(3) Emission impacts of various types of transportation and regional planning alternatives (e.g., changes in roadway network configuration, or public transportation services).

DTIM reformats and sorts emission rates for all vehicle classes produced by the EMFAC2014 model. It then produces average emission rates for specific vehicle classes identified by the user. Finally, it produces regional mobile source emissions and hourly gridded mobile emissions. DTIM does this by combining emission rates with vehicle activity estimates derived from a transportation demand model and supplemental information on temperatures and temporal patterns.

There are differences in emissions calculated from DTIM and EMFAC2014. To account for the differences, scaling factors are developed to adjust DTIM emissions so that modeling emissions are consistent with EMFAC2014 emissions. EMFAC2014 was the basis for on-road planning inventories, emission budgets, and rate of-progress calculations. The EMFAC2014 model has undergone extensive revisions from the previous version (EMFAC2011) to make it more user friendly and flexible as well as to allow incorporation of larger amounts of data demanded by the current regulatory and planning processes. In addition to the model structural changes, other changes include:

- *Revision of heavy-duty diesel (HD Diesel) truck emission rates. The emission factors for heavy heavy-duty diesel trucks were also updated using new testing data on newer (MY 2007 and newer) trucks that more accurately represents the effectiveness of the control equipment used to meet the more stringent 2007 and 2010 emission standards.*
- *Incorporation of natural gas vehicles for select vehicle classes. Emission factors for natural gas-powered solid waste collection vehicles and urban buses are now included in EMFAC2014 as these classes of vehicles have sufficient penetration of natural gas engines to warrant separate treatment.*
- *Accounting for Federal and California regulations and standards adopted post-2010. The adopted regulations and standards include the State's Advanced Clean Car Program, the April 2014 amendment to the Truck and Bus Regulation, the Tractor-Trailer Greenhouse Gas Regulation, and the federal HD Greenhouse Gas Regulation.*
- *Socio-econometric modeling of population and VMT. EMFAC2014 incorporates the use of socioeconomic regression model forecasting methods to predict new vehicle sales and VMT growth trends. This allows the use of State and national economic indicators, fuel prices, and regional human population and vehicle ownership characteristics as parameters to more accurately predict vehicle sales and VMT trends.*

More detailed information on the changes incorporated in EMFAC2014 can be found at http://www.arb.ca.gov/msei/categories.htm.

Figure III-1-3 compares on-road baseline emissions estimated by EMFAC2011 and EMFAC2014 used in the 2012 AQMP and 2016 AQMP, respectively. The figure includes emissions for the years 2012, 2019, 2022, 2023 and 2031, which were simulated as milestone years in the 2012 AQMP. It should be noted that the comparison for 2012 reflects changes in methodology, but the comparison for the rest of the years also includes adopted rules and updated growth projections since the release of EMFAC2011.

In 2012, EMFAC2014's newer methodologies show higher emissions of NOx and VOCs. For the future years 2019 through 2031, in general, the emissions are lower in EMFAC2014 as compared to EMFAC2011 except for the VOC category. The lower emissions can be attributed to additional rules and regulations, more stringent standards, and updates to the heavy-duty emission factors. The increased VOC emissions are the result of fewer cleaner evaporative control technologies entering the fleet than was assumed in EMFAC2011.

Also evident in Figure III-1-3 is the change in the rate of emission reductions. The rate of change in the emissions in the early years (2012 to 2023) is significantly larger than that shown further in the future (2023 – 2031). This is due to the implementation of rules and regulations, which, for the most part, will be fully implemented by 2023 (e.g., CARB's Truck and Bus rule requires all trucks to meet the 2010 standards by 2023). The effect of the rules and regulations are significant, showing a 70 percent reduction in NOx emissions and close to 60 percent reduction in VOC emissions between 2012 and 2023 even with increases in fleet population. More modest reductions are predicted from continued fleet turnover and implementation of the last rules and regulations, but as seen in the case of PM2.5 emissions, fleet growth is beginning to outpace the emissions benefits of fleet turnover. Further emission reductions will require fleets to adopt the use of even cleaner equipment than the cleanest available today.

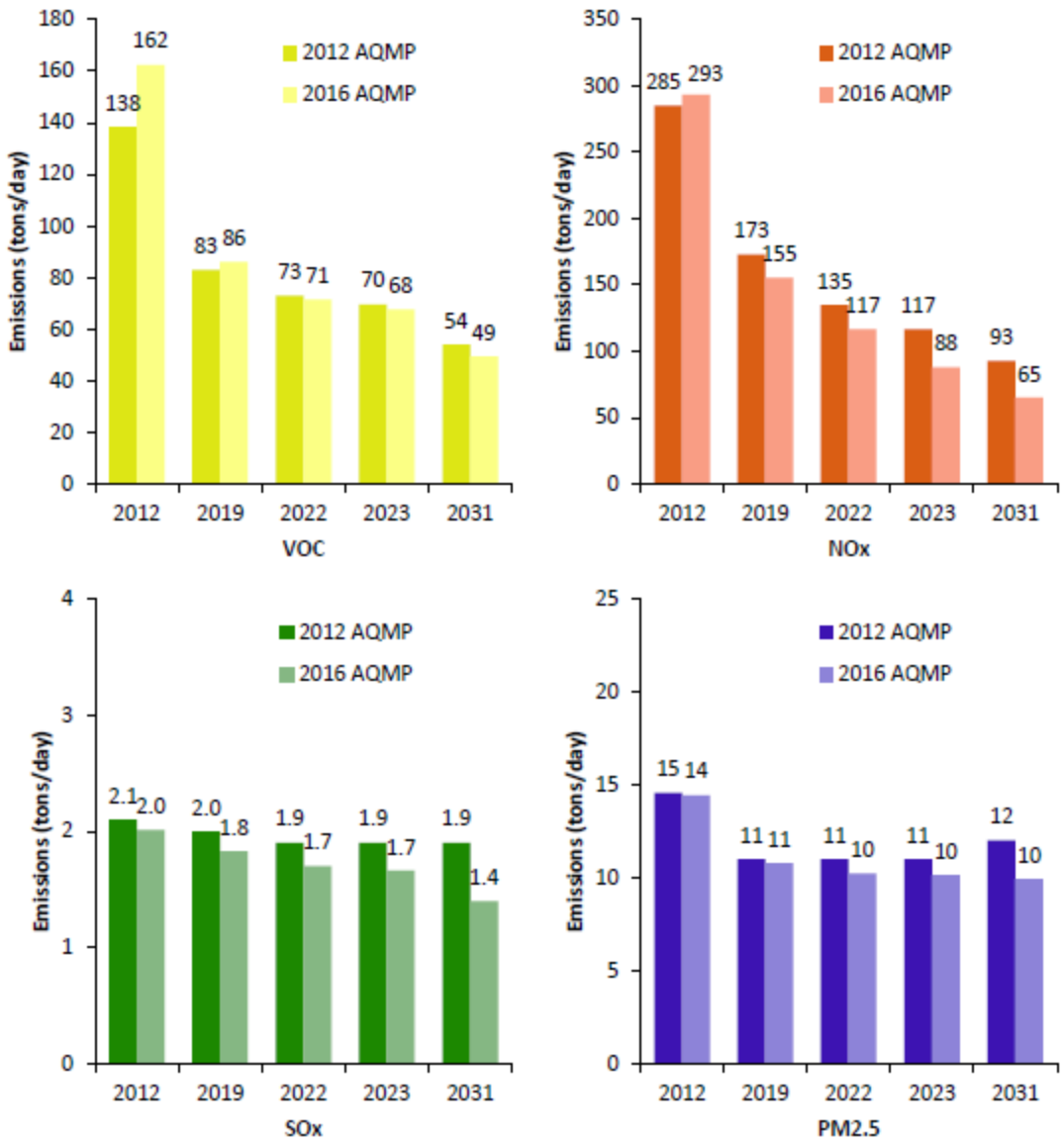


Figure III-1-3 Comparison of on-road emissions between EMFAC2011 (2012 AQMP) and EMFC2014 (2016 AQMP) (VOC & NOX – summer planning; sox & PM2.5 – annual average inventory)

Chapter 3

Base Year and Future Emissions

An inventory of regional emissions from all stationary, area and mobile sources is a requirement for the State Implementation Plan. Base year emissions are projected into the future using approved growth factors for each source category. These emissions assist in projecting the level of reductions needed to attain standards in the future.

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- Emission Inventories 3-1
  Stationary sources, mobile sources, and uncertainties in the inventory
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  2012 emissions inventory

- Future Emissions 3-17
  Demographic growth and baseline emission projections
- Impact of Growth 3-27
  Growth contribution to future emissions
- Top Ten Source Categories 3-29
  The most significant emission sources

Introduction

This chapter summarizes criteria pollutant emissions that occurred in the Basin during the 2012 base year as well as projected emissions for the years 2019, 2022, 2023, 2025, and 2031. A more detailed description of emissions and methodologies is presented in Appendix III. The 2012 base year emissions inventory reflects actual and estimated emissions subject to adopted regulations with current compliance dates as of 2012, whereas future baseline emissions inventories are based on economic projections and adopted regulations with both current and future compliance dates. A list of District and CARB rules and regulations that are part of the base year and future year baseline emissions inventories is presented in Appendix III. The District continues to implement rules that are incorporated in the 2016 AQMP future baseline emissions inventories.

The emissions inventory is divided into two major source classifications: stationary and mobile sources. The 2012 base year point source emissions are based principally on reported data from facilities using the District's Annual Emissions Reporting Program. The area source emissions are estimated jointly by CARB and the District using established inventory methods. The on-road emissions are calculated using CARB's EMFAC 2014 model and the travel activity data provided by the Southern California Association of Governments (SCAG) from their adopted 2016 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS). CARB provides emission inventories for off-road equipment which includes construction and mining equipment, industrial and commercial equipment, lawn and garden equipment, agricultural equipment, ocean-going vessels, commercial harbor craft, locomotives, cargo handling equipment, pleasure craft, and recreational vehicles. Aircraft emissions are based on an updated analysis by the District, developed in conjunction with the airports in the region. The future emission forecasts are primarily based on demographic and economic growth projections provided by SCAG. In addition, emission reductions resulting from District regulations amended or adopted by December 2015 and CARB regulations adopted by November 2015 are included in the future baseline projections.

This chapter summarizes the major components of developing the base year and future baseline inventories. More detailed information, such as CARB's and the District's emission reductions resulting from adopted rules and regulations since the 2012 AQMP, growth factors, and demographic trends, are presented in Appendix III. In addition, the top source categories contributing to the 2012, 2019, 2022, 2023, 2025, and 2031 emission inventories are identified in this chapter. An understanding of the highest emitting source categories leads to the identification of potentially more effective control strategies for improving air quality.

Emission Inventories

Two inventories are prepared for the 2016 AQMP for the purpose of regulatory and SIP performance tracking, including transportation conformity[1]: an annual average inventory and a summer planning inventory. Baseline emissions data presented in this chapter are based on average annual daily

[1] Transportation conformity is required under CAA Section 176(c) to ensure that federally supported highway and transit project activities "conform" to the purpose of the SIP. More details are provided in Chapter 4.

emissions (i.e., total annual emissions divided by 365 days) and seasonally adjusted summer planning inventory emissions. The 2016 AQMP uses annual average day emissions to estimate the cost-effectiveness of PM2.5 control measures and to perform PM2.5 modeling and analysis. The summer planning inventory emissions are developed to capture the emission levels during the high ozone season and are used to perform ozone modeling and analysis, estimate the cost-effectiveness of ozone control measures, and to report emission reduction progress as required by the federal and California Clean Air Acts.

Detailed information regarding the emissions inventory development for the base year and future years, the emissions by major source category in the base year and future baseline emission inventories are presented in Appendix III. Attachments A and B to Appendix III list the annual average and summer planning emissions by major source category for 2012, 2019, 2021, 2022, 2023, 2025, and 2031. Attachment C to Appendix III has the top VOC and NOx point source categories that emitted greater than or equal to 10 tons per year in 2012. Attachment D to Appendix III contains the on-road emissions by vehicle class and pollutant. Attachment E to Appendix III shows emissions associated with the combustion of diesel fuel for various source categories.

Stationary Sources

Stationary sources can be divided into two major subcategories: point and area sources. Point sources are permitted facilities with one or more emission sources at an identified location (e.g., power plants, refineries). These facilities generally have annual emissions of 4 tons or more of either Volatile Organic Compounds (VOC), Nitrogen Oxide (NOx), Sulfur Oxide (SOx), or total Particulate Matter (PM), or annual emissions of over 100 tons of Carbon Monoxide (CO). Facilities are required to report their criteria pollutant emissions pursuant to Rule 301 and selected air toxics to the District on an annual basis, subject to audit, if any of these thresholds are exceeded. The 2012 annual reported emissions are used to update the stationary source inventory.

Area sources consist of many small emission sources (e.g., residential water heaters, architectural coatings, consumer products and permitted sources that are smaller than the above thresholds) which are distributed across the region and are not required to individually report their emissions. There are about 400 area source categories for which emission estimates are jointly developed by CARB and the District. The emissions from these sources are estimated using activity information and emission factors. Activity data are usually obtained from survey data or scientific reports (e.g., Energy Information Administration (EIA) reports for fuel consumption other than natural gas fuel, Southern California Gas Company for natural gas consumption, paint suppliers under Rule 314 and District databases). The emission factors are based on rule compliance factors, source tests, manufacturer's product or technical specification data, default factors (mostly from AP-42, U.S. EPA's published emission factor compilation), or weighted emission factors derived from the point source facilities' annual emissions reports. Additionally, the emissions over a given area may be calculated using socioeconomic data.

Appendix III has more detail regarding emissions from specific source categories such as architectural coatings, dairy cattle, oil and gas production operations, gasoline dispensing facilities, and green waste composting. Since the 2012 AQMP was finalized, new area source inventory updates include:

- Architectural Coatings Category: Over 60 area sources in this category were updated based on information provided as part of SCAQMD Rule 314 – "Fees for Architectural Coatings" annual reports.
- Oil and Gas Production Category: The emission estimation methodology for this area source category was revised to incorporate U.S. EPA's oil and gas production inventory model modified with California-specific emission factors and technologies.
- Gasoline Dispensing Facilities Category: The emission estimation methodology for this area source category was revised to include CARB staff's updated emission factors and activity data.
- Dairy Cattle: Ammonia and VOC emissions from dairy farms were revised based on the animal head count data reported to the Santa Ana Regional Water Quality Control Board.
- LPG Combustion Categories: The emissions from this category were revised based on the LPG consumption estimation for the Basin. The fraction of California LPG use in the Basin was estimated based on GHG data reported to the CARB. The statewide total LPG consumption was retrieved from State Energy Data (2013).
- Commercial and Industrial Natural Gas Combustion Categories: 2012 actual natural gas consumption data were used, instead of the projection from the 2012 AQMP.
- Composting Waste Disposal: Ammonia and VOC emissions expected from compostable mulch were added in this category.
- REgional CLean Air Incentives Market (RECLAIM) NOx emissions: The future baseline was revised to include the 12 tons per day of RECLAIM Trading Credits (RTCs) reduction by December 2022 that was approved in December 2015.

Mobile Sources

Mobile sources consist of two subcategories: on-road sources and off-road sources. On-road vehicle emissions are calculated with CARB's EMFAC 2014 model and the travel activity data provided by SCAG from their adopted 2016 RTP/SCS. Spatial distribution data from Caltrans' Direct Travel Impact Model (DTIM4) are used to place the emissions at the proper time and place. Off-road emissions are calculated using CARB's category specific inventory models.

On-Road

CARB's EMFAC 2014 model has undergone extensive revisions from the previous version (EMFAC 2011) to make it more user-friendly, flexible, and 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:

- Revision of heavy-duty diesel (HD Diesel) truck emission rates: The emission factors for heavy heavy-duty diesel trucks were also updated using new test data on newer trucks (Model Year 2007 and newer) that more accurately represent the effectiveness of the control equipment used to meet the more stringent 2007 and 2010 emission standards.
- Incorporation of natural gas vehicles for select vehicle classes: Emission factors for natural gas powered solid waste collection vehicles and urban buses are now included in EMFAC 2014 as these classes of vehicles have sufficient penetration of natural gas engines to warrant separate treatment.

- Accounting for federal and California regulations and standards adopted post-2010: The adopted regulations and standards include the State's Advanced Clean Car Program, the April 2014 amendment to the Truck and Bus Regulation, the Tractor-Trailer Greenhouse Gas Regulation and the federal HD Greenhouse Gas Regulation.
- Socio-econometric modeling of population and VMT: EMFAC 2014 incorporates the use of socioeconomic regression model forecasting methods to predict new vehicle sales and Vehicle Miles Traveled (VMT) growth trends. This allows the use of State and national economic indicators, fuel prices, and regional human population and vehicle ownership characteristics as parameters to more accurately predict vehicle sales and VMT trends.

More detailed information on the changes incorporated in EMFAC 2014 can be found at http://www.arb.ca.gov/msei/categories.htm.

Figure 3-1 compares the on-road emissions estimated using EMFAC 2011 in the 2012 AQMP and EMFAC 2014 used in the 2016 AQMP, respectively for milestone years 2012, 2023, and 2031. It should be noted that the comparison for 2012 reflects changes in methodologies, whereas the comparison for 2023 and 2031 also includes adopted rules and updated growth projections since the release of EMFAC 2011, which was the basis of the 2012 AQMP on-road emissions.

For 2012, EMFAC 2014's newer methodologies show higher emissions of NOx and VOCs. For the future years 2023 and 2031, in general, the emissions are lower in EMFAC 2014 as compared to EMFAC 2011. The lower emissions can be attributed to additional rules and regulations, more stringent standards, and updates to the heavy-duty emission factors.

Also evident in Figure 3-1 is the change in the rate of emission reductions. The rate of change in the emissions in the early years (2012 to 2023) is significantly larger than that shown further in the later years (2023–2031). This is due to the implementation of the rules and regulations, most of which will be fully implemented by 2023 (e.g., CARB's Truck and Bus rule requires all trucks to meet the 2010 standards by 2023). The effect of the rules and regulations are significant, showing reductions of about 70 percent NOx emissions and close to 60 percent VOC emissions between 2012 and 2023, even with increases in fleet population. More modest reductions are predicted from continued fleet turnover, but fleet growth is beginning to outpace the emissions benefits of fleet turnover in the later years. Further emission reductions will require fleets to adopt the use of even cleaner equipment than the current standards require.

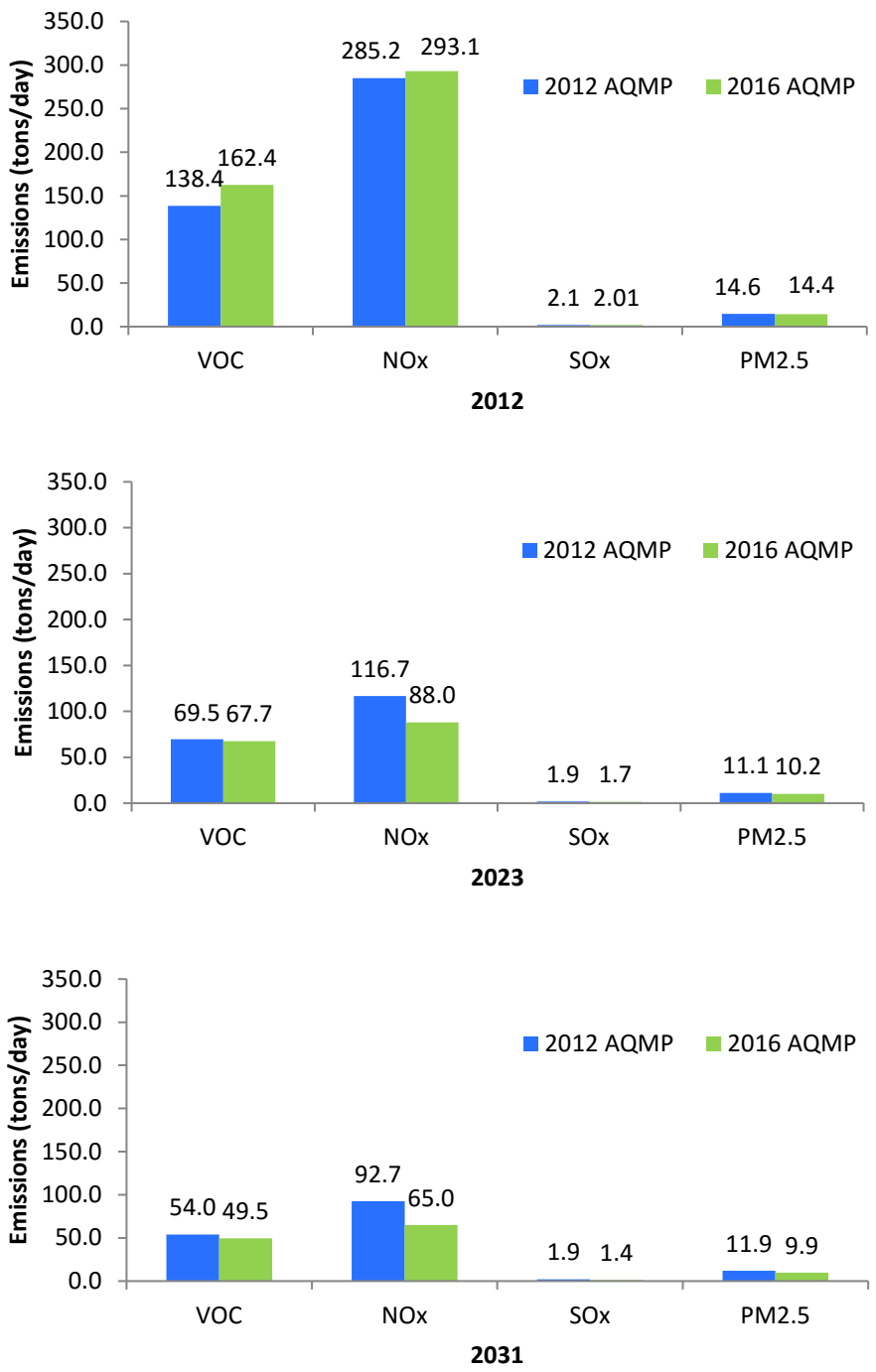


FIGURE 3-1

COMPARISON OF ON-ROAD EMISSIONS ESTIMATED USING EMFAC 2011 IN THE 2012 AQMP AND EMFAC 2014 IN THE 2016 AQMP. VOC AND NOX EMISSIONS REPRESENT SUMMER PLANNING AND SOX & PM2.5 ARE ANNUAL AVERAGE INVENTORY.

Off-Road

Emissions from off-road vehicle categories are primarily based on estimated activity levels and emission factors. Separate emission estimation models have been developed for the many categories of off-road equipment. More information on these models can be found at the following link: http://www.arb.ca.gov/msei/categories.htm. Several of these models have been updated since the release of the 2012 AQMP. The major updates include:

- Locomotives: The emissions model methodology for the freight locomotive category was completely revised. In addition, activity was updated using data from the Surface Transportation Board and Federal Highway Administration's Freight Analysis Framework. Population information was derived from the Association of American Railroads' population data.

- Ocean Going Vessels: New lower growth projections were developed and incorporated into the model using more recent information from the Federal Highway Administration's Freight Analysis Framework model and other forecasts performed for the San Pedro Bay Ports. NOx control factor calculations were updated to more appropriately represent the engine Tier levels.

- Commercial Harbor Craft: The vessel turnover rate methodology was improved to better reflect the observed age distribution. A more representative reduced turnover rate is used, which improves consistency with other off-road emissions model methodologies.

- Pleasure Craft and Off-Highway Recreational Vehicles: New survey information and DMV data were used to update the population and activity, and new emissions testing data were used to update the emission factors in newly developed models for these two categories.

- Cargo Handling Equipment: The model was updated to use growth factors consistent with those developed for ocean going vessels.

- Farm Equipment: The inventory was completely revised resulting in a new inventory based on updated equipment population, equipment age distribution, activity, load factors, and turnover practices.

- Aircraft: The aircraft emissions inventory is updated for the 2012 base year based on the 2012 aircraft activity data and latest calculation methodologies. A total of 43 airports were identified as having aircraft operations within the District boundaries including commercial air carrier, air taxi, general aviation, and military aircraft operations. The sources of activity data included airport operators and Federal Aviation Administration's (FAA) databases. The emissions calculation methodology was based on the application of FAA's Emissions and Dispersion Modeling System (EDMS) model for commercial airports with detailed aircraft activity data (by aircraft make and model). For other airports and aircraft types (e.g., general aviation, air taxi, military), the total number of aircraft operations was used in conjunction with the U.S. EPA's latest average emission factors by major aircraft type (e.g., general aviation, air taxi, military). For commercial air carrier operations, SCAG's 2040 aircraft operations forecasts from the SCAG's 2016 Regional Transportation Plan (RTP) was used.

The revised 2016 AQMP incorporated the 2040 emissions forecast (based on SCAG's latest forecasts) with interim years interpolated between 2012 and 2040.

Figure 3-2 shows a comparison between the off-road baseline emissions in the 2012 AQMP and the 2016 AQMP for the milestone years 2012, 2023, and 2031. Overall, the updates to the off-road categories result in lower emissions than those used in the 2012 AQMP. It should be noted that the comparison for 2012 reflects changes in methodology, but the comparison for the rest of the years also includes adopted rules and updated growth projections since the release of off-road inventory in the 2012 AQMP. Similar to what is shown for the on-road category, the rate of reductions in emissions of NOx and VOC is significantly larger in early years (2012 to 2023) compared to the rate seen in the later years (2023 to 2031). This is the result of the rules and regulations adopted at the State and federal levels for most of the off-road categories. As most will be fully implemented by 2023, only modest reductions will be achieved as a result of continued fleet turnover beyond 2023. Without additional rules or programs for further reductions, growth in emissions from increases in vehicle population outweighs the emissions benefits associated with fleet turnover to newer equipment. As projected for the on-road fleet, further emission reductions will require off-road fleets to use even cleaner equipment than current standards require.

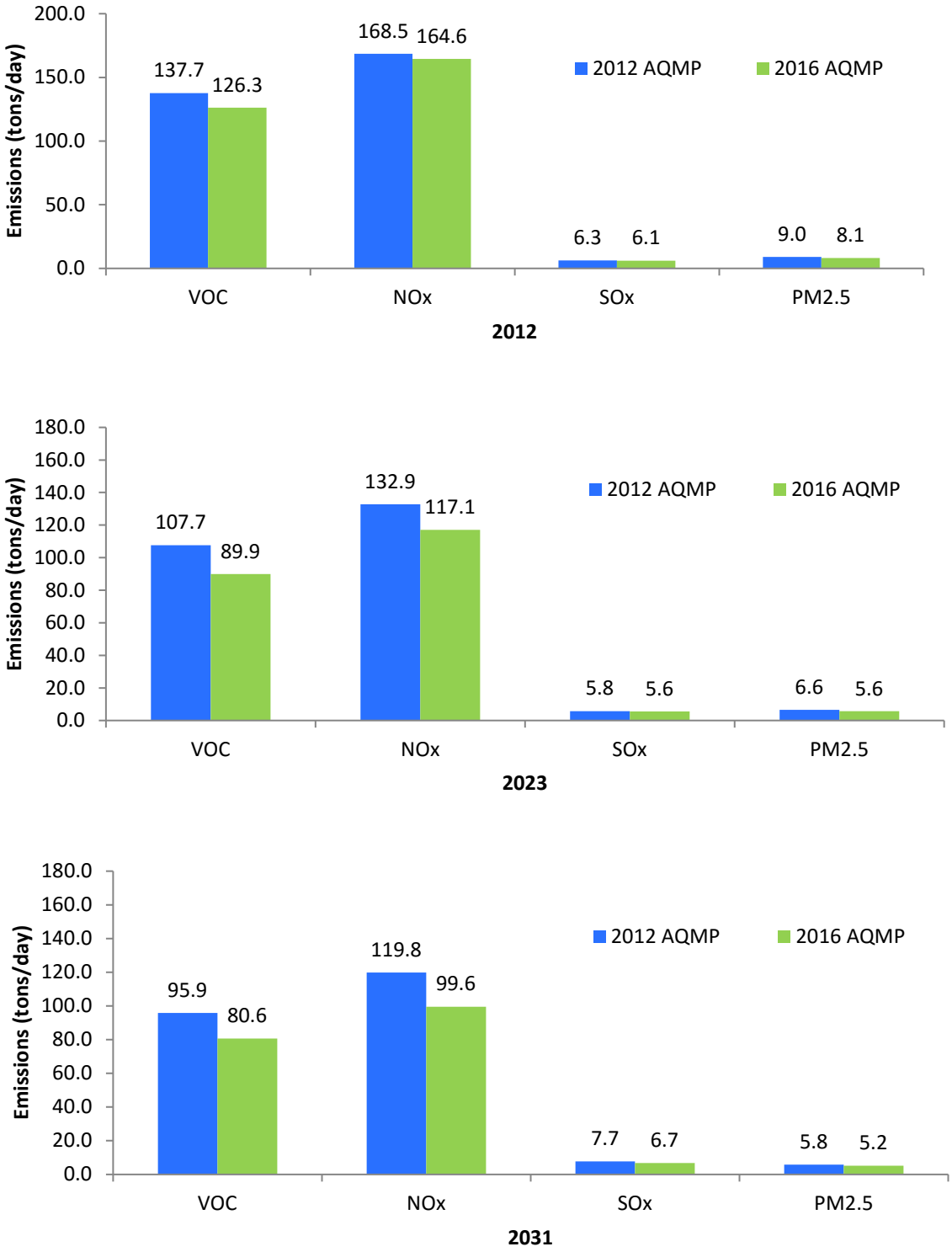


FIGURE 3-2

COMPARISON OF OFF-ROAD EMISSIONS BETWEEN 2012 AQMP AND 2016 AQMP.
VOC & NOX – SUMMER PLANNING; SOX & PM2.5 – ANNUAL AVERAGE INVENTORY

Uncertainties in the Emissions Inventory

An effective AQMP relies on a complete and accurate emissions 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 testing has contributed to the improvement in point source inventories. Technical assistance to facilities and auditing of reported emissions by the District have also improved the accuracy of the emissions inventory. Area source inventories that rely on average emission factors and regional activities have inherent uncertainty. Industry-specific surveys and source-specific studies during rule development have provided much-needed refinement to these emissions estimates. Mobile source inventories are also continuously updated and improved. As described earlier, many improvements are included in the on-road mobile source model EMFAC 2014, 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-highway recreational vehicles, cargo handling equipment, and farm equipment. Overall, the 2016 AQMP inventory is based on the most current data and methodologies, resulting in the most accurate inventory available.

Relative to future growth, there are many challenges inherent in 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 the number and type of jobs. Forecasts are made with the best information available; nevertheless, there is uncertainty in emissions projections. AQMP updates are generally developed every three to four years, thereby allowing for frequent updates and improvements to the inventories.

Gridded Emissions

For air quality modeling purposes, the domain extends to Southern Kern County in the north, the Arizona border to the east, northern Mexico to the south and more than 100 miles offshore to the west. The modeling area is divided into a grid system comprised of 4 km by 4 km grid cells. Both stationary and mobile source emissions are allocated to individual grid cells within this system. In general, the modeling emissions data features daily emissions. Variations in temperature, hours of operation, speed of motor vehicles, or other factors are considered in developing gridded motor vehicle emissions. The “gridded” emissions data used for both PM2.5 and ozone modeling applications differ from the annual average day or planning inventory emission data in two respects: (1) the modeling region covers larger geographic areas than the Basin; and (2) emissions represent day-specific instead of average or seasonal conditions. Emission inventories are generated for both the PM2.5 and ozone modeling applications. For PM2.5, the annual average day is used, which represents the characteristic of emissions that contribute to year-round particulate impacts. The summer planning inventory focuses on the warmer months (May through October) when evaporative VOC emissions and more sunlight, play an important role in ozone formation.

Base Year Emissions

2012 Emission Inventory

Table 3-1A compares the summer planning emissions between the 2012 base year in the 2016 AQMP and the projected 2012 emissions in the Final 2012 AQMP by major source category for VOC and NOx. Table 3-1B compares the annual average emissions between the 2012 base year in the 2016 AQMP and the projected 2012 emissions in the Final 2012 AQMP for SOx and PM2.5. It should be noted that the comparison for 2012 reflects updates in methodology, differences between growth projections and actual data, and adopted rules since the release of the 2012 AQMP. Specifically, the growth projection employed in the 2012 AQMP did not fully capture the impact of the economic recession which occurred between 2008 and 2010.

Overall, there is a minor net decrease in VOC emissions in the 2016 AQMP inventory as compared to the 2012 AQMP projections. Estimates of stationary source VOC emissions have decreased by approximately 12 percent, but mobile VOC source emissions have increased by 5 percent. NOx emissions remain unchanged between the 2016 AQMP inventory and the 2012 projection. As in the VOC category, stationary source NOx emissions have been revised downward and mobile source emissions have been revised slightly upward. Of note in the stationary source categories are the emission changes associated with the architectural coatings, RECLAIM categories, natural gas and LPG combustion sources, and farming operations. Architectural coatings emissions were updated for the 2016 AQMP using information provided as part of SCAQMD Rule 314 – "Fees for Architectural Coatings" annual reports, resulting in the lower emission estimate. The RECLAIM emissions cap was used to project the NOx emissions in the 2012 AQMP inventory, while in 2012, the actual emissions were lower than the cap by 7 tons per day (TPD). Use of additional actual reported information in lieu of projected emissions (used in the 2012 AQMP to estimate the 2012 emissions) explain the majority of the remaining emission differences. Refer to Appendix III for details.

For the mobile source category, the updates described earlier to the on-road emissions model EMFAC 2014 resulted in the 17 percent and 3 percent increase in VOC and NOx emissions, respectively. Updates to several of the off-road category emission estimates resulted in the 8 percent decrease in VOC emissions and a modest 2 percent decrease in NOx emissions. Updates were completed for locomotives, ocean going vessels, cargo handling equipment, commercial harbor craft, farming equipment, pleasure craft, and off-highway recreational vehicles.

Estimates of SOx emissions are 23 percent lower in the 2016 AQMP emissions inventory than 2012 projections. This is largely due to the difference in the use of actual reported information in lieu of projected emissions in the RECLAIM sources. Estimates of direct PM2.5 from stationary and mobile sources are modestly lower in the 2016 AQMP leading to a decrease of 7 percent. This revised estimation is largely due to changes in the emissions estimates from miscellaneous stationary processes and decreases in off-road vehicle emissions.

Table 3-2 shows the 2012 annual average and summer planning emissions inventory by major source category. Stationary sources are subdivided into point (e.g., chemical manufacturing, petroleum production, and electric utilities) and area sources (e.g., architectural coatings, residential water heaters,

consumer products, and permitted sources smaller than the emission reporting threshold – generally 4 tpy). Mobile sources consist of on-road (e.g., passenger cars and heavy-duty trucks) and off-road sources (e.g., trains and ships). Entrained road dust is also included.

Figure 3-3 characterizes relative contributions by stationary and mobile source categories. On- and off-road sources continue to be major contributors for each of the five pollutants. Overall, total mobile source emissions account for almost 60 percent of the VOC and 90 percent of the NOx emissions for these two ozone-forming pollutants and 95 percent of the CO emissions. The on-road mobile category alone contributes over 30 percent of the VOC and 56 percent of the NOx emissions. For directly emitted PM2.5, mobile sources represent 34 percent of the emissions with another 13 percent due to vehicle-related entrained road dust. Stationary sources emit the majority of the SOx emissions with the point source category contributing 50 percent of the SOx emissions in the Basin. Area sources play a major role in VOC emissions, emitting about 3.5 times more than point sources. Area sources, including sources such as commercial cooking, are the predominant source of directly emitted PM2.5 emissions (42 percent).

Figure 3-4 shows the fraction of the 2012 inventory by responsible agency for VOC, NOx, SOx, and directly emitted PM2.5. U.S. EPA and CARB have primary authority to regulate emissions from mobile sources. U.S. EPA's authority applies to aircraft, locomotives, ocean going vessels, and some categories of on- and off-road mobile equipment. CARB has authority over the remainder of the mobile sources, and consumer products. SCAQMD has authority over most area sources and all point sources. As can be seen in Figure 3-4, most of the NOx and VOC emissions in the District are from sources that fall under the primary jurisdiction of U.S. EPA and CARB. For example, almost 90 percent of the NOx and over 75 percent of the VOC emissions are from sources primarily under CARB and U.S. EPA control. Conversely, 56 percent of the SOx emissions and 66 percent of the directly emitted PM2.5 emissions are from sources under SCAQMD control. NOx and VOC are important precursors to ozone and PM2.5 formation, and SOx along with directly emitted PM2.5, contribute to the region's PM2.5 nonattainment challenges. This illustrates that actions at the local, State, and federal level are needed to ensure the region attains the federal ambient air quality standards.

TABLE 3-1A
Comparison of VOC and NOx Emissions By Major Source Category of
2012 Base Year in 2016 AQMP and Projected 2012 in Final 2012 AQMP
Summer Planning Inventory (tpd[1])

SOURCE CATEGORY	2012 AQMP	2016 AQMP	% Change	2012 AQMP	2016 AQMP	% Change
	VOC			NOx		
STATIONARY SOURCES						
Fuel Combustion	12.9	11.4	-12%	29.4	27.9	-5%
Waste Disposal	12.1	14.1	17%	1.5	2.3	50%
Cleaning and Surface Coatings	41.7	35.6	-15%	0	0	0%
Petroleum Production and Marketing	40.2	29.2	-27%	0	0	0%
Industrial Processes	13.8	10.8	-21%	0	0	0%
Solvent Evaporation:						
Consumer Products	86.6	86.5	0%	0	0	0%
Architectural Coatings	21.5	13.3	-38%	0	0	0%
Others	2.0	2.4	17%	0	0	0%
Misc. Processes	9.7	7.8	-20%	15.5	14.5	-6%
RECLAIM SOURCES	0	0	0%	27.2	19.6	-28%
Total Stationary Sources	**240**	**211**	**-12%**	**74**	**65**	**-13%**
MOBILE SOURCES						
On-Road Vehicles	138.4	162.4	17%	285.2	293.1	3%
Off-Road Vehicles	137.7	126.3	-8%	168.5	164.6	-2%
Total Mobile Sources	**276**	**289**	**5%**	**454**	**458**	**1%**
TOTAL	**516**	**500**	**-3%**	**528**	**522**	**-1%**

[1] Values may not sum due to rounding errors

TABLE 3-1B
Comparison of SOx and PM2.5 Emissions By Major Source Category of
2012 Base Year in 2016 AQMP and Projected 2012 in 2012 AQMP
Annual Average (tpd[1])

SOURCE CATEGORY	2012 AQMP	2016 AQMP	% Change	2012 AQMP	2016 AQMP	% Change
	SOx			PM2.5		
STATIONARY SOURCES						
Fuel Combustion	1.9	1.9	-1%	5.6	5.6	1%
Waste Disposal	0.4	0.5	20%	0.2	0.2	-13%
Cleaning and Surface Coatings	0	0	0%	1.5	1.4	-5%
Petroleum Production and Marketing	0.6	0.4	-26%	1.6	1.5	-6%
Industrial Processes	0.02	0.1	400%	6.7	6.4	-6%
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	1.0	0.5	-47%	32.5	28.8	-11%
RECLAIM SOURCES	11.8	6.9	-42%	0	0	0%
Total Stationary Sources	**16**	**10**	**-34%**	**48**	**44**	**-9%**
MOBILE SOURCES						
On-Road Vehicles	2.1	2.0	-2%	14.6	14.4	-1%
Off-Road Vehicles	6.3	6.1	-2%	9.0	8.1	-10%
Total Mobile Sources	**8**	**8**	**-2%**	**24**	**23**	**-5%**
TOTAL	**24**	**18**	**-23%**	**72**	**66**	**-7%**

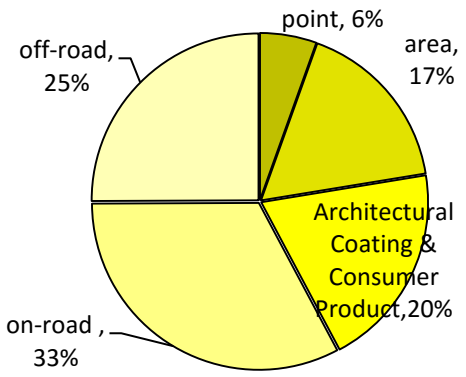
[1] Values may not sum due to rounding errors

TABLE 3-2

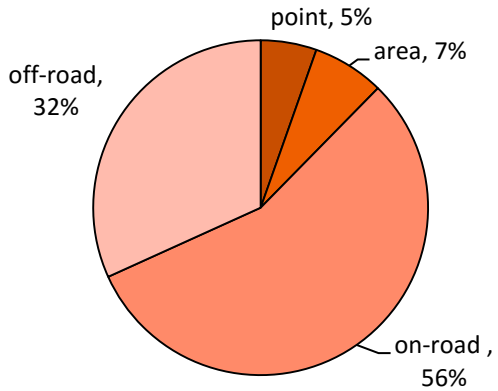
Summary of Emissions By Major Source Category: 2012 Base Year
Average Annual Day and Summer Planning (tpd[1])

SOURCE CATEGORY	Annual Average						Summer Planning	
	VOC	NOx	CO	SOx	PM2.5	NH3	VOC	NOx
STATIONARY SOURCES								
Fuel Combustion	11	28	49	2	6	9	11	28
Waste Disposal	13	2	1	0	0	5	14	2
Cleaning and Surface Coatings	34	0	0	0	1	0	36	0
Petroleum Production and Marketing	29	0	5	0	2	0	29	0
Industrial Processes	10	0	0	0	6	9	11	0
Solvent Evaporation:								
Consumer Products	87	0	0	0	0	0	87	0
Architectural Coatings	13	0	0	0	0	0	13	0
Others	2	0	0	0	0	1	2	0
Misc. Processes	13	21	54	1	29	38	8	15
RECLAIM SOURCES	0	19	0	7	0	0	0	20
Total Stationary Sources	**212**	**70**	**109**	**10**	**44**	**63**	**211**	**65**
MOBILE SOURCES								
On-Road Vehicles	158	317	1328	2	14	18	162	293
Off-Road Vehicles	100	153	686	6	8	0	126	165
Total Mobile Sources	**258**	**470**	**2014**	**8**	**23**	**18**	**289**	**458**
TOTAL	**470**	**540**	**2123**	**18**	**66**	**81**	**500**	**522**

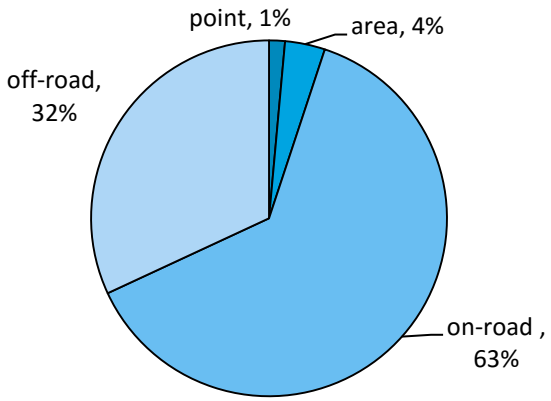
[1] Values may not sum due to rounding errors
[2] Includes entrained road dust



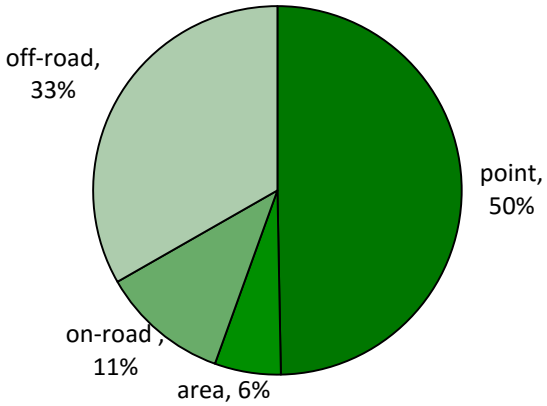
VOC Emissions: 500 tons/day



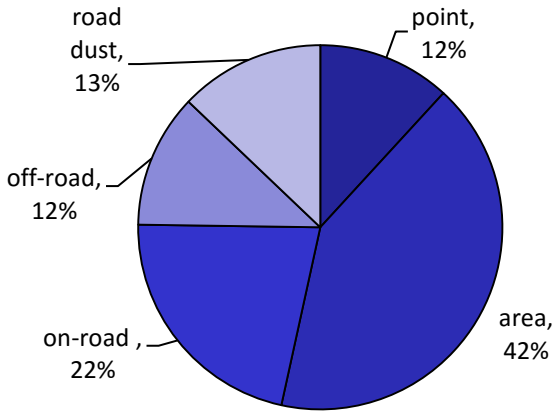
NOx Emissions: 522 tons/day



CO Emissions: 2123 tons/day



SOx Emissions: 18 tons/day



Directly Emitted PM2.5 Emissions: 66 tons/day

FIGURE 3-3

RELATIVE CONTRIBUTION BY SOURCE CATEGORY TO 2012 EMISSION INVENTORY

(VOC & NOX – SUMMER PLANNING; CO, SOX, & PM2.5 – ANNUAL AVERAGE INVENTORY VALUES ARE ROUNDED TO NEAREST INTEGER AND MAY NOT SUM DUE TO ROUNDING)

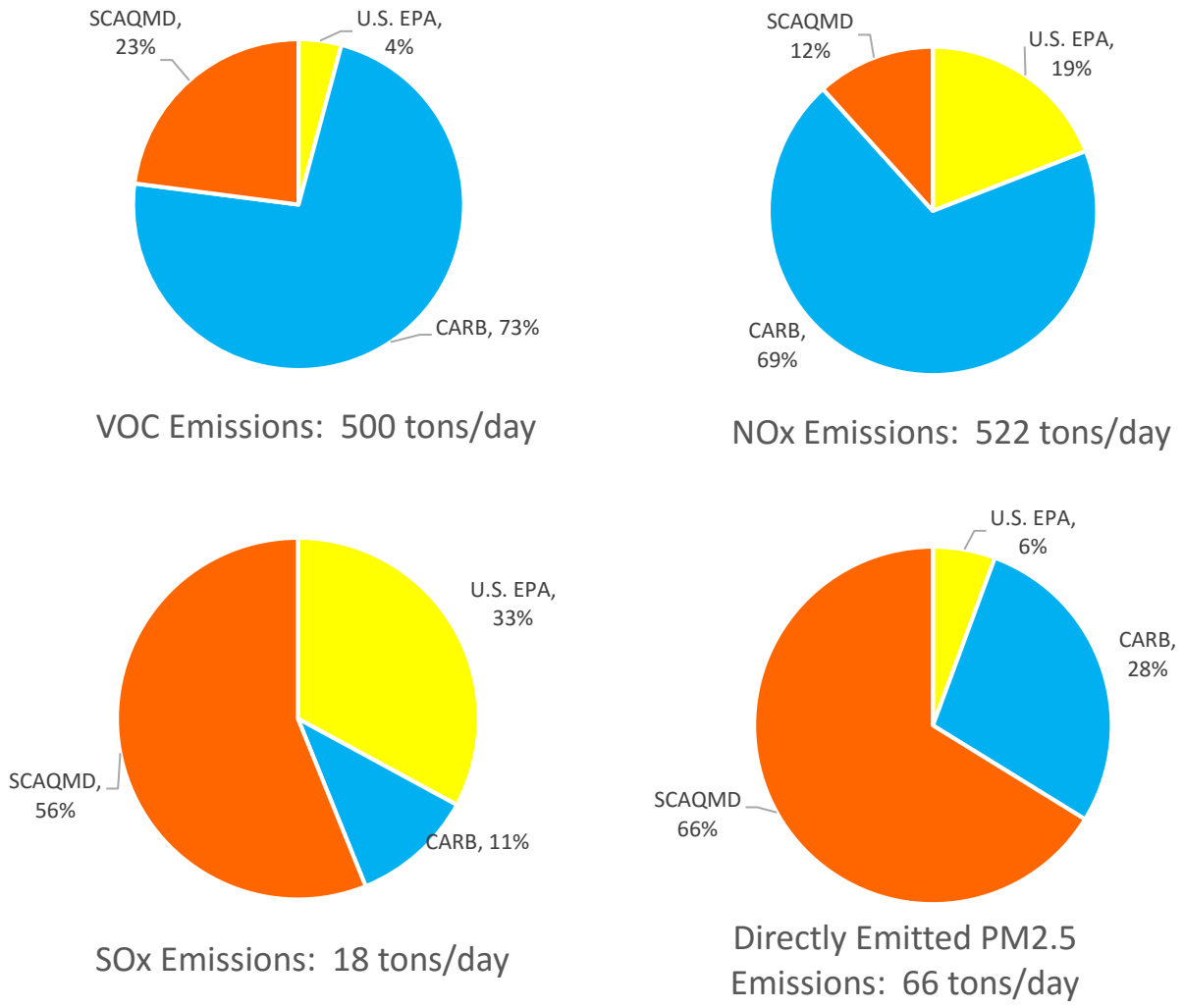


FIGURE 3-4

2012 EMISSION INVENTORY AGENCY PRIMARY RESPONSIBILITY

(VOC & NOX – SUMMER PLANNING; SOX, & PM2.5 – ANNUAL AVERAGE INVENTORY. VALUES ARE ROUNDED TO NEAREST INTEGER AND MAY NOT SUM DUE TO ROUNDING)

Future Emissions

Inventory Development

Inventories were developed for 2012, 2019, 2022, 2023, 2025, and 2031. Year 2012 is the base-year for the attainment demonstrations. Years 2023 and 2031 are the attainment years for the federal 8-hour ozone standards of 80 ppb (revoked) and 75 ppb, respectively. The 2022 inventory was developed to show attainment for the revoked 1-hour ozone standard (120 ppb). The 2019 and 2025 inventories were used to demonstrate attainment for the federal 24-hour and annual PM2.5 standards, respectively.

Future-year stationary source emissions are divided into RECLAIM and non-RECLAIM emissions. Future NOx and SOx emissions from RECLAIM sources are estimated based on their allocations as specified by District Rule 2002 –Allocations for NOx and SOx. The forecasts for non-RECLAIM emissions were derived using: (1) emissions from the 2012 base year, (2) expected controls after implementation of District rules adopted by December 2015 and CARB rules adopted as of November 2015, and (3) activity growth in various source categories between the base and future years.

Demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry), developed by SCAG for their 2016 RTP/SCS, were used. Industry growth factors for 2012, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2025, 2026, 2031, and 2037 are also provided by SCAG, and interim years are calculated by linear interpolation. Table 3-3 summarizes key socioeconomic parameters used in the 2016 AQMP for emissions inventory development.

In this chapter, the inventories for 2019, 2022, 2023, 2025, and 2031, the 8-hour ozone, 1-hour ozone, along with the annual and 24-hour PM2.5 attainment target years are discussed.

TABLE 3-3
Baseline Demographic Forecasts in the 2016 AQMP and the Final 2012 AQMP

CATEGORY	2012	2023	2023 % GROWTH FROM 2012	2031	2031 % GROWTH FROM 2012
Population (Millions)	15.9	17.1	7%	17.9	12%
Housing Units (Millions)	5.1	5.7	10%	6.0	16%
Total Employment (Millions)	6.7	7.8	16%	8.2	23%
Daily VMT (Millions)	380	407	7%	409	8%

Current forecasts indicate that this region will experience a population growth of 7 percent between 2012 and 2023, with a 7 percent increase in vehicle miles traveled (VMT) and a population growth of 12 percent by the year 2031 with an 8 percent increase in VMT.

As compared to the projections in the 2012 AQMP, the current 2023 projections in the 2016 AQMP predict a population of about 200,000 fewer people (2.8 percent less), 100,000 more total employment (1.2 percent more), and 11 million miles more in the daily VMT forecast (2.7 percent more).

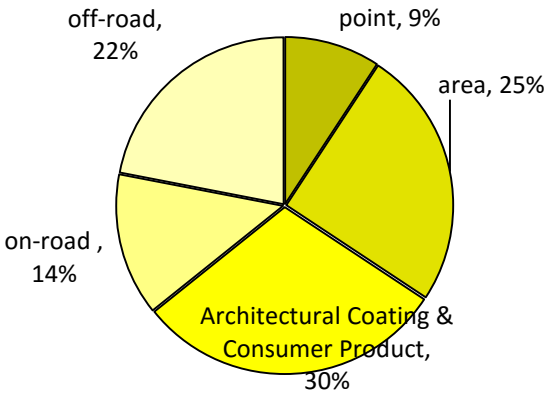
Summary of Future Baseline Emissions

To illustrate trends in the future baseline emissions inventories, emissions data by source categories (point, area, on-road mobile and off-road mobile sources) and by pollutant are presented in Tables 3-4A through 3-4E for the years 2019, 2022, 2023, 2025, and 2031. Baseline inventories are projected future emissions that reflect already adopted rules and regulations, but not additional controls proposed in the 2016 AQMP. This is in contrast to the 2012 base year emission inventory, which captures the actual 2012 emissions and is used as a basis for the projection of future inventories. Tables 3-4 provide annual average, as well as summer planning inventories. Emissions inventories for 2021, the "moderate" annual PM2.5 attainment deadline and milestone years for the Reasonable Further Progress (RTP) analysis (2024, 2027, 2028, 2029 and 2030) can be found in Appendix III.

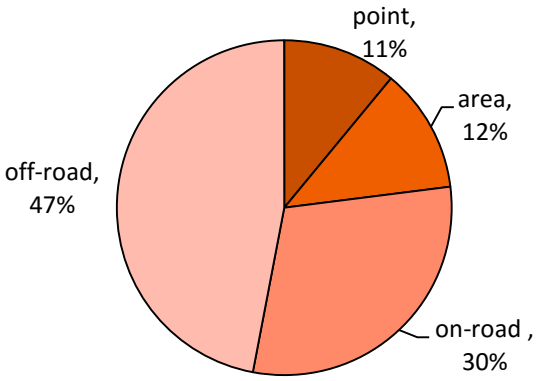
Without any additional control measures, VOC and NOx emissions are expected to decrease due to existing regulations, such as controls for on- and off-road equipment, new vehicle standards, and the RECLAIM program. However, consistent with what was shown earlier with the mobile source categories, the emissions of SOx and PM2.5 show increases after 2022, when most of the rules and regulations will be fully implemented. Increases in emissions due to increase in population and activity outpace the emission reductions from introducing newer and cleaner equipment and vehicles. Figure 3-5 illustrates the relative contribution to the 2031 inventory by source category. A comparison of Figures 3-3 and 3-

5 indicates that the on-road mobile category continues to be a major contributor to CO and NOx emissions. However, because of the implementation of most of the mobile source rules and regulations by 2023, 2031 on-road mobile sources account for much less of the VOC, NOx, and CO emissions as compared to 2012: about 14 percent of total VOC emissions compared to 33 percent in 2012; about 30 percent of total NOx emissions compared to 56 percent in 2012; and about 26 percent of total CO emissions compared to 63 percent in 2012. For directly emitted PM2.5, mobile sources will represent 23 percent of the emissions with another 14 percent due to vehicle-related entrained road dust, a reduction from the mobile source contribution in the base-year. It is projected that stationary sources will emit the majority of the SOx emissions with the point source category, contributing 55 percent of the SOx emissions in the Basin. In 2031, area sources will play even a larger role in VOC emissions, emitting more than point sources and mobile sources combined. Area sources will become the major contributor to VOC emissions from 37 percent in 2012 to 55 percent in 2031 and are projected to remain as the predominant source of directly emitted PM2.5 emissions (49 percent). See Figures 3-7 through 3-30 for the highest-ranking source categories for 2012, 2019, 2022, 2023, 2025, and 2031.

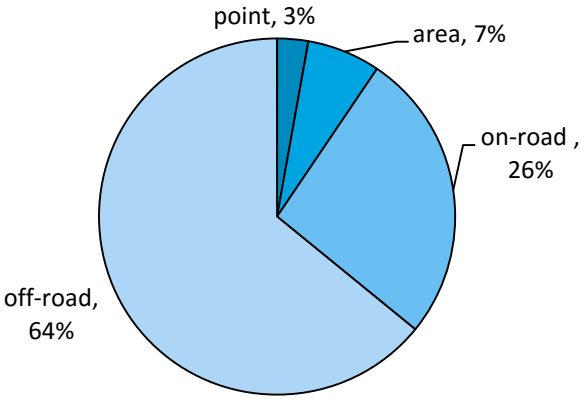
Figure 3-6 shows the fraction of the 2031 inventory by responsible agency for VOC, NOx, SOx, and directly emitted PM2.5. In 2031, a larger fraction of the NOx and VOC emissions will fall under the SCAQMD control. However, the majority of VOC and NOx emissions will remain primarily under CARB and EPA jurisdiction. The fraction of SOx emissions that fall under SCAQMD control will remain largely unchanged from the 2012 base-year inventory. However, the increasing contribution of area and point sources towards direct PM2.5 emissions in 2031 will result in a larger fraction of emissions falling under SCAQMD control.



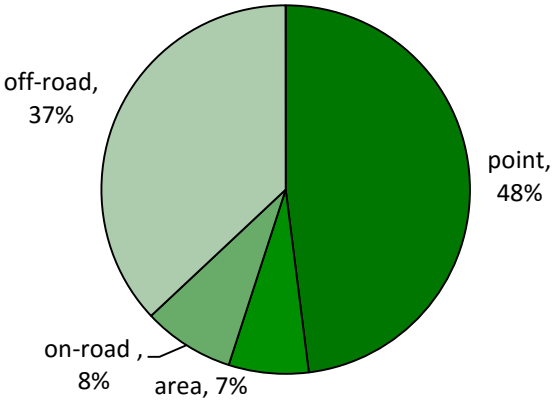
VOC Emissions: 362 tons/day



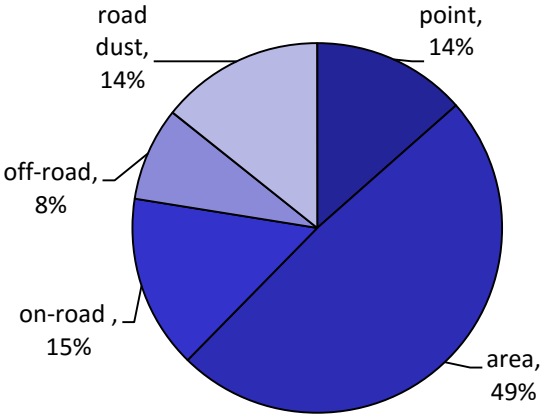
NOx Emissions: 214 tons/day



CO Emissions: 1118 tons/day



SOx Emissions: 18 tons/day



Directly Emitted PM2.5 Emissions: 65 tons/day

FIGURE 3-5

RELATIVE CONTRIBUTION BY SOURCE CATEGORY TO 2031 EMISSION INVENTORY

(VOC & NOX – SUMMER PLANNING; CO, SOX, & PM2.5 – ANNUAL AVERAGE INVENTORY - VALUES ARE ROUNDED TO NEAREST INTEGER AND MAY NOT SUM DUE TO ROUNDING)

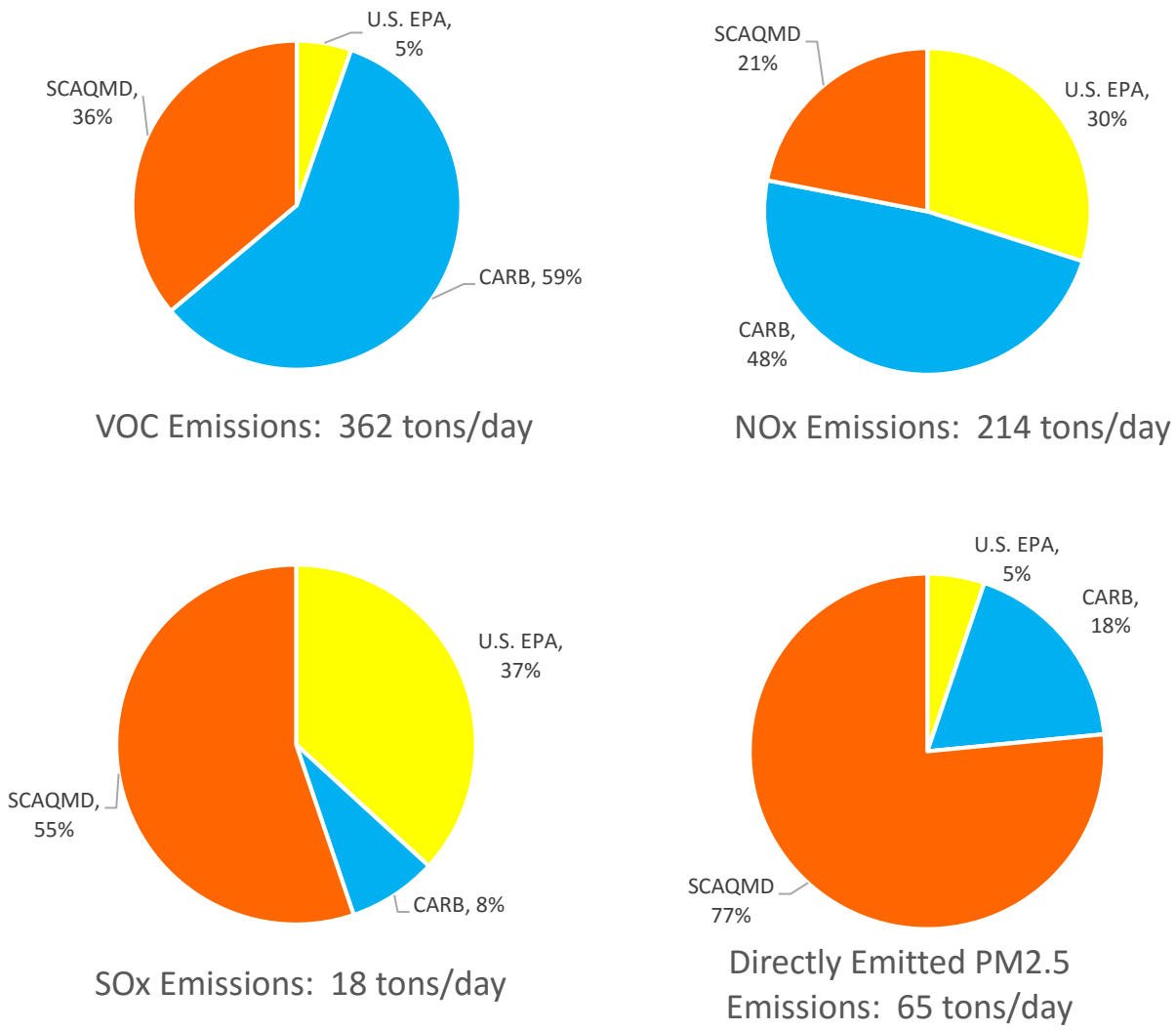


FIGURE 3-6

2031 EMISSION INVENTORY AGENCY RESPONSIBILITY

(VOC & NOX – SUMMER PLANNING; SOX & PM2.5 – ANNUAL AVERAGE INVENTORY. VALUES ARE ROUNDED TO NEAREST INTEGER AND MAY NOT SUM DUE TO ROUNDING)

TABLE 3-4A

Summary of Emissions By Major Source Category: 2019 Baseline (24-hr PM2.5 attainment year)
Average Annual Day and Summer Planning (tpd[1])

SOURCE CATEGORY	ANNUAL AVERAGE						SUMMER PLANNING	
	VOC	NOx	CO	SOx	PM2.5	NH3	VOC	NOx
STATIONARY SOURCES								
Fuel Combustion	11	23	48	2	6	9	11	23
Waste Disposal	14	2	1	1	0	6	16	2
Cleaning and Surface Coatings	42	0	0	0	2	0	43	0
Petroleum Production and Marketing	21	0	5	0	2	0	21	0
Industrial Processes	12	0	1	0	7	9	13	0
Solvent Evaporation:								
Consumer Products	88	0	0	0	0	0	88	0
Architectural Coatings	12	0	0	0	0	0	12	0
Others	2	0	0	0	0	1	3	0
Misc. Processes[2]	13	14	56	1	31	35	7	10
RECLAIM Sources[3]	0	23	0	6	0	0	0	23
Total Stationary Sources	**214**	**62**	**111**	**10**	**47**	**60**	**213**	**59**
MOBILE SOURCES								
On-Road Vehicles	82	167	639	2	11	14	86	155
Off-Road Vehicles	79	124	697	5	6	0	98	133
Total Mobile Sources	**161**	**291**	**1336**	**7**	**17**	**14**	**184**	**289**
TOTAL	**376**	**353**	**1447**	**17**	**64**	**74**	**398**	**347**

[1] Values are rounded to nearest integer and may not sum due to rounding
[2] Includes entrained road dust
[3] Includes 2015 RECLAIM NOx shaves

TABLE 3-4B

Summary of Emissions By Major Source Category: 2022 Baseline (1-hr ozone attainment year)
Average Annual Day and Summer Planning (tpd[1])

SOURCE CATEGORY	Annual Average						Summer Planning	
	VOC	NOx	CO	SOx	PM2.5	NH3	VOC	NOx
STATIONARY SOURCES								
Fuel Combustion	11	22	49	2	6	9	11	22
Waste Disposal	15	2	1	1	0	6	17	3
Cleaning and Surface Coatings	45	0	0	0	2	0	47	0
Petroleum Production and Marketing	20	0	5	0	2	0	20	0
Industrial Processes	12	0	1	0	7	9	13	0
Solvent Evaporation:								
Consumer Products	90	0	0	0	0	0	90	0
Architectural Coatings	12	0	0	0	0	0	12	0
Others	2	0	0	0	0	1	3	0
Misc. Processes[2]	13	13	56	1	31	35	7	10
RECLAIM Sources[3]	0	15	0	6	0	0	0	15
Total Stationary Sources	**220**	**53**	**112**	**10**	**48**	**60**	**220**	**50**
MOBILE SOURCES								
On-Road Vehicles	68	125	498	2	10	13	71	117
Off-Road Vehicles	74	113	715	5	6	0	92	120
Total Mobile Sources	**142**	**238**	**1213**	**7**	**16**	**13**	**163**	**237**
TOTAL	**362**	**290**	**1325**	**17**	**64**	**73**	**383**	**287**

[1] Values are rounded to nearest integer and may not sum due to rounding
[2] Includes entrained road dust
[3] Includes 2015 RECLAIM NOx shaves

TABLE 3-4C

Summary of Emissions By Major Source Category: 2023 Baseline (1997 8-hr ozone attainment year)
Average Annual Day and Summer Planning (tpd[1])

SOURCE CATEGORY	Annual Average						Summer Planning	
	VOC	NOx	CO	SOx	PM2.5	NH3	VOC	NOx
STATIONARY SOURCES								
Fuel Combustion	11	22	49	2	6	9	11	22
Waste Disposal	15	2	1	1	0	6	17	3
Cleaning and Surface Coatings	46	0	0	0	2	0	47	0
Petroleum Production and Marketing	20	0	5	0	2	0	20	0
Industrial Processes	13	0	1	0	8	9	14	0
Solvent Evaporation:								
Consumer Products	90	0	0	0	0	0	90	0
Architectural Coatings	12	0	0	0	0	0	12	0
Others	2	0	0	0	0	1	3	0
Misc. Processes[2]	13	13	56	1	32	35	7	10
RECLAIM Sources[3]	0	15	0	6	0	0	0	15
Total Stationary Sources	**222**	**52**	**112**	**10**	**48**	**60**	**220**	**50**
MOBILE SOURCES								
On-Road Vehicles	65	94	465	2	10	13	68	88
Off-Road Vehicles	73	110	721	6	6	0	90	117
Total Mobile Sources	**137**	**204**	**1186**	**7**	**16**	**13**	**158**	**205**
TOTAL	**359**	**257**	**1298**	**17**	**64**	**72**	**379**	**255**

[1] Values are rounded to nearest integer and may not sum due to rounding
[2] Includes entrained road dust
[3] Includes 2015 RECLAIM NOx shaves

TABLE 3-4D

Summary of Emissions By Major Source Category: 2025 Baseline (annual PM2.5 attainment year)
Average Annual Day and Summer Planning (tpd[1])

SOURCE CATEGORY	Annual Average						Summer Planning	
	VOC	NOx	CO	SOx	PM2.5	NH3	VOC	NOx
STATIONARY SOURCES								
Fuel Combustion	11	22	50	2	6	9	11	22
Waste Disposal	16	2	1	1	0	6	18	3
Cleaning and Surface Coatings	47	0	0	0	2	0	49	0
Petroleum Production and Marketing	19	0	5	0	2	0	20	0
Industrial Processes	13	0	1	0	8	9	14	0
Solvent Evaporation:								
Consumer Products	91	0	0	0	0	0	91	0
Architectural Coatings	12	0	0	0	0	0	12	0
Others	3	0	0	0	0	1	3	0
Misc. Processes[2]	13	13	56	1	32	35	7	9
RECLAIM Sources[3]	0	15	0	6	0	0	0	15
Total Stationary Sources	**224**	**52**	**112**	**10**	**49**	**60**	**223**	**49**
MOBILE SOURCES								
On-Road Vehicles	58	85	403	2	10	12	61	79
Off-Road Vehicles	71	104	731	6	5	0	87	110
Total Mobile Sources	**129**	**189**	**1134**	**7**	**15**	**12**	**148**	**190**
TOTAL	**353**	**241**	**1247**	**17**	**64**	**72**	**372**	**239**

[1] Values are rounded to nearest integer and may not sum due to rounding
[2] Includes entrained road dust
[3] Includes 2015 RECLAIM NOx shaves

TABLE 3-4E

Summary of Emissions By Major Source Category: 2031 Baseline (2008 8-hr ozone attainment year)
Average Annual Day and Summer Planning (tpd[1])

SOURCE CATEGORY	Annual Average						Summer Planning	
	VOC	NOx	CO	SOx	PM2.5	NH3	VOC	NOx
STATIONARY SOURCES								
Fuel Combustion	11	22	51	2	6	9	11	22
Waste Disposal	16	2	1	1	0	6	19	3
Cleaning and Surface Coatings	50	0	0	0	2	1	52	0
Petroleum Production and Marketing	18	0	5	0	2	0	18	0
Industrial Processes	13	0	1	0	8	9	14	0
Solvent Evaporation:								
Consumer Products	94	0	0	0	0	0	94	0
Architectural Coatings	13	0	0	0	0	0	13	0
Others	3	0	0	0	0	1	3	0
Misc. Processes[2]	13	11	56	1	33	36	7	9
RECLAIM Sources[3]	0	15	0	6	0	0	0	15
Total Stationary Sources	**231**	**51**	**113**	**10**	**50**	**61**	**231**	**50**
MOBILE SOURCES								
On-Road Vehicles	47	69	309	1	10	12	49	65
Off-Road Vehicles	66	94	766	7	5	0	81	100
Total Mobile Sources	**114**	**163**	**1074**	**8**	**15**	**12**	**130**	**165**
TOTAL	**345**	**214**	**1188**	**18**	**65**	**73**	**362**	**214**

[1] Values may not sum due to rounding
[2] Includes entrained road dust
[3] Includes 2015 RECLAIM NOx shaves

Impact of Growth

The 2016 AQMP forecasts the 2031 emissions inventories ''with growth'' through a detailed consultation process with SCAG. The region is projected to see a 12 percent growth in population, 16 percent growth in housing units, 23 percent growth in employment, and 8 percent growth in vehicle miles traveled between 2012 and 2031. To illustrate the impact of demographic growth on emissions, year 2031 no-growth emissions were estimated by removing the growth factors from the 2031 baseline emissions. Table 3-5 presents the comparison of the projected 2031 emissions with and without growth. In this analysis, the benefit of potential applications of BACT under District's Regulation XIII – New Source Review (NSR) is not included. The growth impacts to year 2031 for VOC, NOx, CO, SOx and PM2.5 are 48, 35, 251, 2, and 8 tons per day, respectively.

While economic growth for the region is desirable, it presents a challenge to our air quality improvement efforts since the projected growth could offset the impressive progress made in reducing VOC, NOx, and PM2.5 emissions through adopted regulations. Meeting the U.S. EPA's current and more-stringent future air quality standards will require the continuation of emission reduction efforts from all levels of government.

TABLE 3-5

Growth Impact to 2031 Emissions[1] in Tons per Day

WITH GROWTH	VOC	NOx	CO	SOx	PM2.5
Point	30	21	34	9	9
Area	201	29	80	1	32
Road Dust	0	0	0	0	9
On-Road	47	69	309	1	10
Off-Road	66	94	766	7	5
Total	**345**	**214**	**1188**	**18**	**65**
NO GROWTH	**VOC**	**NOx**	**CO**	**SOx**	**PM2.5**
Point	24	20	31	8	8
Area	178	32	78	1	28
Road Dust	0	0	0	0	8
On-Road	46	51	299	1	9
Off-Road	49	76	519	5	4
Total	**297**	**179**	**927**	**16**	**57**
IMPACT OF GROWTH	**VOC**	**NOx**	**CO**	**SOx**	**PM2.5**
Point	6	1	3	0	1
Area	23	-3	2	0	4
Road Dust	0	0	0	0	1
On-Road	1	18	10	0	1
Off-Road	18	19	237	2	1
Total	**48**	**35**	**251**	**2**	**8**

[1]Annual Average Inventory

Top Ten Source Categories (2012, 2019, 2022, 2023, 2025, and 2031)

The rankings of the top ten source contributors to the emissions inventories for specific years for VOC, NOx, SOx and PM2.5 are listed and briefly discussed in this section. The summer planning inventories for VOC and NOx, along with the annual average inventories for SOx and PM2.5 for 2012, 2019, 2022, 2023, 2025, and 2031 are shown in Figures 3-7 to 3-30.

Figures 3-7 to 3-12 provide the top ten categories for each of the six inventory years for VOCs. Two of top four categories are on-road mobile sources in the 2012 inventory, but none of the on-road categories are found in the top four categories for 2023, 2025 or 2031. This demonstrates the effect of more-stringent on-road standards in the future. Consumer products, and off-road equipment remain as high-emitting categories over time. The coatings and related processes category becomes much more significant in future years. The top 10 categories account for 78 percent of the total VOC inventory in 2012 and continue to account for over 72 percent through 2031.

NOTE: Figures 3-7, and 3-14 through 3-30 have been updated from the Draft Plan to reflect the latest emission inventory values (e.g., aircraft NOx and SOx, paved road dust PM2.5).

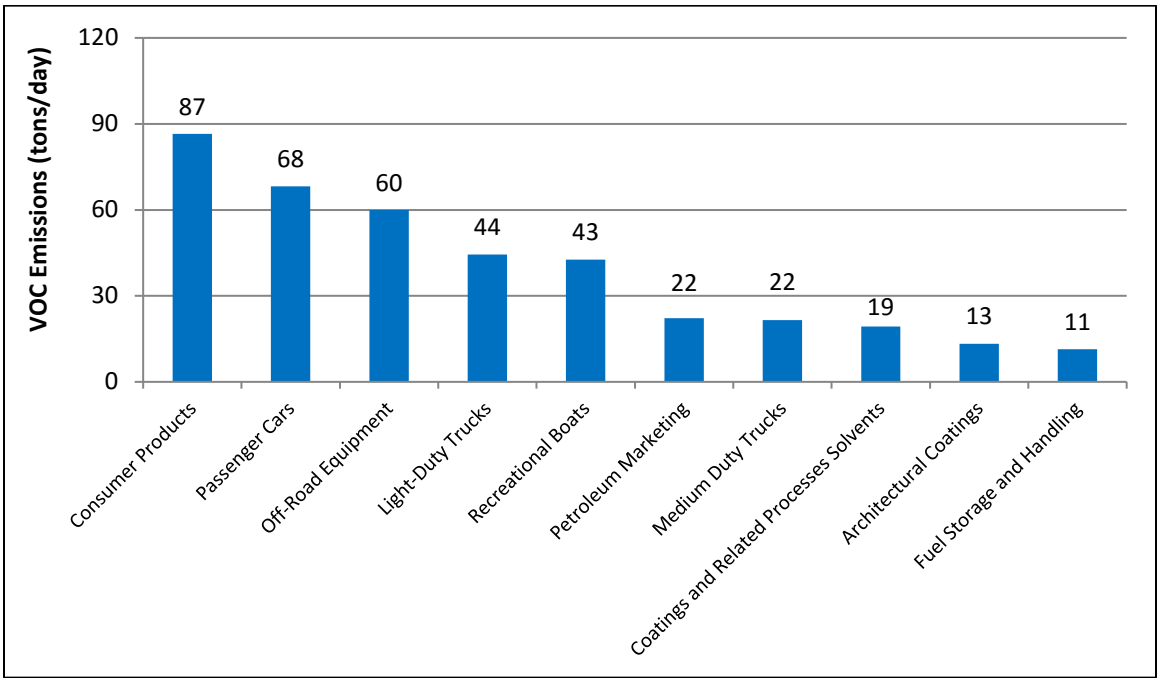


FIGURE 3-7

TOP TEN EMITTER CATEGORIES FOR VOC IN 2012 (SUMMER PLANNING)

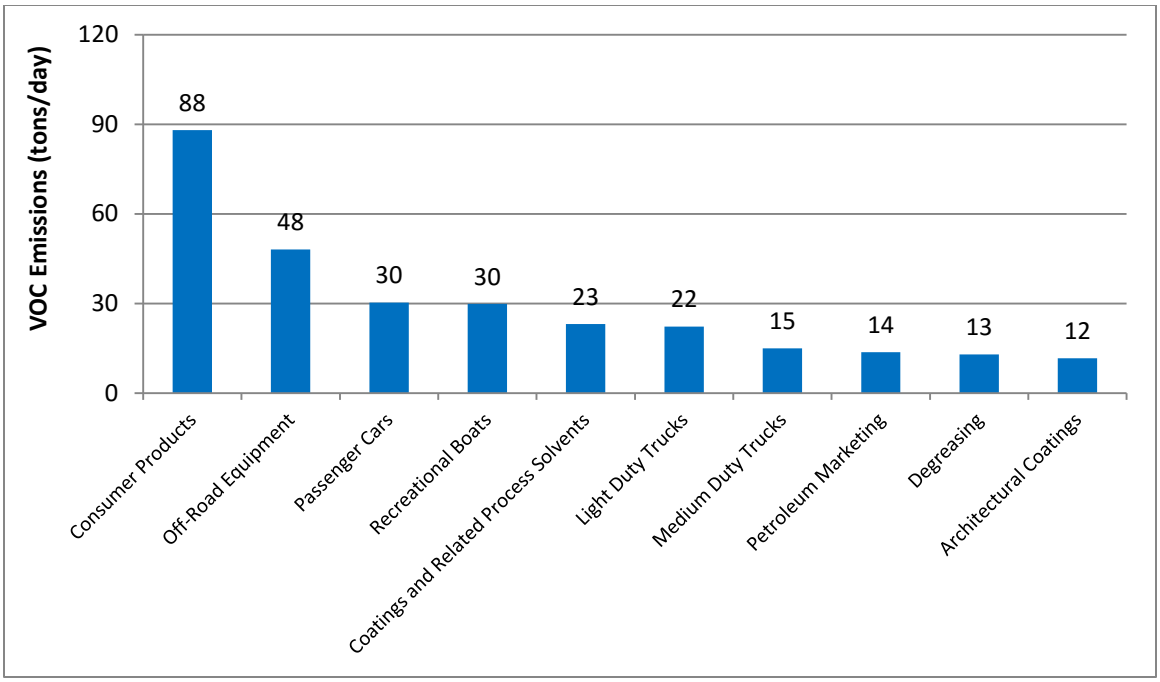


FIGURE 3-8

TOP TEN EMITTER CATEGORIES FOR VOC IN 2019 (SUMMER PLANNING)

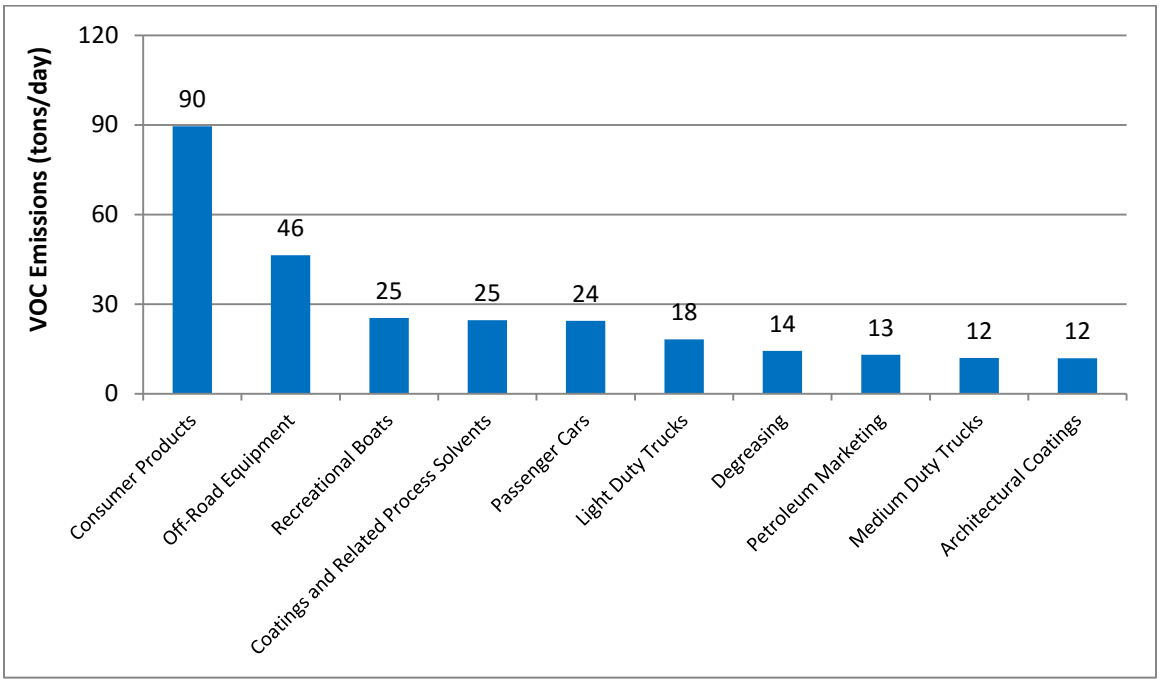


FIGURE 3-9

TOP TEN EMITTER CATEGORIES FOR VOC IN 2022 (SUMMER PLANNING)

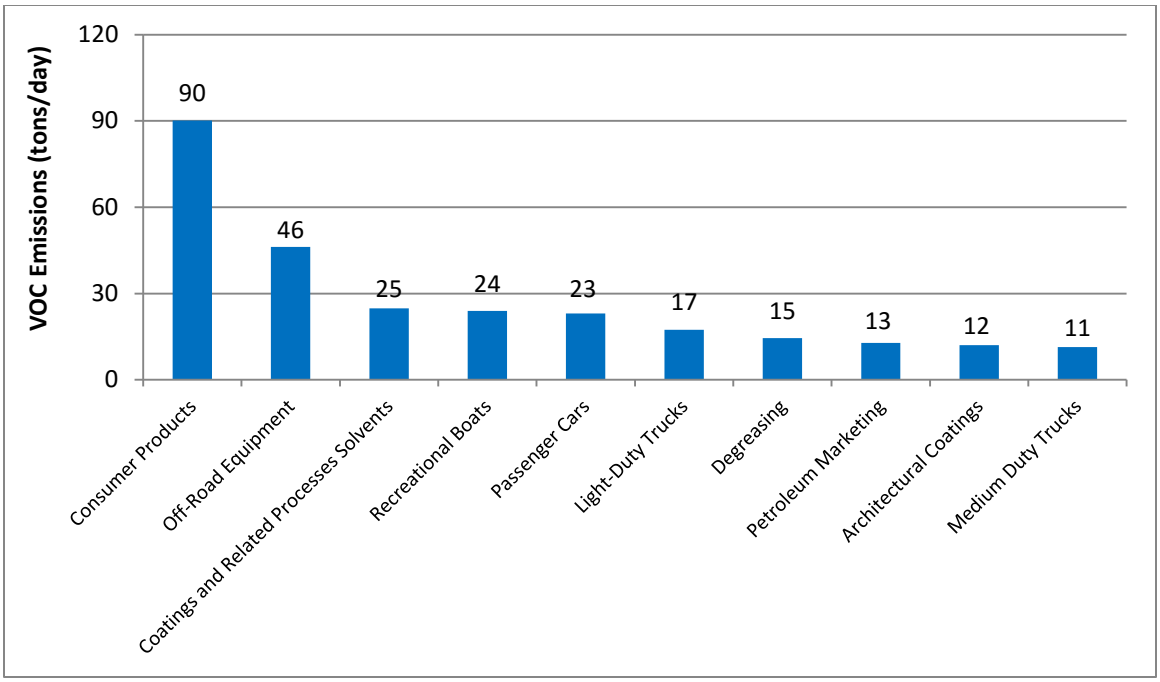


FIGURE 3-10

TOP TEN EMITTER CATEGORIES FOR VOC IN 2023 (SUMMER PLANNING)

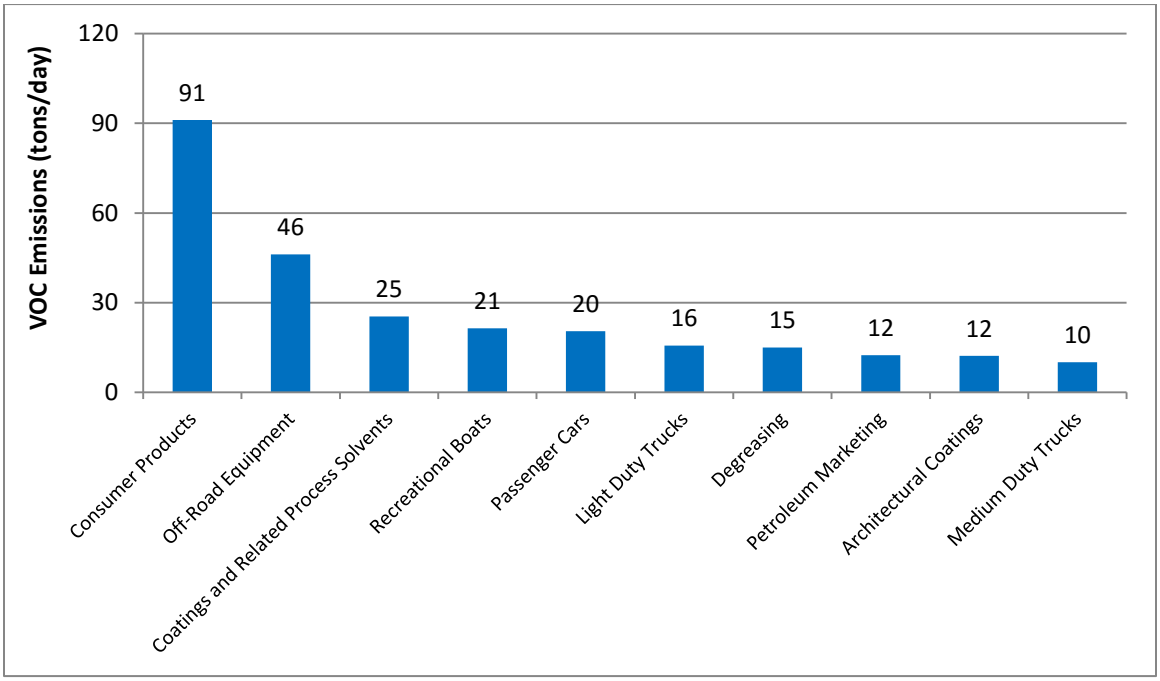


FIGURE 3-11

TOP TEN EMITTER CATEGORIES FOR VOC IN 2025 (SUMMER PLANNING)

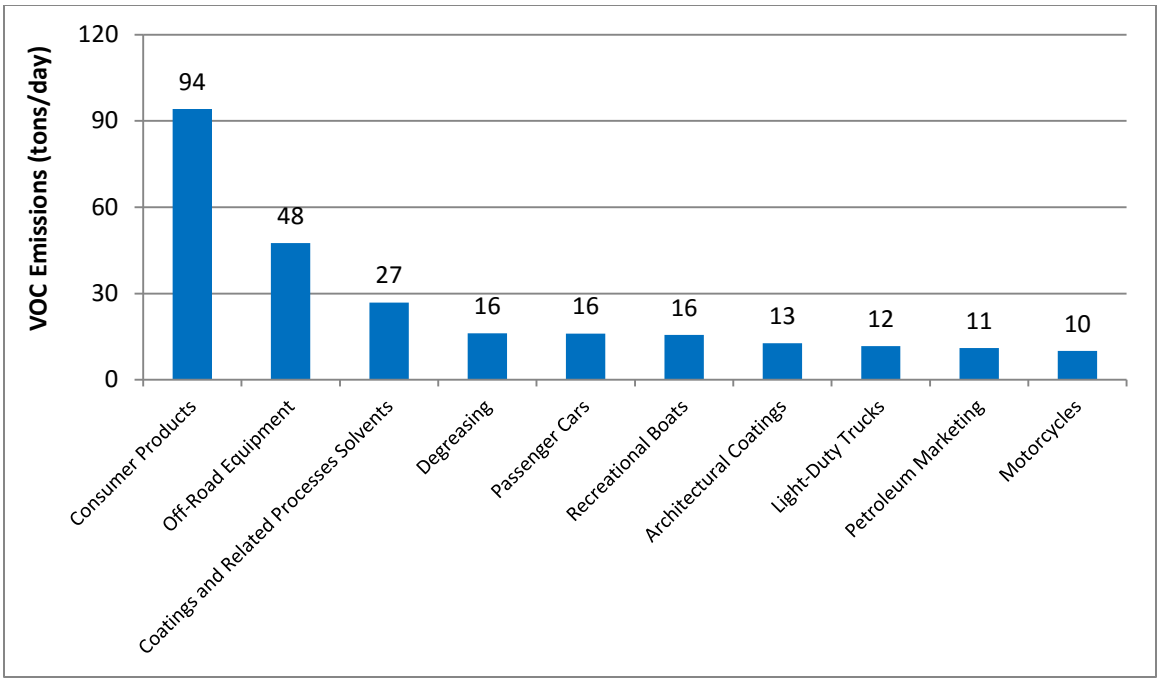


FIGURE 3-12

TOP TEN EMITTER CATEGORIES FOR VOC IN 2031 (SUMMER PLANNING)

Figures 3-13 to 3-18 show the top ten categories for NOx emissions for specific years. Mobile source categories remain the predominant contributor to NOx emissions. Heavy-duty diesel trucks, off-road equipment, and ships and commercial boats are the top three emitters on the list for all six years. NOx RECLAIM and residential fuel combustion are the only non-mobile categories which make it to the top ten list in 2012, but as the mobile source categories clean up due to the implementation of regulations, the number of non-mobile sources appearing in the top 10 categories increases with time, with four non-mobile categories in 2025 and 2031. The top ten categories account for 85 percent of the total NOx inventory in 2012, 84 percent in 2019, 83 percent in 2022, 82 percent in 2023, 83 percent in 2025 and 86 percent in 2031.

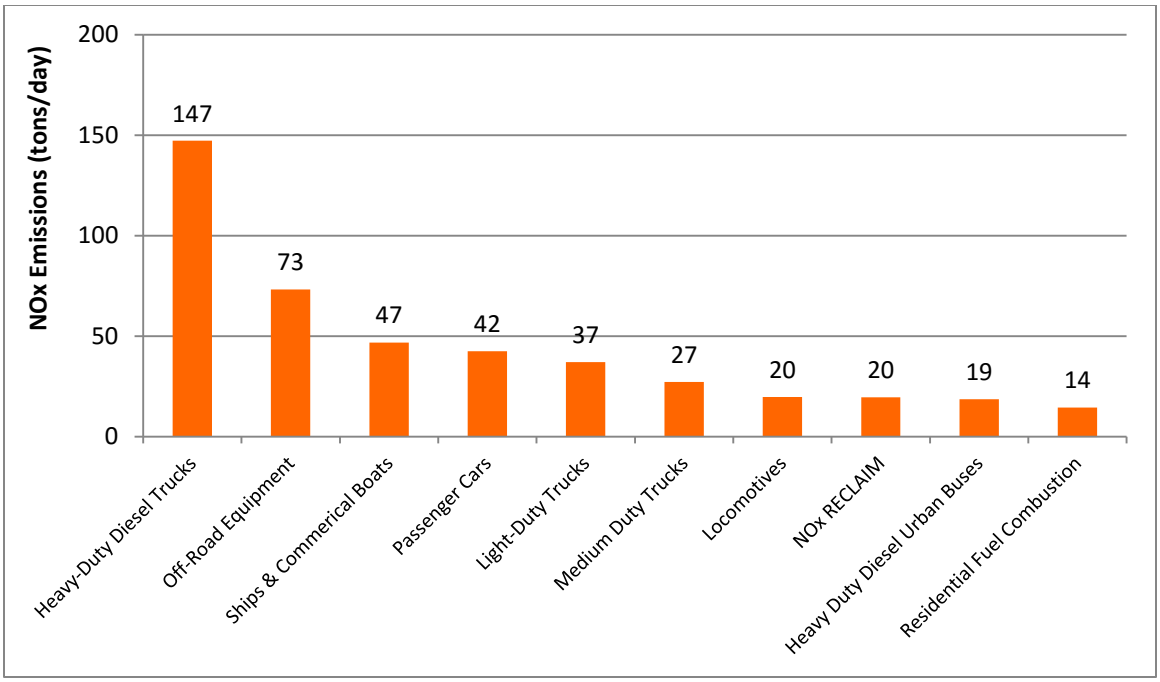


FIGURE 3-13

TOP TEN EMITTER CATEGORIES FOR NOX IN 2012 (SUMMER PLANNING)

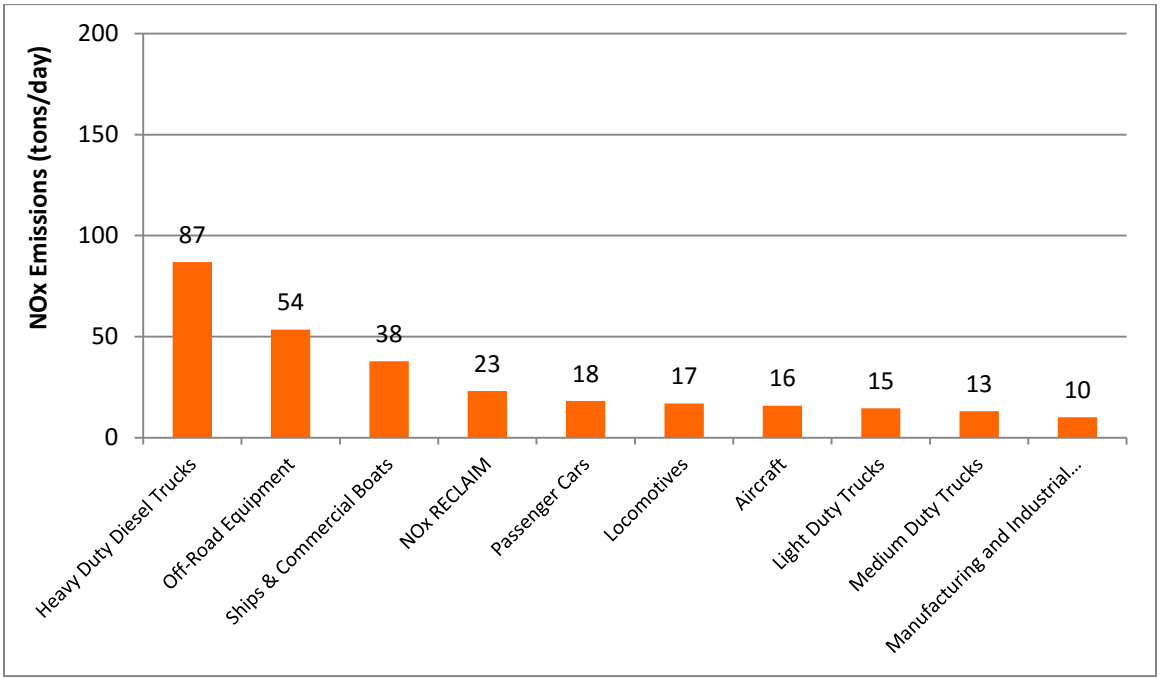


FIGURE 3-14

TOP TEN EMITTER CATEGORIES FOR NOX IN 2019 (SUMMER PLANNING)

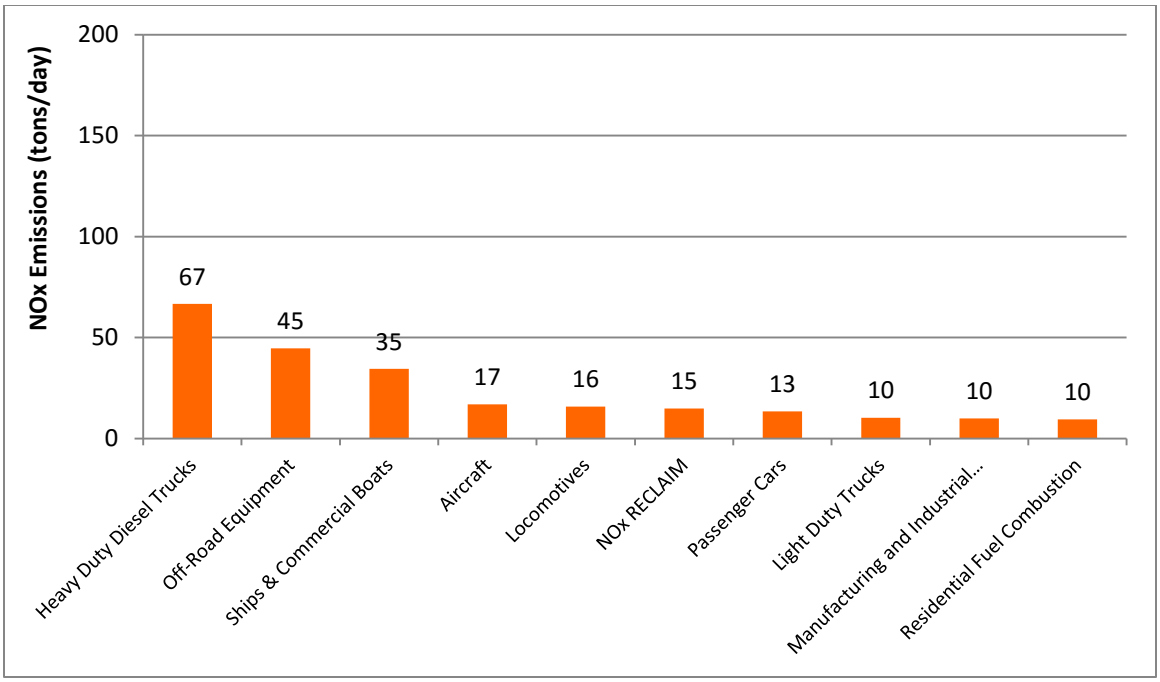


FIGURE 3-15

TOP TEN EMITTER CATEGORIES FOR NOX IN 2022 (SUMMER PLANNING)

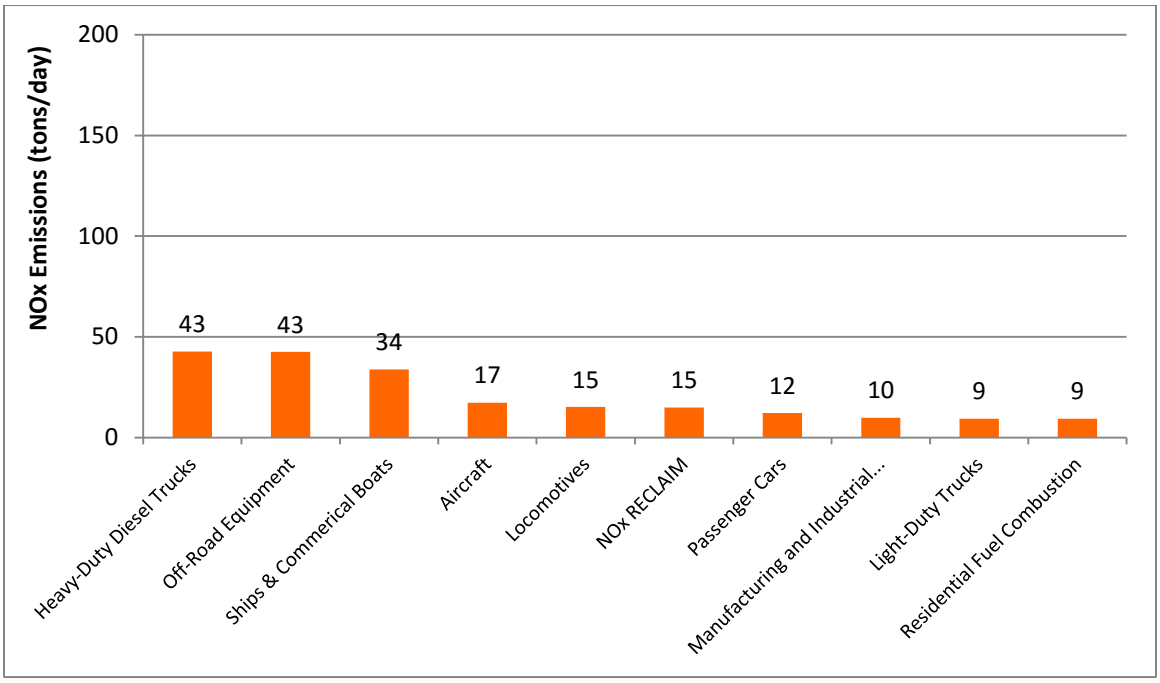


FIGURE 3-16

TOP TEN EMITTER CATEGORIES FOR NOX IN 2023 (SUMMER PLANNING)

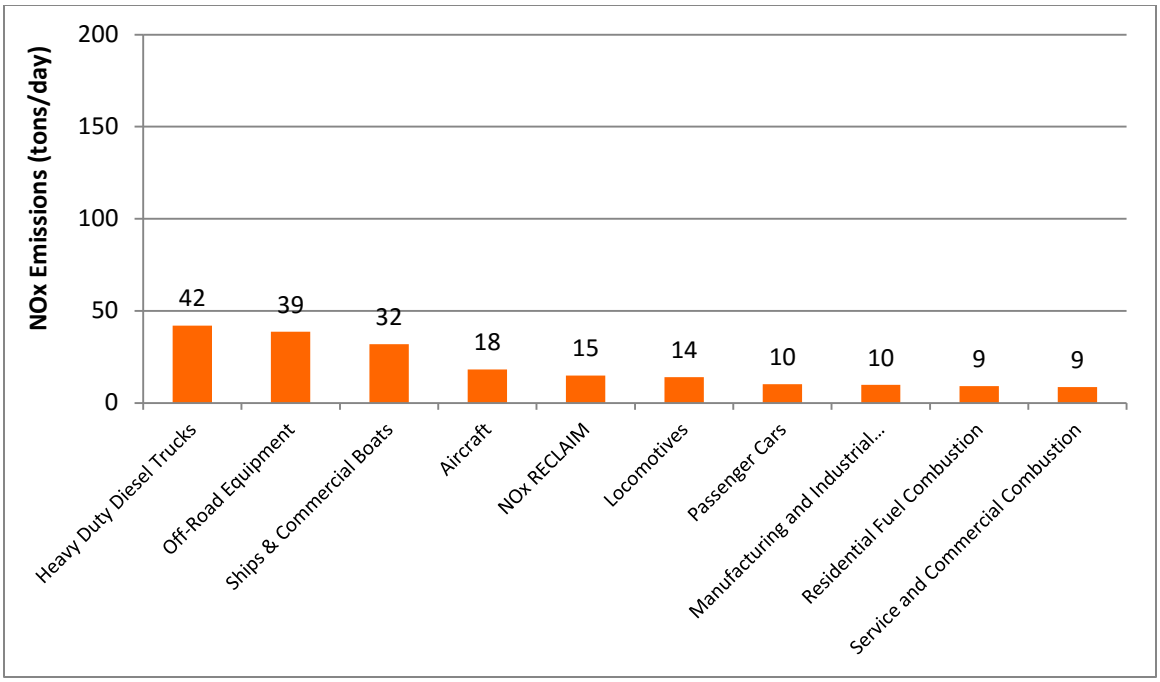


FIGURE 3-17

TOP TEN EMITTER CATEGORIES FOR NOX IN 2025 (SUMMER PLANNING)

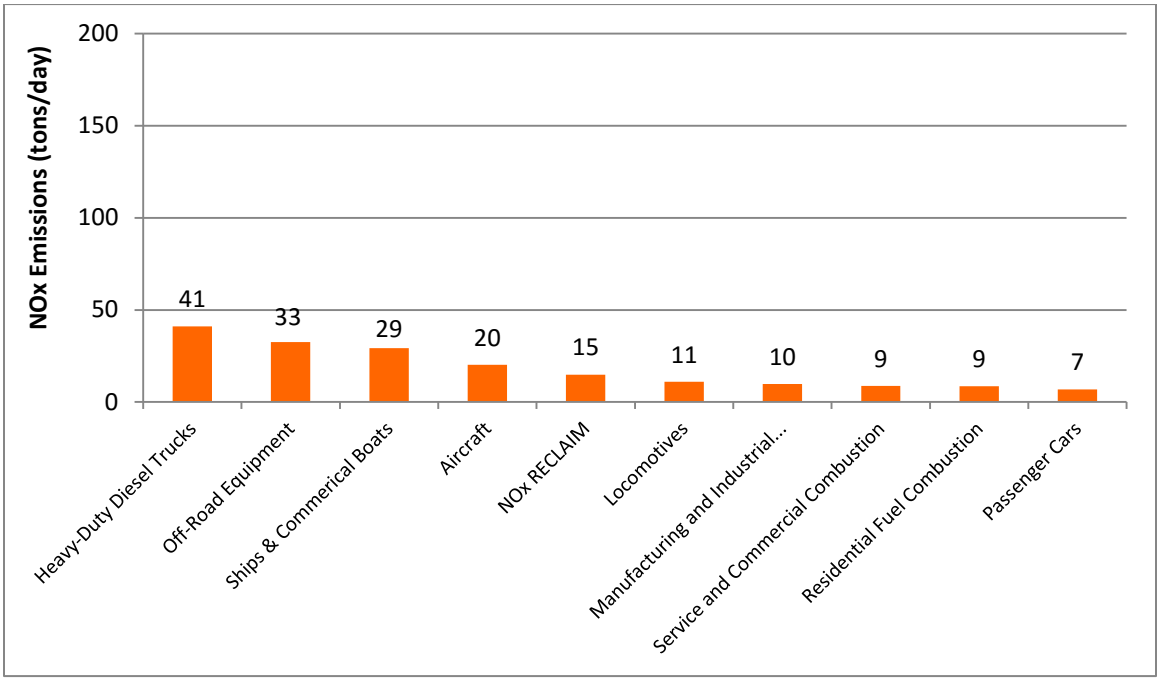


FIGURE 3-18

TOP TEN EMITTER CATEGORIES FOR NOX IN 2031 (SUMMER PLANNING)

Figures 3-19 to 3-23 show the top source categories for SOx emissions in the years 2012, 2019, 2022, 2023, 2025 and 2031. The emission levels of SOx are relatively low. Therefore, only the categories that emit more than 0.5 tons per day of SOx are ranked and listed. The top five high emitting source categories remain the same in all years. SOx RECLAIM and Ships & Commercial Boats are the most significant contributors. The top categories represent 81 percent, 79 percent, 79 percent, 79 percent, 80 percent and 81 percent of the total SOx inventory in 2012, 2019, 2022, 2023, 2025, and 2031, respectively.

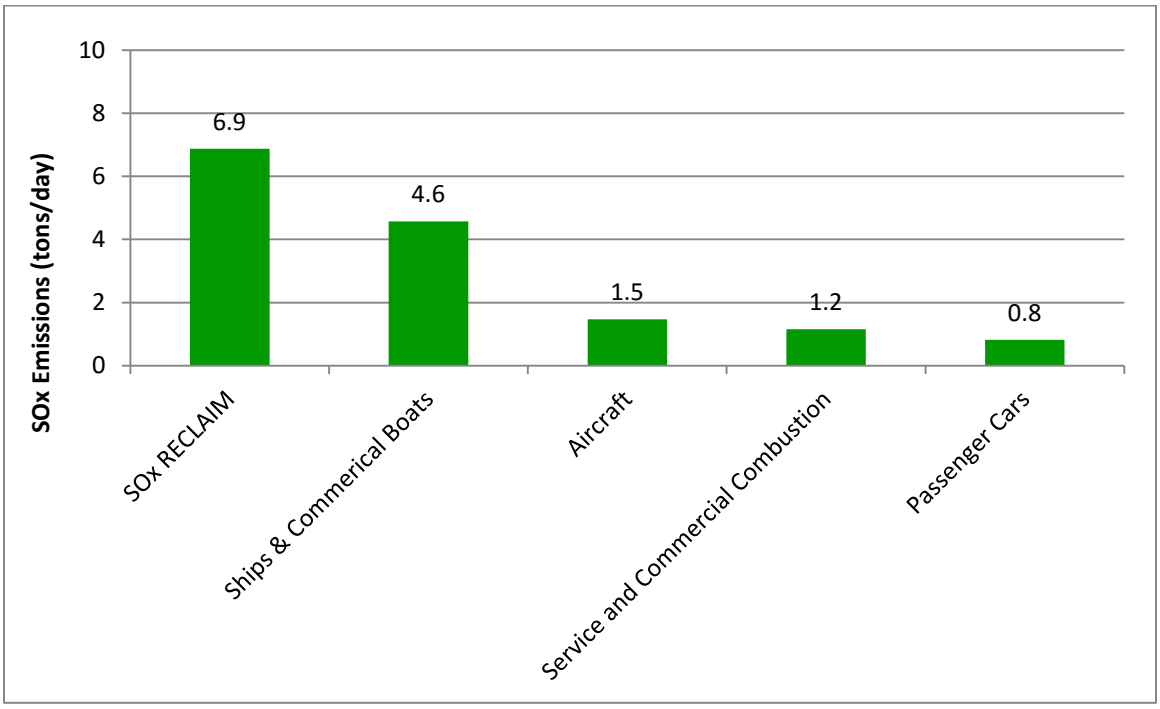


FIGURE 3-19

TOP EMITTER CATEGORIES FOR SOX 0.5 TPD AND OVER IN 2012 (ANNUAL AVERAGE)

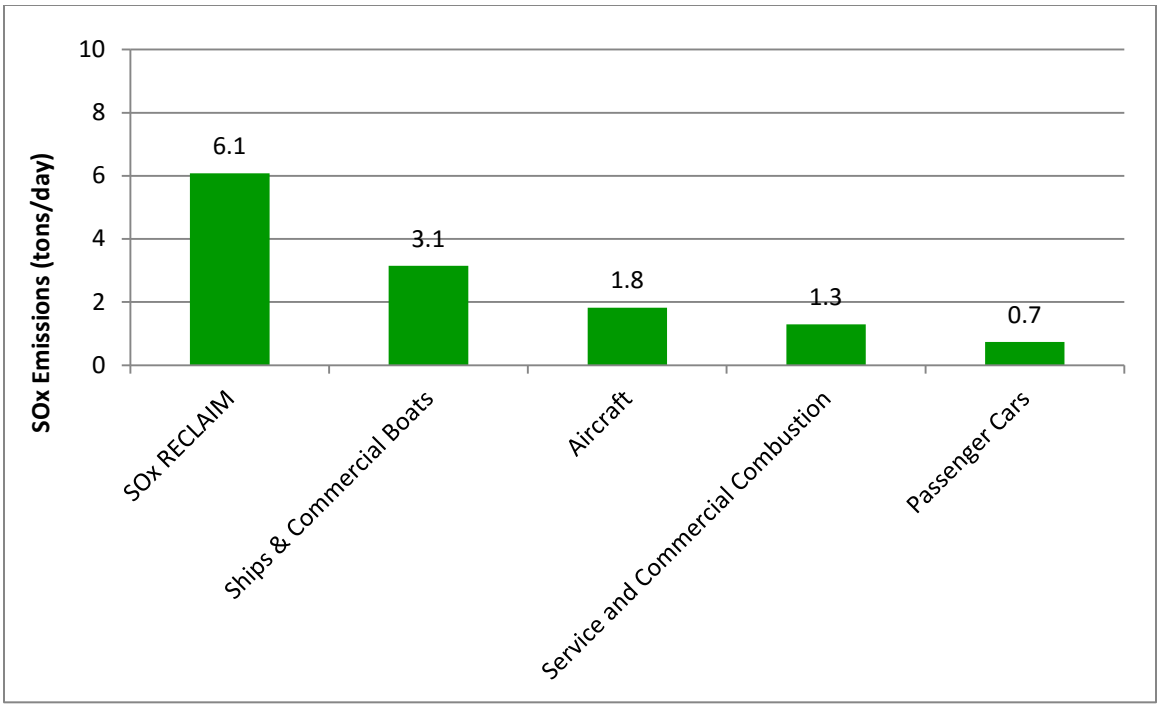


FIGURE 3-20

TOP EMITTER CATEGORIES FOR SOX 0.5 TPD AND OVER IN 2019 (ANNUAL AVERAGE)

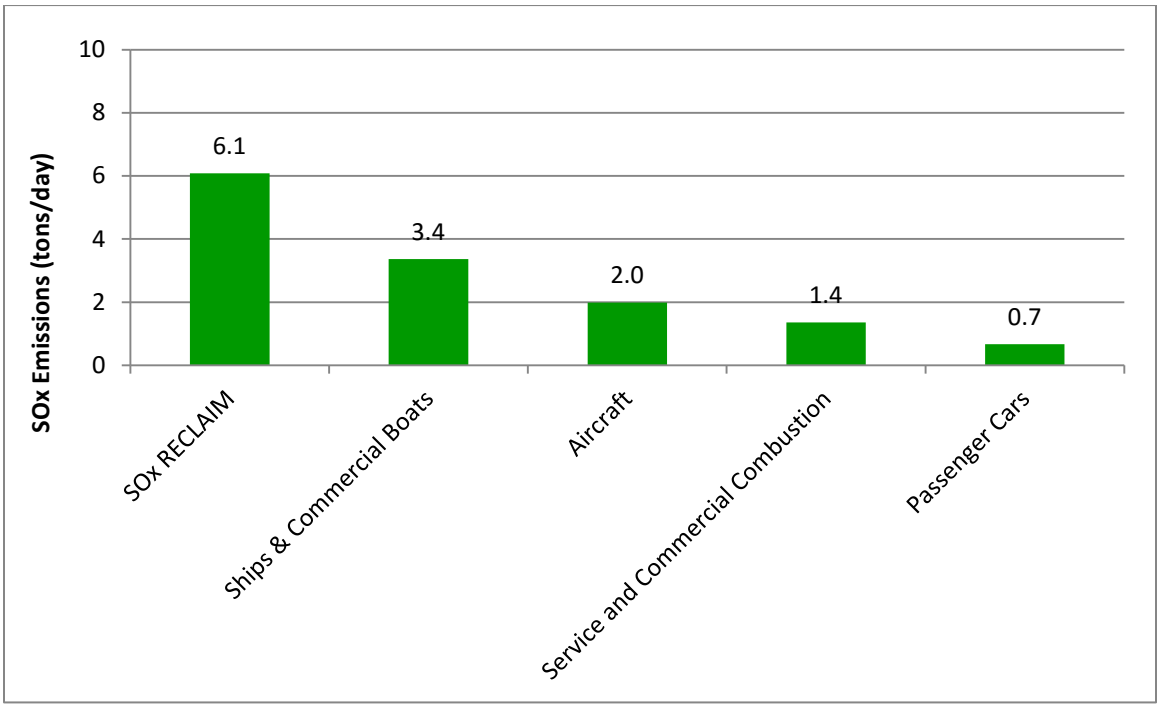


FIGURE 3-21

TOP EMITTER CATEGORIES FOR SOX 0.5 TPD AND OVER IN 2022 (ANNUAL AVERAGE)

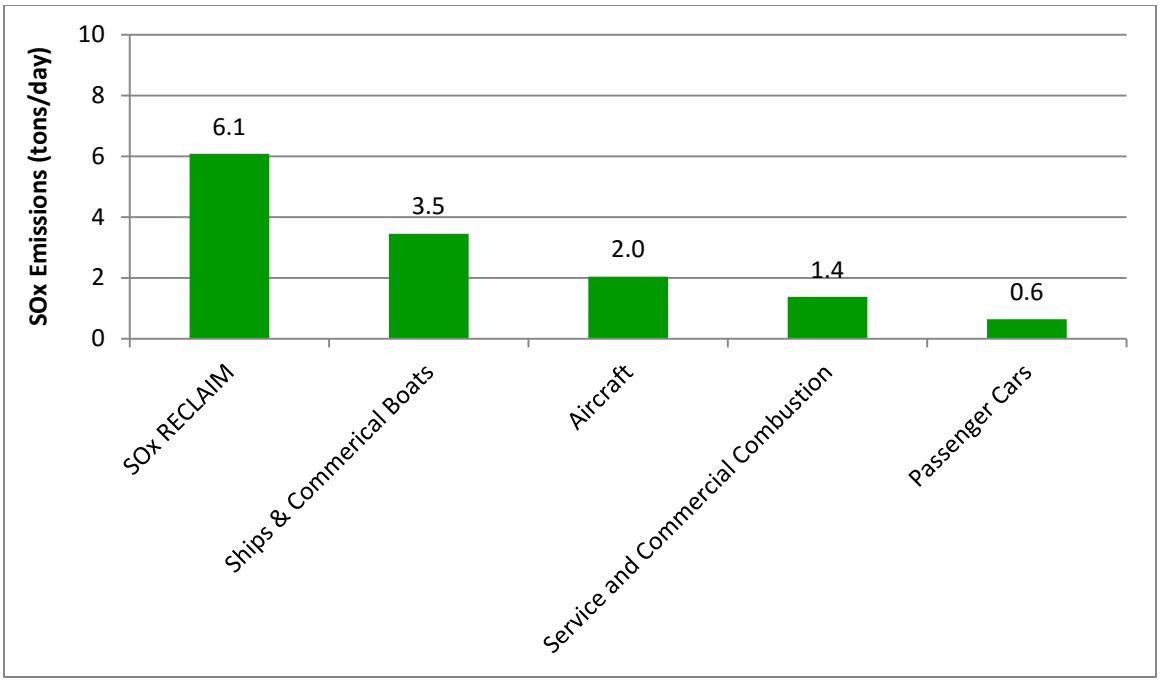


FIGURE 3-22

TOP EMITTER CATEGORIES FOR SOX 0.5 TPD AND OVER IN 2023 (ANNUAL AVERAGE)

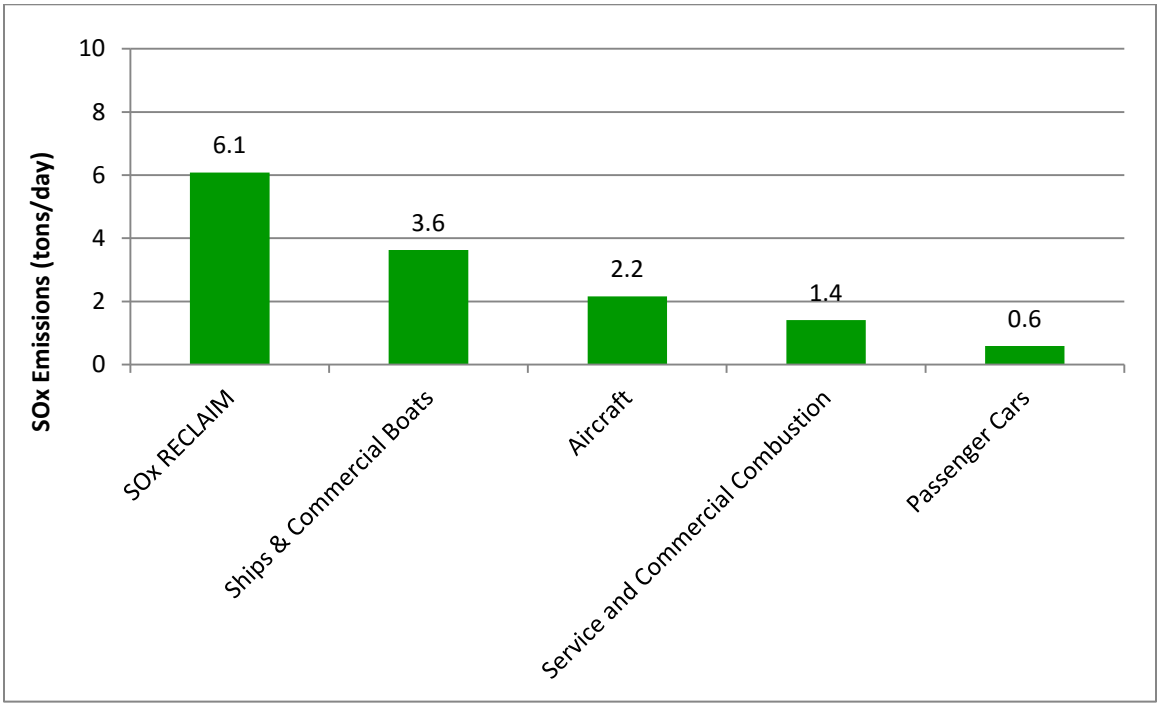


FIGURE 3-23

TOP EMITTER CATEGORIES FOR SOX 0.5 TPD AND OVER IN 2025 (ANNUAL AVERAGE)

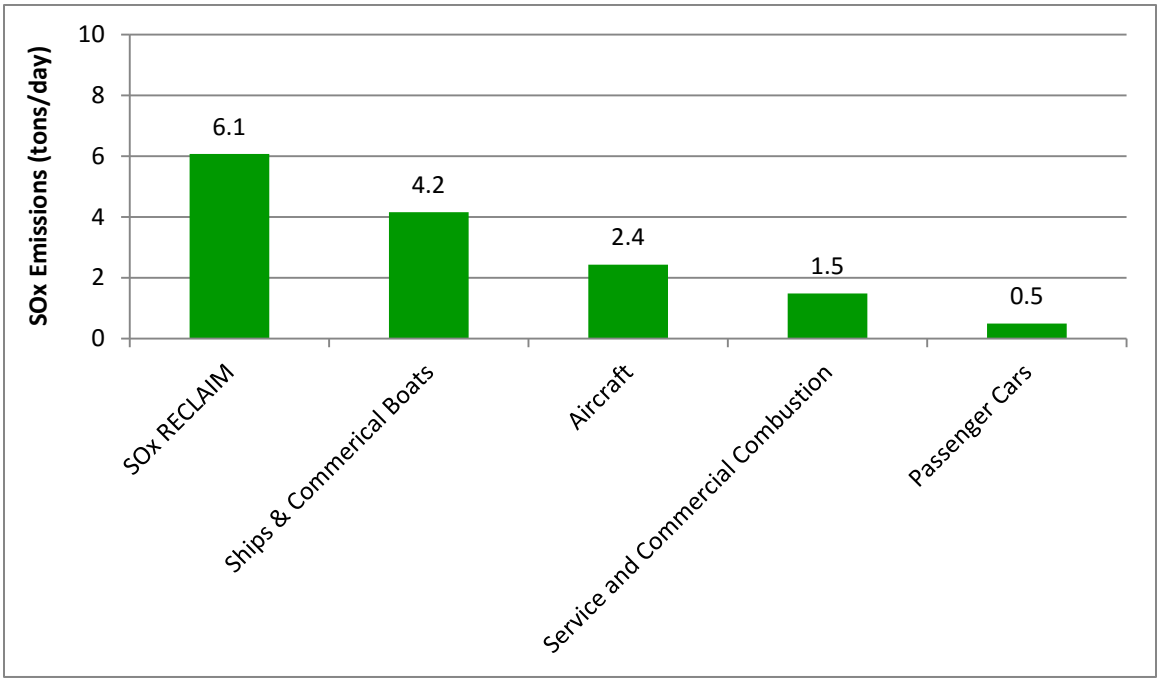


FIGURE 3-24

TOP EMITTER CATEGORIES FOR SOX 0.5 TPD AND OVER IN 2031 (ANNUAL AVERAGE)

Figures 3-25 to 3-30 show the top ten source categories in specific years for directly emitted PM2.5. Commercial cooking, paved road dust, and residential fuel combustion are the top three highest emitting categories for all six years. The top ten categories represent 72 percent of the total directly emitted PM2.5 inventory in 2012 and 2019, and 73 percent in 2023 through 2031.

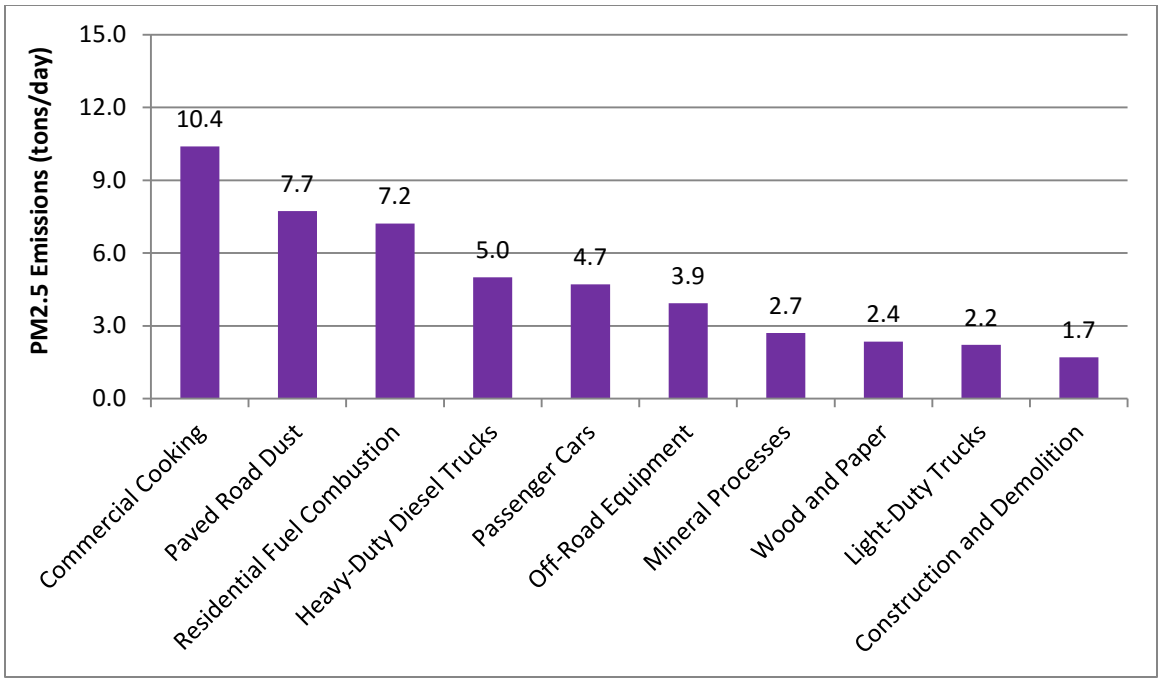


FIGURE 3-25

TOP TEN EMITTER CATEGORIES FOR DIRECTLY EMITTED PM2.5 IN 2012 (ANNUAL AVERAGE)

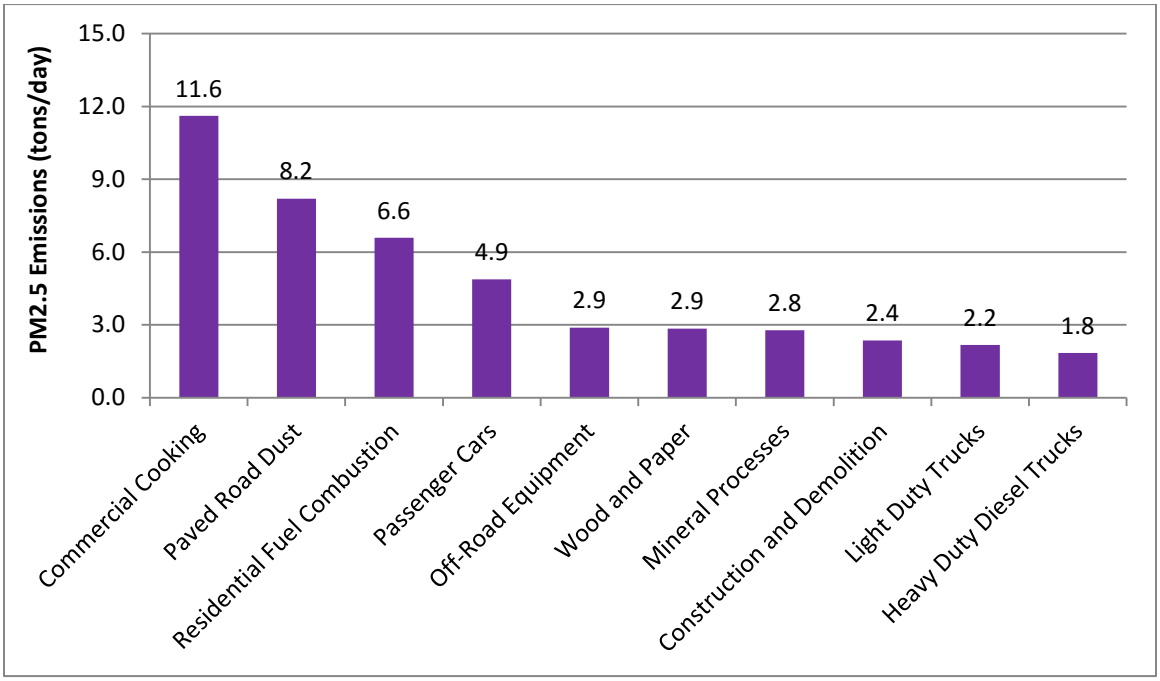


FIGURE 3-26

TOP TEN EMITTER CATEGORIES FOR DIRECTLY EMITTED PM2.5 IN 2019 (ANNUAL AVERAGE)

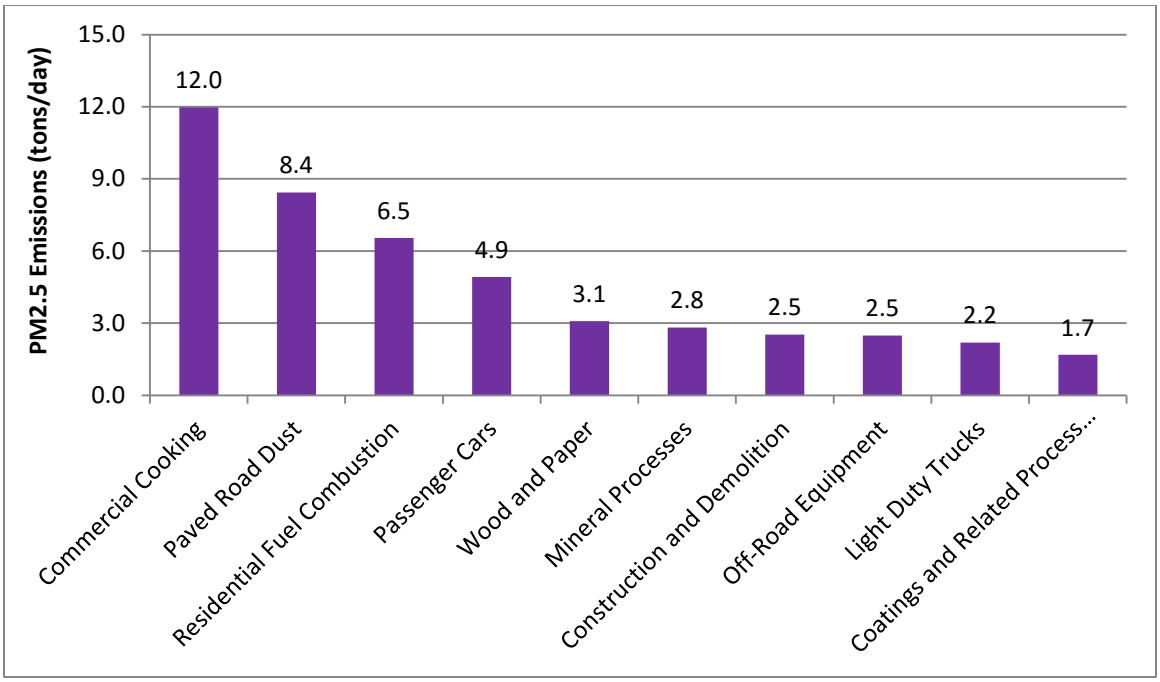


FIGURE 3-27

TOP TEN EMITTER CATEGORIES FOR DIRECTLY EMITTED PM2.5 IN 2022 (ANNUAL AVERAGE)

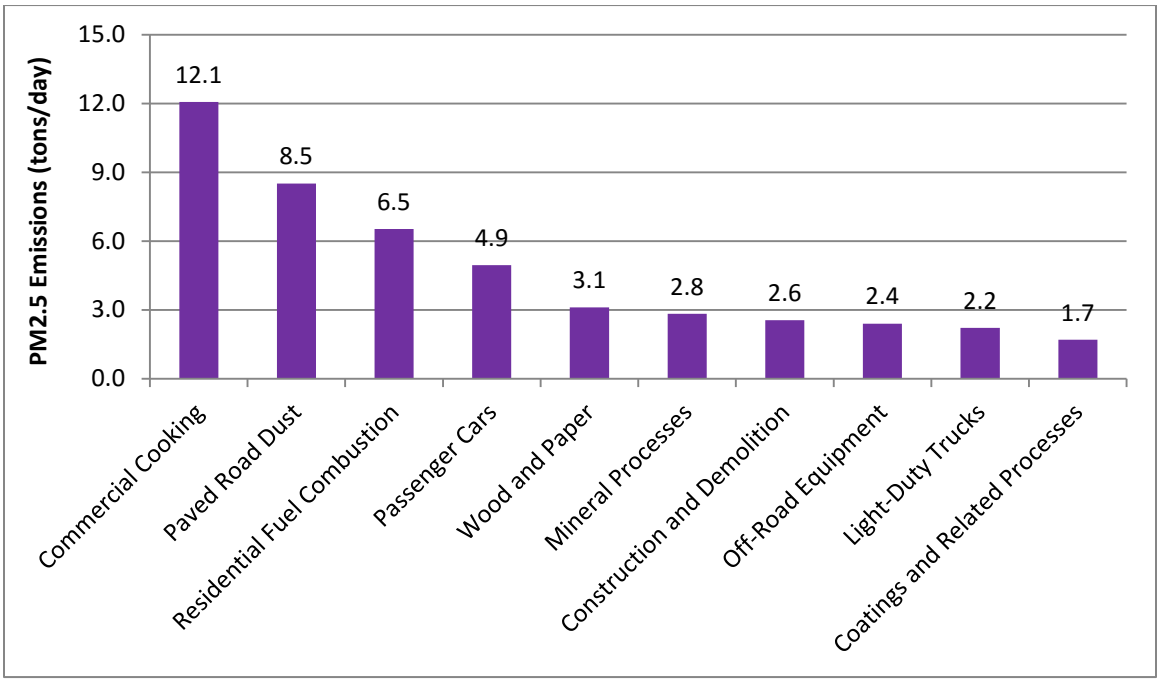


FIGURE 3-28

TOP TEN EMITTER CATEGORIES FOR DIRECTLY EMITTED PM2.5 IN 2023 (ANNUAL AVERAGE)

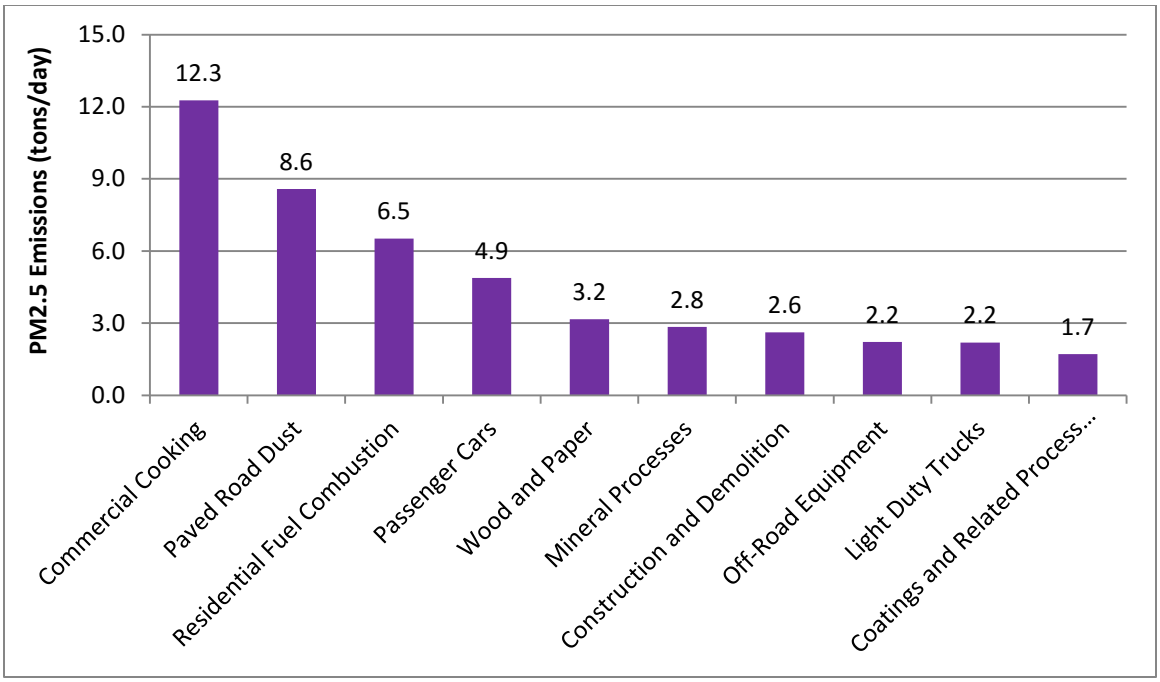


FIGURE 3-29

TOP TEN EMITTER CATEGORIES FOR DIRECTLY EMITTED PM2.5 IN 2025 (ANNUAL AVERAGE)

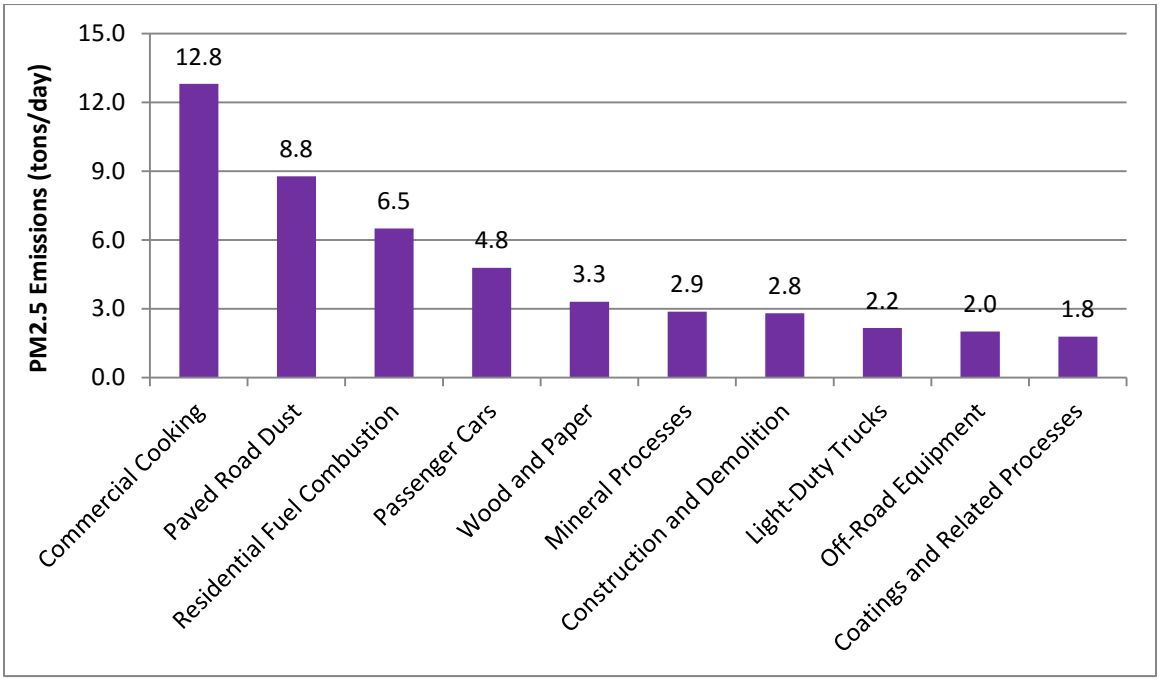


FIGURE 3-30

TOP TEN EMITTER CATEGORIES FOR DIRECTLY EMITTED PM2.5 IN 2031 (ANNUAL AVERAGE)

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Appendix III

Base and Future Year Emission Inventory

2016 AIR QUALITY MANAGEMENT PLAN

March 2017

FINAL 2016 AQMP
APPENDIX III

BASE AND FUTURE YEAR EMISSION INVENTORY

MARCH 2017

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
GOVERNING BOARD

Chairman: DR. WILLIAM A. BURKE
Speaker of the Assembly Appointee

Vice Chairman: BEN BENOIT
Mayor Pro Tem, Wildomar
Cities of Riverside County

MEMBERS:

MARION ASHLEY
Supervisor, Fifth District
County of Riverside

JOE BUSCAINO
Councilmember, 15th District
City of Los Angeles Representative

MICHAEL A. CACCIOTTI
Mayor, South Pasadena
Cities of Los Angeles County/Eastern Region

JOSEPH K. LYOU, Ph. D.
Governor's Appointee

SHEILA KUEHL
Supervisor, Third District
County of Los Angeles

LARRY MCCALLON
Mayor Pro Tem, Highland
Cities of San Bernardino County

JUDITH MITCHELL
Councilmember, Rolling Hills Estates
Cities of Los Angeles County/Western Region

SHAWN NELSON
Supervisor, Fourth District
County of Orange

DR. CLARK E. PARKER, SR.
Senate Rules Committee Appointee

DWIGHT ROBINSON
Councilmember, Lake Forest
Cities of Orange County

JANICE RUTHERFORD
Supervisor, Second District
County of San Bernardino

EXECUTIVE OFFICER:
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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. 2012 is the base year used to project future year emissions for the 2016 Air Quality Management Plan (AQMP).

This appendix includes five attachments: Attachment A – Average Annual Emissions Summary by Major Source Category; Attachment B – Summer Planning Emissions Summary by Major Source Category; Attachment C – Top South Coast Air Basin (SCAB) VOC and NOx producers which emitted equal to or greater than ten tons per year (TPY) in 2012; Attachment D – On-Road Emissions by Vehicle Category; and Attachment E – Emissions from Diesel Fuel Combustion by Major Source Category. The years of 2012, 2019, 2021, 2022, 2023, 2025, and 2031 are provided in Attachments A, B, D and E.

Information necessary to produce the emission inventory for the Basin is obtained from the District 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 their emission-related databases termed the California Emission Inventory Development and Reporting System (CEIDARS), and the California Emission Forecasting and Planning Inventory System (CEFIS). CARB is the agency responsible for developing the emissions inventory for all mobile sources, except emissions from aircraft. CARB provides the tool for on-road inventories, the EMFAC2014 model, and off-road inventories using models specific to each off-road category[1]. 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. SCAG's socio-economic and transportation activities projections in their 2016 Regional Transportation Plan/Sustainable Communities

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

Strategy (RTP/SCS) are integrated in the 2016 AQMP. The EMFAC2014 was run with the SCAG custom activities to produce the on-road mobile source inventories.

Air Contaminants

Currently, air quality standards exist for the following criteria pollutants: ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), fine suspended particulate less than 10 microns (PM10), fine particulate less than 2.5 microns (PM2.5), lead, and sulfate. This appendix presents emission levels in the Basin for the criteria pollutants and their precursors. Specifically, data are included for emissions of total organic gases (TOG), volatile organic compounds (VOC), oxides of nitrogen (NOx), oxides of sulfur (SOx), CO, particulate matter (PM), PM10, PM2.5, and ammonia (NH3).

Ozone is formed from photochemical reactions involving precursor emissions, so its emissions cannot be included in the inventories. Although air quality standards for NOx and SOx are based on NO_2 and SO_2, respectively, emissions of NOx and SOx are in the emissions inventory because multiple species of NOx and SOx contribute to the formation of particulate matter, and NOx and VOC react in the presence of sunlight to produce ozone.

TOG incorporates all gaseous compounds containing the element carbon with the exception of the inorganic compounds, CO, carbon dioxide (CO_2), carbonic acid, carbonates, and metallic carbides. VOC, a subset of TOG, includes all organic gases in TOG except acetone, ethane, methane, methylene chloride, methylchloroform, perchloroethylene, methyl acetate, parachlorobenzotrifluoride, and a number of Freon-type gases. The U.S. EPA definition of VOC is different from the one used by the 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 CFCs are still included in CARB's VOC list. According to CARB, the total emission inventory difference between U.S. EPA VOC and CARB's VOC is very small.

PM represents all airborne particulate matter, also known as total suspended particles (TSP). Important subsets of PM are PM10 and PM2.5. In the 2016 AQMP, the amount of VOC in TOG and the amount of PM10 and PM2.5 in PM are calculated for each process primarily using speciation and size fraction profiles provided by CARB. Besides average annual day emissions that are reported for all criteria pollutants, summer planning inventories (VOC and NOx) are reported to specifically address the ozone season.

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

TABLE III-1-1 (Continued)

List of Compounds Exempt in U.S. EPA's Definition of VOC; Included in CARB's Definition of VOC

COMPOUND	CAS*
1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane (HFE-7300)(1)	132182-92-4
propylene carbonate(1)	108-32-7
dimethyl carbonate(1)	616-38-6
trans-1,3,3,3-tetrafluoropropene(1)	29118-24-9
HCF2OCF2H (HFE-134) (1)	1691-17-4
HCF2OCF2OCF2H (HFE-236cal2) (1)	78522-47-1
HCF2OCF2CF2OCF2H (HFE-338pcc13) (1)	188690-78-0
HCF2OCF2OCF2CF2OCF2H (H-Galden 1040x or H-Galden ZT 130 (or 150 or 180)) (1)	188690-77-9
trans 1-chloro-3,3,3-trifluoroprop-1-ene(1)	102687-65-0
2,3,3,3-tetrafluoropropene(1)	754-12-1
2-amino-2-methyl-1-propanol(1)	124-68-5
Tertiary butyl acetate	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 district 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 District. Therefore, the District is able to collect facility emission-related information from these facilities. 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 (e.g., population, housing, and land use).

Point Sources

The 2012 point source emission inventory is based on the emissions data reported by point source facilities in the calendar year 2012 Annual Emissions Reporting (AER)

Program. This program applies to facilities emitting 4 TPY or more of VOC, NOx, SOx, or PM or emitting more than 100 TPY of CO, as specified in Rule 301(e). Facilities subject to the AER Program calculate 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 2012 AER Program, approximately, 1,715 facilities reported their annual emissions to the District. 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. 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.

Area Sources

The District and CARB shared the responsibility for developing the 2012 area source emissions inventory for approximately 400 area source categories. Specifically, the District is responsible for developing 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 2012 area source inventory is the 2012 projected emissions based on its 2008 baseline emission inventory except in the following categories: prescribed burning, forest management, architectural coating, composting, natural gas and LPG combustion sources, and livestock for which the new updated inventories were developed based on 2012 data.

Changes in Point Sources

The point source inventory continued its downward trend primarily due to the implementation of existing stationary source regulations. As indicated in Figure III-1-1, point source emissions of VOC, NOx, SOx, and PM2.5 decreased between 2008 and 2012.

The decreases are from 34, 34, and 13 tons per day to 28, 29 and 9 tons per day for VOC, NOx and SOx respectively.

Changes in Area Sources

The area source inventory also decreased between 2008 and 2012 for all criteria pollutants, except SOx which remained the same. Figure III-1-2 shows VOC, NOx, SOx and PM2.5 changed from 231, 53, 1, 39 tons per day to 183, 36, 1 and 36 tons per day between 2008 and 2012.

Rule Implementation

A list of the District's VOC, NOx, PM2.5 and SOx emission reduction commitments since the 2012 State Implementation Plan (SIP) is provided by measure, adoption date, and pollutant in Table III-1-2.

TABLE III-1-2

2012 AQMP Emission Reductions (tons per day) by Measure/Adoption Date

Control Measure #	Control Measure Title	Adoption Date	COMMITMENT		ACHIEVED	
			2014	2023	2014	2023
PM2.5 EMISSIONS						
BCM-01	Further Reductions from Residential Wood Burning Devices (R445)	2013	7.1	--	7.1	--
BCM-02	Further Reductions from Open Burning (R444)	2013	4.6	--	4.6	--
BCM-03	Emission Reductions from Under-Fired Charbroilers	TBD	--	TBD	--	TBD
BCM-04	Further Ammonia Reductions from Livestock Waste	TBD	--	TBD	--	TBD
		TOTAL PM2.5 REDUCTIONS	**11.7**	**--**	**11.7**	**--**
NOx EMISSIONS						
OFFRD-01	Extension of the SOON Provision for Construction/Industrial Equipment	Ongoing	--	7.5	--	7.5
CMB-01	Further Reductions from RECLAIM [Regulation XX]	2015	2	3	0	12
CMB-02	NOx Reduction from Biogas Flares	Rulemaking Underway	--	TBD	--	TBD
CMB-03	Reductions from Commercial Space Heating	2016	--	0.18	--	TBD
		TOTAL NOx REDUCTIONS	**0**	**10.7**	**0**	**19.5**

TABLE III-1-2 (Continued)

2012 AQMP Emission Reductions (tons per day) by Measure/Adoption Date

Control Measure #	Control Measure Title	Adoption Date	COMMITMENT		ACHIEVED	
			2014	2023	2014	2023
VOC emissions						
CTS-01	Further VOC Reductions from Architectural Coatings [R1113]	2016	--	2	--	1
CTS-02	Further Emission Reductions from Miscellaneous Coatings, Adhesives, Solvents and Lubricants	Rulemaking Underway	--	1	--	--
CTS-03	Further VOC Reduction from Mold Release Products [R1161]	Rulemaking Underway	--	0.8	--	--
FUG-01	VOC Reductions from Vacuum Trucks [R1188]	Rulemaking Underway	--	TBD (1)	--	--
FUG-02	Emission Reduction from LPG Transfer and Dispensing [R1177]	Rulemaking Underway	--	1	--	--
FUG-03	Emission Reduction from Fugitive VOC Emissions	2016	--	1	--	--
MCS-01	Application of All Feasible Measure Assessment [R1114]	Ongoing	TBD	TBD	0.4	1.4
		TOTAL VOC REDUCTIONS	**0**	**5.8**	**0.4**	**2.4**

TABLE III-1-2 (Concluded)

2012 AQMP Emission Reductions (tons per day) by Measure/Adoption Date

Control Measure #	Control Measure Title	Adoption Date	COMMITMENT		ACHIEVED	
			2014	2023	2014	2023
Multi-pollutant						
IND-01	Backstop Measure for Indirect Sources of Emissions from Ports and Port-Related Facilities [PR4001]	Rulemaking Underway	N/A(1)	N/A (1)	N/A (1)	N/A (1)
MCS-02	Further Emission Reductions from Greenwaste Processing (Chipping and Grinding Operations not associated with composting)	Rulemaking Underway	--	TBD (1)	--	TBD
MCS-03	Improved Start-Up, Shutdown and Turnaround Procedures [R1123]	2014	--	TBD	--	TBD (2)
INC-01	Economic Incentive Programs to Adopt Zero and Near-Zero Technologies	Ongoing	--	--	--	--
INC-02	Expedited Permitting and CEQA Preparation Facilitating the Manufacturing of Zero and Near-Zero Technologies [All Pollutants]	Ongoing	--	--	--	--
EDU-01	Further Criteria Pollutant Reductions from Education, Outreach and Incentives [All Pollutants]	Ongoing	--	--	--	--

[1] Measure is designed to ensure reductions projected to occur are achieved

[2] Reductions to be determined once the technical assessment is complete and inventory and control approach are identified

COMPARISON OF 2008 BASE YEAR IN 2012 AQMP AND 2012 BASE YEAR IN 2016 AQMP

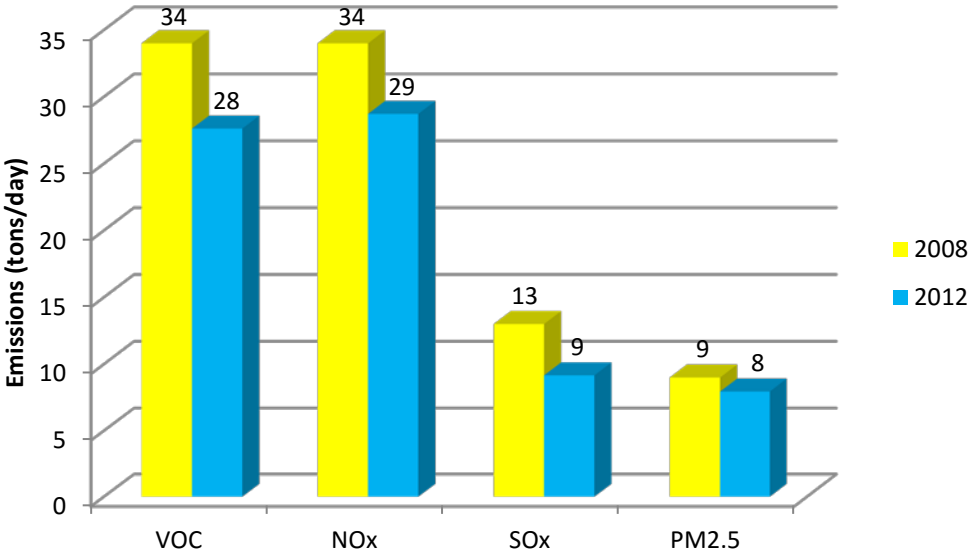


FIGURE III-1-1

Total Point Source Emissions

(VOC & NOx – Summer Planning; SOx & PM2.5 – Annual Average Inventory)

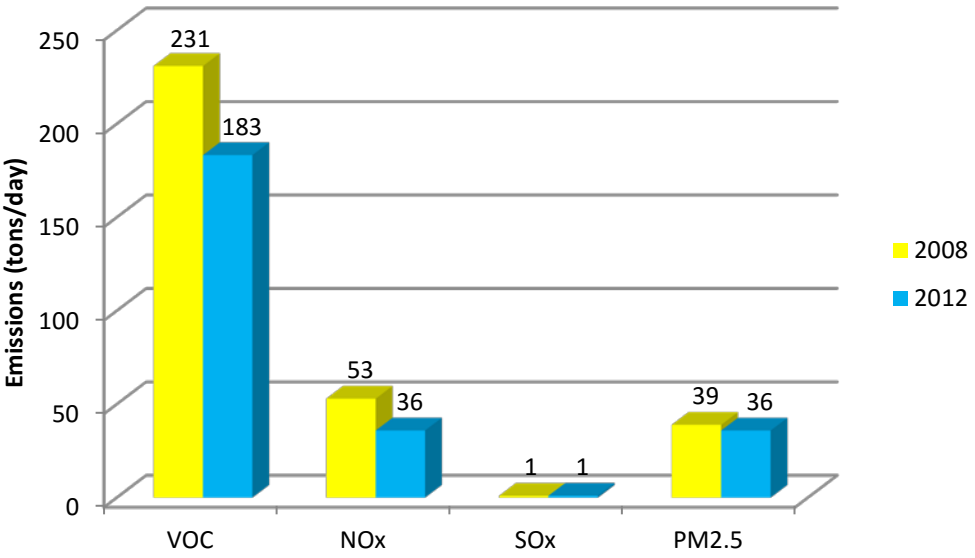


FIGURE III-1-2

Total Area Source Emissions

(VOC & NOx – Summer Planning; SOx & PM2.5 – Annual Average Inventory)

Improved/Updated Methodologies

LPG Combustion: Emissions from LPG combustion in the industrial sector were significantly revised for the 2016 AQMP. Table III-1-3 summarizes the methodology used for these emissions calculations. Total 2012 California LPG consumption and industrial LPG consumption were obtained from the Energy Information Administration. The fraction of California industrial LPG usage in the Basin was estimated from mandatory greenhouse gas emissions reporting at CARB allowing for the prediction of industrial LPG consumption within the SCAB. The agricultural sector is a significant consumer of LPG, and therefore, it was necessary to determine the fraction of industrial consumption that can be attributed to non-agricultural sources. The fraction of the California LPG market that is consumed in the agriculture sector was estimated with sales data from LP Gas Magazine. The agricultural LPG consumption within the Basin was estimated by weighting the total Statewide agricultural consumption by the fraction of California farmland within the 4-county region from the U.S. Department of Agriculture. The non-agricultural industrial LPG consumption in the SCAB could then be estimated. The revised LPG consumption figure is significantly less than the projected 2012 LPG industrial consumption figure used for the 2012 AQMP. The changes in NOx emissions associated with this update are summarized in Table III-1-4.

TABLE III-1-3

Summary of Industrial-Sector LPG Throughput Calculations

Description	Estimates
2012 CA Total LPG Consumption	652,008,000 gal
2012 CA Industrial Consumption	259,182,000 gal
2012 SCAB Fraction of CA Industrial Consumption	11.8%
2012 SCAB Industrial Consumption	30,531,000 gal
2012 Agricultural Consumption Fraction of Total CA Industrial Consumption	10.6%
2012 Agricultural Consumption in CA	69,334,000 gal
2012 CA Agriculture Consumption Fraction of CA Industrial Consumption	26.8%
2012 Non-Agriculture Industrial LPG use in SCAB	22,364,000 gal
2008 CA Industrial Consumption used for 2012 AQMP	76,111,000 gal
2008 SCAB Industrial Consumption used for 2012 AQMP	34,249,950 gal
Ratio of 2008 Industrial Consumption from 2012 AQMP to 2012 Industrial Consumption from 2012 AQMP	153.1%

TABLE III-1-4

2012 Emissions Associated with LPG Combustion in TPD

CES	Description	2012 AQMP		2016 AQMP	
		VOC	NOx	VOC	NOx
66795	INDUSTRIAL L.P.G. COMBUSTION	3.021	5.598	0.962	1.645
58727	COMMERCIAL L.P.G. COMBUSTION	0.173	0.794	0.173	0.704
47217	RESIDENTIAL L.P.G. COMBUSTION (UNSPECIFIED)	0.011	0.427	0.011	0.427
	Total	**3.205**	**6.819**	**1.146**	**2.776**

Natural Gas Combustion: 2012 actual natural gas consumption data were used instead of projected gas consumption data from the 2012 AQMP. Table III-1-5 presents a summary of natural gas consumption by county for 2008 and 2012. Industrial and commercial consumption of natural gas has grown considerably in Orange County. Conversely, 2012 industrial and commercial consumption is significantly less in Riverside and San Bernardino relative to 2008. Residential use in Los Angeles and Orange counties has slightly diminished between 2008 and 2012. The NOx and VOC emissions associated with the revised gas consumption data are summarized in Table III-1-6.

TABLE III-1-5

Natural Gas Consumption by Sector in Each County (therms). Consumption values are illustrated for 2008, the base-year of the 2012 AQMP, and 2012, the base-year of the 2016 AQMP

	Los Angeles	Orange	Riverside and San Bernardino	Four County Total
Residential				
2008	1,246,454,571	381,178,911	496,091,548	2,123,725,030
2012	1,168,431,972	361,726,419	507,851,746	2,038,010,137
Growth	-6.3 %	-5.1 %	2.4 %	-4.0 %
Commercial				
2008	474,170,397	147,507,958	177,476,256	799,154,611
2012	496,765,147	178,996,248	149,676,687	825,438,082
Growth	4.8 %	21.3 %	-15.7 %	3.3 %
Industrial				
2008	793,162,939	246,742,197	296,871,314	1,336,776,450
2012	798,903,287	287,863,776	240,711,729	1,327,478,792
Growth	0.7 %	16.7 %	-18.9 %	-0.7 %
Total Electric Generation and Co-Generation				
2008	-	-	-	3,050,909,675
2012	-	-	-	3,058,605,000
Growth	-	-	-	0.3%

TABLE III-1-6

2012 Annual Average Emissions Associated with Natural Gas Combustion in TPD

CES	Description	2012 AQMP		2016 AQMP	
		VOC	NOx	VOC	NOx
47142	INDUSTRIAL NATURAL GAS COMBUSTION (UNSPECIFIED)	0.39	5.86	0.46	6.64
66787	INDUSTRIAL STATIONARY I.C. ENGINES - NATURAL GAS	1.69	1.18	1.97	1.33
58735	COMMERCIAL NATURAL GAS COMBUSTION - SPACE HEATING	0.06	0.67	0.07	0.75
58743	COMMERCIAL NATURAL GAS COMBUSTION - WATER HEATING	0.06	0.26	0.07	0.27
95024	COMMERCIAL NATURAL GAS ICE	3.27	2.85	3.52	3.43
95025	COMMERCIAL NATURAL GAS EXTERNAL COMBUSTION – OTHER	0.25	3.61	0.26	3.23
47191	RESIDENTIAL NATURAL GAS COMBUSTION - OTHER	0.18	3.62	0.18	3.65
54569	RESIDENTIAL NATURAL GAS COMBUSTION - SPACE HEATING	0.46	9.40	0.47	9.51
54577	RESIDENTIAL NATURAL GAS COMBUSTION - WATER HEATING	0.47	4.10	0.48	4.18
54585	RESIDENTIAL NATURAL GAS COMBUSTION - COOKING	0.10	1.92	0.10	1.93
74682	COGENERATION	0.02	0.01	0.02	0.01
83055	RESOURCE RECOVERY	0.03	0.01	0.00	0.02
58685	PETROLEUM MARKETING - NATURAL GAS TRANSMISSION LOSSES	0.96	0.00	0.55	0.00
	Total	**7.94**	**33.49**	**8.16**	**34.95**

REgional CLean Air Incentives Market (RECLAIM) NOx emissions: The SCAQMD Governing Board approved the amendment of Regulation XX on December 4th, 2015. This will reduce NOx RECLAIM Trading Credits (RTCs) by 12 tons per day (TPD) by December 2022. The 2012 AQMP control measure CMB-01 calls for 3 TPD reduction by 2023 from the RECLAIM sources. The scheduled emission reductions from the RECLAIM program are shown in Table III-1-7.

TABLE III-1-7

2015 RECLAIM Accumulated Emission Reductions

Year	NOx (TPD)
2016	2
2017	2
2018	3
2019	4
2020	6
2021	8
2022+	12

Livestock Waste: The inventory for this category was updated to reflect the most recent population activity data provided by the Santa Ana Regional Water Quality Control Board. From 2008 to 2012, the cow population has decreased by approximately 19 percent from 208,000 to 169,000. In addition, double counting of large dairy facilities that were inadvertently included in both point and area source categories were revised correctly. As a result, the 2012 baseline VOC and NH3 emissions are 0.93 and 6.98 TPD, respectively, which represent an approximate 55 percent and 37 percent reduction, respectively, from the 2008 baseline emissions.

Gasoline Dispensing: CARB staff have developed an updated emissions inventory methodology to estimate the total organic gas (TOG) emissions resulting from fuel transfer and storage operations at gasoline dispensing facilities (GDFs) with underground storage tanks. The updated methodology reflects revised emission factors developed by CARB staff and approved by CAPCOA in 2013. The updated emission factors reflect more current in-use test data and include estimates for enhanced vapor recovery (EVR) systems. It also includes changes to the vehicle refueling emission factors to account for the emission reduction benefits of onboard refueling vapor recovery (ORVR) systems. The revised inventory adds a new category for GDF hose permeation. The emission estimates are based on the 2012 Statewide gasoline sales data from the California Board of Equalization (BOE). The Statewide total gasoline consumption was apportioned to

SCAQMD at the county level using fuel consumption estimates from EMFAC2014. Based on the new methodology, the 2012 emission inventory in the 'Petroleum Marketing' category for the SCAQMD was reduced from 33.2 tons per day in the 2012 projected value in the 2012 AQMP, to 21.0 tons per day, in the 2012 base year in the 2016 AQMP.

Architectural Coatings: The emission inventory for architectural coatings has been updated to reflect the most recent data available. The 2016 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. The emissions inventory up to calendar year 2014 are based on the Rule 314 reports, subsequent year emissions are increased using population growth as a surrogate for increased sales. The emissions inventory from the 2012 AQMP was also derived from the Rule 314 data using 2008 as the baseline then growing those values based on population growth. The 2016 AQMP estimates VOC emissions from this category at 13.3 TPD for 2012 and 12.0 TPD for 2023. The corresponding VOC emissions from the 2012 AQMP are 18.8 TPD and 16.7 TPD for 2012 and 2023, respectively. The lower emission inventory in the 2016 AQMP reflects a reduced sales volume caused by the economic recession and the lower-VOC content of the coatings as the manufacturers' continue to formulate products that are well below the regulatory limits.

TABLE III-1-8

Comparison of 2016 AQMP and 2012 AQMP Annual Average VOC Emissions from Architectural Coatings (Tons per day)

Year	2012 AQMP	2016 AQMP*	314 Reported Data
2008	21.91	---	19.70
2010	---	---	16.10
2011	---	---	15.80
2012	18.83	13.31	13.70
2013	---	13.17	13.30
2014	15.46	11.06	11.30
2015	---	11.17	---
2016	---	11.31	---
2017	15.88	11.42	---
2018	---	11.54	---
2019	16.17	11.65	---
2023	16.71	12.02	---
2030	17.58	---	---
2031	---	12.68	---

* Based on California Emissions Projection Analysis Model (CEPAM) output v1.04.

Composting: The VOCs and ammonia emissions inventory for this category was updated to reflect the changes in throughput and emission factors. The composting inventory is based on the emissions from two categories, Composting Waste Disposal (Greenwaste Composting) and Composting – Ammonia (Co-Composting). The Greenwaste Composting and Co-Composting throughputs are based on the Rule 1133 Registration for the 2012 base year. The Greenwaste composting throughput was decreased by 34 percent compared to the throughput used for the 2012 AQMP, mostly due to a single facility accepting less material. In addition, for the 2016 AQMP, due to the full

implementation of Rule 1133.3, emissions from this category are estimated using the controlled emission factors, as opposed to the uncontrolled emission factors that were used in the 2012 AQMP inventory calculation. As a result, emission factors were lowered by 15 percent for ammonia and by 37 percent for VOCs. The Co-Composting throughput was reduced by 95 percent and the ammonia emission factor was reduced by 54 percent due to the presence of fewer co-composting facilities and an over estimation of projected throughput in the 2012 AQMP.

Oil and Gas Production: The emission estimation methodology for this area source category was revised to incorporate U.S. EPA's oil and gas production inventory model modified with California-specific emission factors and technologies.

Mobile Sources

On-Road Mobile Sources

The 2016 AQMP emission estimates for on-road motor vehicles come from applying the emission rates in CARB's EMFAC2014 model to the transportation activity data provided by the Southern California Association of Governments (SCAG) in its adopted 2016 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 EMFAC2014 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 EMFAC2014 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.

Parameters accounted for by the EMFAC2014 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 EMFAC2014 Model includes the following mobile source data:

(1) Eight vehicle classes (light-duty passenger, 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 , and heavy-heavy-duty-trucks for over 33,000 pounds)

(2) Three vehicle fuel types (gasoline, diesel, and natural gas)

(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 vehicle exhaust processes (starts and running)

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

(8) Seven pollutants (HC, CO, CO2, NOx, PM, SOx)

(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 Caltrans' Direct Travel Impact Model (DTIM). DTIM calculates emissions based on detailed information regarding each link (roadway segment) in an area for each hour of the day. Traffic volume, traffic speed, vehicle fleet characteristics, ambient temperature, and emission factors of vehicle fleets are all implemented in DTIM.

EMFAC2014 includes more sub categories for some of the major vehicle class categories (i.e., medium-heavy-duty diesel trucks & 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 Final 2016 AQMP are reported by major vehicle class categories to compare with previous inventory reporting.

The characteristics of DTIM include:

(1) Emissions calculations based on specific information, such as link speed, link volume, and temperature

(2) Spatial and temporal distribution of emissions to provide hourly gridded emissions

(3) Emission impacts of various types of transportation and regional planning alternatives (e.g., changes in roadway network configuration, or public transportation services).

DTIM reformats and sorts emission rates for all vehicle classes produced by the EMFAC2014 model. It then produces average emission rates for specific vehicle classes identified by the user. Finally, it produces regional mobile source emissions and hourly gridded mobile emissions. DTIM does this by combining emission rates with vehicle activity estimates derived from a transportation demand model and supplemental information on temperatures and temporal patterns.

There are differences in emissions calculated from DTIM and EMFAC2014. To account for the differences, scaling factors are developed to adjust DTIM emissions so that modeling emissions are consistent with EMFAC2014 emissions.

EMFAC2014 was the basis for on-road planning inventories, emission budgets, and rate-of-progress calculations. The EMFAC2014 model has undergone extensive revisions from the previous version (EMFAC2011) to make it more user friendly and flexible as well as to allow incorporation of larger amounts of data demanded by the current regulatory and planning processes. In addition to the model structural changes, other changes include:

- Revision of heavy-duty diesel (HD Diesel) truck emission rates. The emission factors for heavy heavy-duty diesel trucks were also updated using new testing data on newer (MY 2007 and newer) trucks that more accurately represents the effectiveness of the control equipment used to meet the more stringent 2007 and 2010 emission standards.
- Incorporation of natural gas vehicles for select vehicle classes. Emission factors for natural gas powered solid waste collection vehicles and urban buses are now

included in EMFAC2014 as these classes of vehicles have sufficient penetration of natural gas engines to warrant separate treatment.

- Accounting for Federal and California regulations and standards adopted post-2010. The adopted regulations and standards include the State's Advanced Clean Car Program, the April 2014 amendment to the Truck and Bus Regulation, the Tractor-Trailer Greenhouse Gas Regulation and the federal HD Greenhouse Gas Regulation.
- Socio-econometric modeling of population and VMT. EMFAC2014 incorporates the use of socioeconomic regression model forecasting methods to predict new vehicle sales and VMT growth trends. This allows the use of State and national economic indicators, fuel prices, and regional human population and vehicle ownership characteristics as parameters to more accurately predict vehicle sales and VMT trends.

More detailed information on the changes incorporated in EMFAC2014 can be found at http://www.arb.ca.gov/msei/categories.htm.

Figure III-1-3 compares on-road baseline emissions estimated by EMFAC2011 and EMFAC2014 used in the 2012 AQMP and 2016 AQMP, respectively. The figure includes emissions for the years 2012, 2019, 2022, 2023 and 2031, which were simulated as milestone years in the 2012 AQMP. It should be noted that the comparison for 2012 reflects changes in methodology, but the comparison for the rest of the years also includes adopted rules and updated growth projections since the release of EMFAC2011.

In 2012, EMFAC2014's newer methodologies show higher emissions of NOx and VOCs. For the future years 2019 through 2031, in general, the emissions are lower in EMFAC2014 as compared to EMFAC2011 with the exception of the VOC category. The lower emissions can be attributed to additional rules and regulations, more stringent standards, and updates to the heavy-duty emission factors. The increased VOC emissions are the result of fewer cleaner evaporative control technologies entering the fleet than was assumed in EMFAC2011.

Also evident in Figure III-1-3 is the change in the rate of emission reductions. The rate of change in the emissions in the early years (2012 to 2023) is significantly larger than that shown further in the future (2023 – 2031). This is due to the implementation of rules and regulations, which, for the most part, will be fully implemented by 2023 (e.g., CARB's Truck and Bus rule requires all trucks to meet the 2010 standards by 2023). The effect of the rules and regulations are significant, showing a 70 percent reduction in NOx emissions and close to 60 percent reduction in VOC emissions between 2012 and 2023 even with increases in fleet population. More modest reductions are predicted from

continued fleet turnover and implementation of the last rules and regulations, but as seen in the case of PM2.5 emissions, fleet growth is beginning to outpace the emissions benefits of fleet turnover. Further emission reductions will require fleets to adopt the use of even cleaner equipment than the cleanest available today.

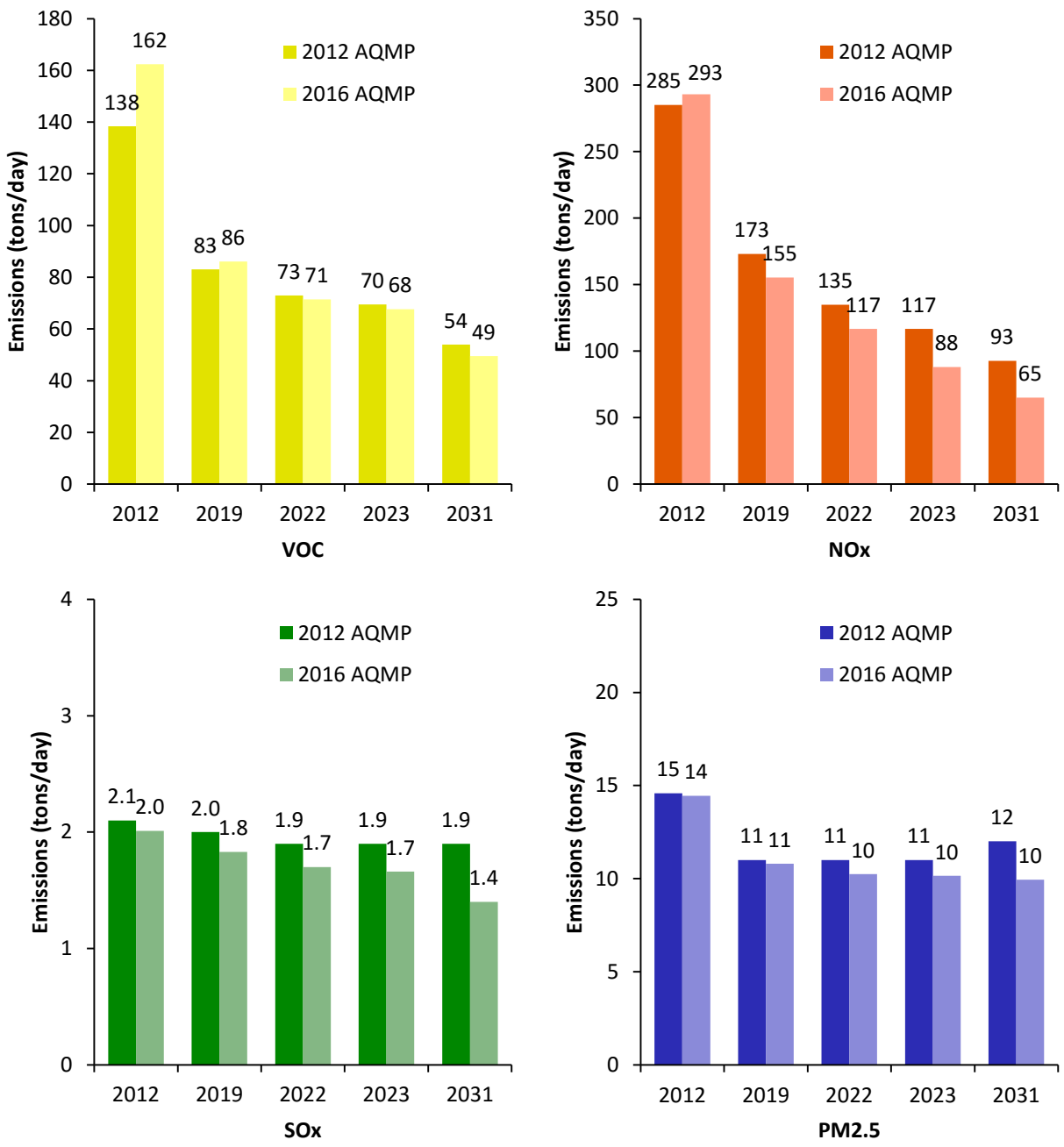


FIGURE III-1-3

Comparison of On-Road Emissions between EMFAC2011 (2012 AQMP) and EMFAC2014 (2016 AQMP)

(VOC & NOx – Summer Planning; SOx & PM2.5 – Annual Average Inventory)

Off-Road Mobile Sources

Mobile sources not included in the on-road mobile source emissions inventory are classified as off-road mobile sources. CARB uses a number of models to estimate emissions for more than one hundred off-road equipment categories. The models account for the effects of various adopted regulations, technology types, and seasonal effects on emissions. The models combine population, equipment activity, horsepower, load factors, population growth, retirement factors, and emission factors to yield 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[1]. A brief description of these models and their updates since the 2012 AQMP as well as updates to other categories in the inventory not calculated using publically available models are presented as follows:

- **2011 In-Use Off-Road Fleet Inventory Model**: This is a Microsoft Access database model that gives emissions estimates as well as vehicle population data by type, model year, horsepower, and forecast year from the Off-Road Simulation Model (OSM). The Model was developed in 2010 to support the analysis for amendments to the In-Use Off-Road Diesel Fueled Fleets Regulation.
- **Cargo Handling Emission Inventory Model:** This is a Microsoft Access database model for diesel equipment subject to regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards. The model provides emission estimates, population and total activity by equipment type, age, horsepower, facility location, and forecast year. The model was updated to use growth factors consistent with those developed for ocean going vessels.
- **Transportation Refrigeration Unit (TRU) Model:** This is a Microsoft Access database model developed in 2011 for diesel engines subject to Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate (TRU Rule). The model reports activity, population, and emissions by year, age, and TRU category.
- **Ocean Going Vessel (OGV) Model**: This is a Microsoft Access database model for marine vessels and engines. The model provides criteria and greenhouse gas emissions and fuel usage by forecast year, engine type (main and auxiliary), and vessel type (container, bulk, tanker, etc.). New lower growth projections were developed

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

and incorporated into the model using more recent information from the Federal Highway Administrations Freight Analysis Framework model and other forecasts performed for the San Pedro Bay Ports. The NOx control factor calculations were updated to more appropriately represent the engine Tier level.

- **Commercial Harbor Craft Emission Inventory Models**: Three Microsoft Access database models were recently developed for diesel-powered commercial harbor craft. These emission sources are subject to regulation to reduce emissions when operated within California Waters and within 24 nautical miles of the California shoreline (Harbor Craft Rule). One model was originally developed in 2007 to support the analysis for the Harbor Craft Rule. The other two models were developed to support analysis for the 2010 amendments to the rule which added additional vessel categories to the Harbor Craft Rule. The models report the criteria and greenhouse gas emissions and fuel usage by engine type (main and auxiliary) and forecast year. The vessel turnover rate methodology was improved to better reflect the observed age distribution. A more representative reduced turnover rate is used that improves consistency with other off-road emissions model methodologies (e.g., off-road fleet, cargo handling).

- **Aircraft:** The aircraft emissions inventory is updated for the 2012 base year based on the 2012 aircraft activity data and latest calculation methodologies. A total of 43 airports were identified as having aircraft operations within the District boundaries including commercial air carrier, air taxi, general aviation, and military aircraft operations. The sources of activity data included airport operators (for commercial and military airports) and Federal Aviation Administration's (FAA) databases (i.e., Bureau of Transportation Statistics, Air Traffic Activity Data System, Terminal Area Forecast). The emissions calculation methodology was based on the application of FAA's Emissions and Dispersion Modeling System (EDMS) model for commercial airports with detailed aircraft activity data (by aircraft make and model). For other airports and aircraft types (e.g., general aviation, air taxi, military), the total number of aircraft operations was used in conjunction with the U.S. EPA's latest average emission factors by major aircraft type (e.g., general aviation, air taxi, military). Staff is currently working with SCAG and airport operators to finalize the emissions forecast. For commercial air carrier operations, SCAG's 2040 aircraft operations forecasts, which are consistent with the forecast adopted for the 2016 Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS), was used. The revised 2016 AQMP incorporated the 2040 emissions forecast (based on SCAG's latest forecasts) with interim years interpolated between 2012 and 2040.

- **Locomotives:** The locomotive inventories reflect the 2008 U.S. EPA locomotive regulations and adjustments due to the economic activity for passenger and switch locomotive categories. However for the largest category of locomotive emissions, line haul locomotives, the emissions model methodology was completely revised. In addition, activity was updated using data for the Surface Transportation Board and Federal Highway Administration's Freight Analysis Framework. Population information was derived from the Association of American Railroads' population data and the U.S. EPA's survival curve.

Figure III-1-4 shows a comparison of the off-road baseline emissions in the 2012 AQMP and 2016 AQMP. Overall, the emission estimates are lower than the 2012 AQMP estimates. This is consistent with the updates to the models which for most of the categories reduced emission estimates. All but the SOx emissions from the off-road sector decrease in the future years due to the continued implementation of existing regulations. The dominant sources of SOx emissions are aircraft and ocean-going vessels (OGV), and because there are no additional SOx requirements, the SOx emissions track the growth in the OGV and aircraft categories

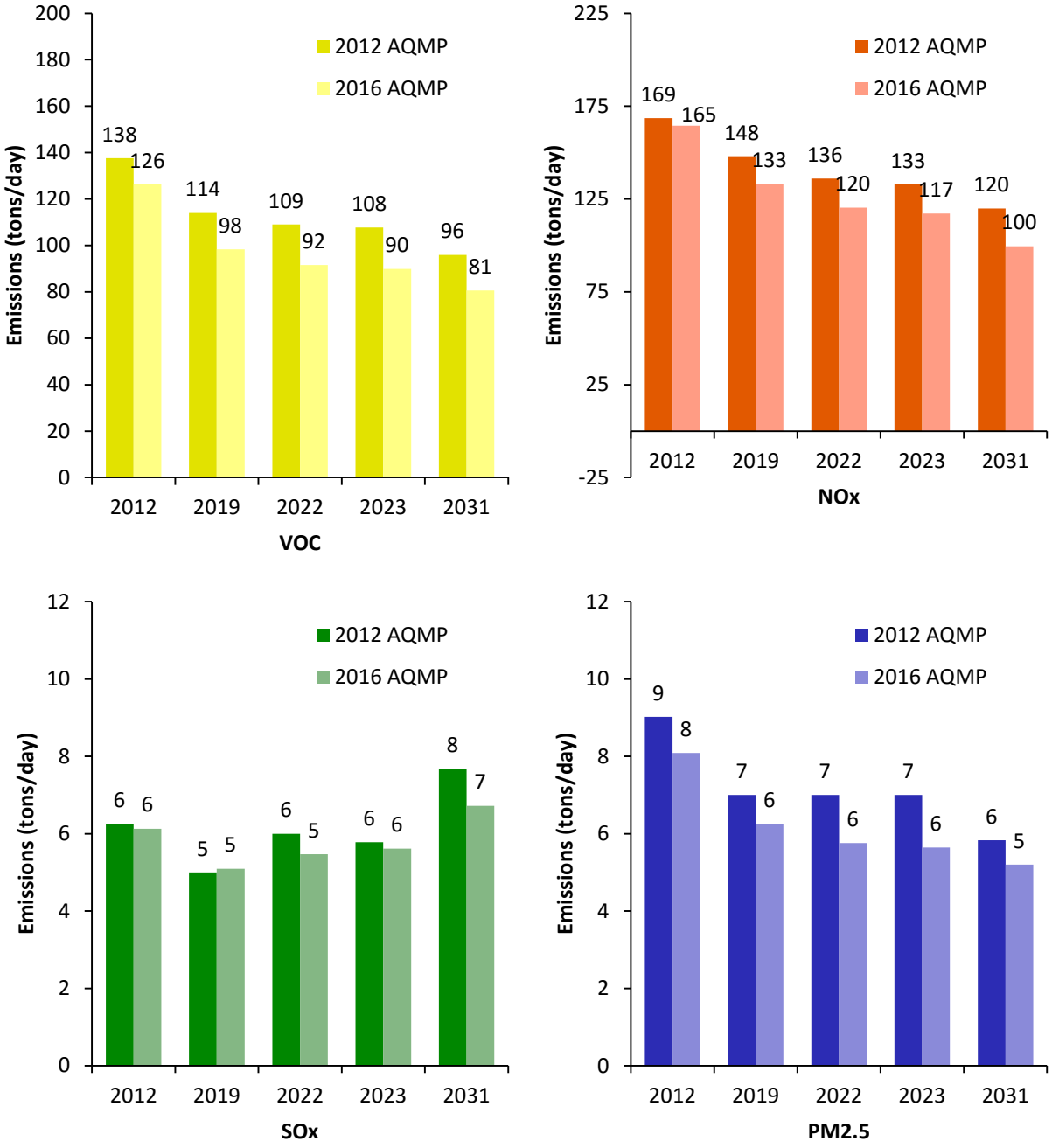


FIGURE III-1-4

Comparison of Off-Road Emissions - 2012 AQMP and 2016 AQMP

(VOC & NOx – Summer Planning; SOx & PM2.5 – Annual Average Inventory)

Inventory Type

Different inventories are prepared for the 2016 AQMP for regulatory and SIP performance tracking and transportation conformity. Two inventory types, annual average inventory and summer planning inventory, are included in the 2016 AQMP.

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 EMFAC2014 (on-road mobile sources) and In-Use Off-Road Fleet Inventory (most off-road mobile sources) models. 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 the District to produce a plan for reducing all nonattainment pollutants or their precursors by fifteen percent between 1990 and 1996, and three percent each year thereafter, averaged every consecutive three years until reaching the attainment date. The CCAA requires emission reductions by five percent or more per year, averaged every three consecutive years until 2000. In addition, the CAA specifies 1990 as the base year, whereas the CCAA specifies 1987 as the base year.

The SCAB is designated as an "extreme" nonattainment area for ozone for the federal air quality standards, and a nonattainment area for ozone for the State air quality standards. 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 NOx) during the summertime, when ambient concentrations of ozone are typically at their highest (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. 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 taking into account 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.

CHAPTER 2

SUMMARY OF EMISSIONS

Baseline Emission Inventories

- Base Year Emissions
- Future Year Emissions
- Emission Trend Analysis
- VOC Emissions
- NOx Emissions
- SOx Emissions
- PM2.5 Emissions
- Impact of Growth
- General Conformity Budget

Uncertainty in the Inventory

Controlled Emission Inventories

- Emission Impacts of SCAQMD Programs
- SIP Set Aside Accounts
- Proposed Control Measures
- CEPA Emission Calculations
- CARB Emission Data Reports System

Baseline Emission Inventories

Base Year Emissions

The 2012 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 TPY in 2012. The total VOC emissions from these facilities represent 69.8 percent of the total point sources VOC emissions and 8.2 percent of the total stationary VOC emissions. The total NOx emissions from these facilities represent 85.1 percent of the total point sources NOx emissions and 33.4 percent of the total stationary sources NOx emissions. The stationary sources emissions result 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, off-road recreational vehicles, off-road equipment, farm equipment, and fuel storage and cargo handling equipment.

Table III-2-1A compares the annual average emissions between the 2012 base year in the 2016 AQMP and the projected 2012 emissions in the 2012 AQMP by major source category for VOC and NOx, while Table III-2-1B compares the annual average emissions between the 2012 base year in the 2016 AQMP and the projected 2012 emissions in the 2012 AQMP for SOx and PM2.5.

TABLE III-2-1A

Comparison of VOC and NOx Emissions By Major Source Category of
2012 Base Year in 2016 AQMP and Projected 2012 in Final 2012 AQMP
Summer Planning Inventory (tpd[1])

SOURCE CATEGORY	2012 AQMP	2016 AQMP	% Change	2012 AQMP	2016 AQMP	% Change
	VOC			NOx		
STATIONARY SOURCES						
Fuel Combustion	12.9	11.4	-12%	29.4	27.9	-5%
Waste Disposal	12.1	14.1	17%	1.5	2.3	50%
Cleaning and Surface Coatings	41.7	35.6	-15%	0	0	0%
Petroleum Production and Marketing	40.2	29.2	-27%	0	0	0%
Industrial Processes	13.8	10.8	-21%	0	0	0%
Solvent Evaporation						
Consumer Products	86.6	86.5	0%	0	0	0%
Architectural Coatings	21.5	13.3	-38%	0	0	0%
Others	2.0	2.4	17%	0	0	0%
Misc. Processes	9.7	7.8	-20%	15.5	14.5	-6%
RECLAIM SOURCES	0	0	0%	27.2	19.6	-28%
Total Stationary Sources	**240**	**211**	**-12%**	**74**	**65**	**-13%**
MOBILE SOURCES						
On-Road Vehicles	138.4	162.4	17%	285.2	293.1	3%
Off-Road Vehicles	137.7	126.3	-8%	168.5	164.6	-2%
Total Mobile Sources	**276**	**289**	**5%**	**454**	**458**	**1%**
TOTAL	**516**	**500**	**-3%**	**528**	**522**	**-1%**

[1] Values are rounded to nearest integer.

Overall, there are minor increases in the 2012 emissions of VOC and NOx in the 2016 AQMP inventory as compared to the 2012 AQMP inventory with VOC down 3 percent and a small 1 percent decrease in total NOx emissions. Of note in the stationary source categories are the emission changes associated with architectural coatings and RECLAIM categories. Architectural coatings emissions were updated for the 2016 AQMP using information provided as part of SCAQMD Rule 314 – "Fees for Architectural Coatings" annual reports, resulting in the lower emission estimate. Use of actual reported information in lieu of projected emissions (used in the 2012 AQMP to estimate the 2012 emissions) explain the majority of the remaining emission differences. For example the RECLAIM emissions cap was used to project the NOx emissions in the 2012 AQMP inventory, while in 2012 the actual emissions were lower than the cap by 7 TPD.

For the mobile source category, the updates described earlier to the on-road emissions model EMFAC2014 resulted in the 17 percent and 3 percent increase in VOC and NOx emissions, respectively. The updates to several of the off-road category emission estimates resulted in a 8 percent reduction in VOC emissions and a modest 2 percent reduction in NOx emissions. Updates were completed for locomotives, ocean going vessels, cargo handling equipment, commercial harbor craft, farming equipment, pleasure craft, and off-highway recreational vehicles.

TABLE III-2-1B

Comparison of SOx and PM2.5 Emissions By Major Source Category of 2012 Base Year in 2016 AQMP and Projected 2012 in Final 2012 AQMP Annual Average (tpd[1])

SOURCE CATEGORY	2012 AQMP	2016 AQMP	% Change	2012 AQMP	2016 AQMP	% Change
	SOx			PM2.5		
STATIONARY SOURCES						
Fuel Combustion	1.9	1.9	0%	5.6	5.6	1%
Waste Disposal	0.4	0.5	20%	0.2	0.2	-13%
Cleaning and Surface Coatings	0.0	0.0	0%	1.5	1.4	-5%
Petroleum Production and Marketing	0.6	0.4	-26%	1.6	1.5	-6%
Industrial Processes	0.02	0.10	400%	6.7	6.4	-6%
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	1.0	0.5	-47%	32.5	28.8	-11%
RECLAIM SOURCES	11.8	6.9	-42%	0	0	0%
Total Stationary Sources	**16**	**10**	**-34%**	**48**	**44**	**-9%**
MOBILE SOURCES						
On-Road Vehicles	2.1	2.0	-2%	14.6	14.4	-1%
Off-Road Vehicles	6.3	6.1	-2%	9.0	8.1	-10%
Total Mobile Sources	**8**	**8**	**-2%**	**24**	**23**	**-5%**
TOTAL	**24**	**18**	**-23%**	**72**	**66**	**-7%**

[1] Values are rounded to nearest integer and may not sum due to rounding error.

Future Year Emissions

Future baseline emissions, assuming no additional air quality regulations are introduced beyond already adopted measures, are given in this appendix for the attainment target years; 2019, 2021, 2022, 2023, 2025, and 2031. In addition, Reasonable Further Progress (RFP) demonstration years are included in the Attachment. They are 2017, 2018, 2020, 2024, 2026, 2027, 2028, and 2030. These emissions are forecast from the 2012 base year by incorporating the controls implemented under SCAQMD rules adopted as of December, 2015, and CARB rules adopted by November, 2015, and a specific set of growth rates from SCAG for population, industry, and motor vehicle activity. Growth projections from SCAG were replaced for certain categories where more specific information is available to improve emission forecasts. For example, the 2014 California Gas Fuel Report's energy demand forecasts for natural gas, including the energy efficiency, were used to forecast the emissions of those source categories.

The impact of New Source Review and emissions budgeted for several District programs are addressed in the Controlled Emission Data section. Due to the adoption of the Regional Clean Air Incentive Market (RECLAIM) program in October 1993, emissions are divided into two categories, RECLAIM and non-RECLAIM. Future emissions from RECLAIM sources are estimated based on their allocations specified by District Rule 2002. The methodology used to forecast emissions for non-RECLAIM sources is described in the following sections. Baseline emissions for future years are obtained using the following equation:

$$\mathbf{FY_i = (BY_i)(CF_i)(GF_i)}$$

where FY_i is the forecasted emissions of an air pollutant in the Basin for a future year. BY_i refers to the base year (or 2012) 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. The GF_i is a growth factor determined for different categories of industry with socioeconomic data.

Control Factors

The impact of SCAQMD rules adopted or amended with compliance dates after 2012 are included in the baseline emission forecasts with control factors. Control factors were developed in reference to 2012 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:

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

Control efficiency is mostly based on estimates projected during rulemaking. Control factors represent the remaining emissions after a rule or regulation is implemented after 2012. Table III-2-2A lists control factors for the years 2023 and 2031 for District rules with post-2012 compliance dates.

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 were developed by SCAG. The 2016 AQMP growth data is based on SCAG's 2016 RTP/SCS. The data was adjusted with the most recent data from Energy Information Administration (EIA), Southern California Gas Company, Bureau of Land Management (BLM), and SCAQMD rule compliance records.

Each emission inventory source grows based on its growth surrogate. Growth surrogates include industry output growth, employment growth, demographic 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, such as architectural coatings (housing units as surrogate) and composting (population as surrogate). Some growth projections are from Southern California Gas Company 2014 Gas Fuel Report for natural gas combustion related categories.

TABLE III-2-2A

Control Factors by District Rules with Post-2012 Compliance Dates

		2023				2031			
RULES*	**DESCRIPTION**	**VOC**	**NOx**	**SOx**	**PM**	**VOC**	**NOx**	**SOx**	**PM**
1110.2	Gaseous & Liquid Fuel Engines	-	0.09	-	-	-	0.09	-	-
1111	Natural-Gas-Fired, Fan-Type Central Furnaces	-	0.73	-	-	-	0.48	-	-
1113	Architectural Coatings	0.96	-	-	-	0.96	-	-	-
1114	Petroleum Refinery Coking Operation	0.52	-	-	-	0.52	-	-	-
1121	Residential - Natural-Gas-Fired Water Heaters	-	0.58	-	-	-	0.58	-	-
1146	Large Ind/Comm Boilers, Steam Generator, & Process Heaters	-	0.46	-	-	-	0.46	-	-
1146.1	Small Ind/Comm Boilers, Steam Generators & Process Heaters	-	0.54	-	-	-	0.54	-	-
1146.2	Large Water Heaters & Small Boilers	-	0.77	-	-	-	0.77	-	-
1147	NOx Reductions from Miscellaneous Sources	-	0.59	-	-	-	0.59	-	-
1177	LPG Transfer and Dispensing	0.29	-	-	-	0.29	-	-	-
444	Open Burning	-	-	-	0.95	-	-	-	0.95
2005	Reclaim NOx	-	0.55	-	-	-	0.55	-	-

* Adopted or amended as of December 2015. Only rules with emissions impact after 2012 are listed.

Table III-2-2B lists the resulting future annual average emission reductions in 2023 and 2031.

TABLE III-2-2B

Annual Average Emission Reductions (Tons per Day) in the Baseline by District Rules

		2023				2031			
RULES*	**DESCRIPTION**	**VOC**	**NOx**	**SOx**	**PM2.5**	**VOC**	**NOx**	**Sox**	**PM2.5**
1110.2	Gaseous & Liquid Fuel Engines	-	0.88	-	-	-	0.93	-	-
1111	Natural-Gas-Fired, Fan-Type Central Furnaces	-	2.01	-	-	-	3.81	-	-
1113	Architectural Coatings	2.7	-	-	-	2.85	-	-	-
1114	Petroleum Refinery Coking Operation	0.06	-	-	-	0.06	-	-	-
1121	Residential - Natural-Gas-Fired Water Heaters	-	1.37	-	-	-	1.34	-	-
1146	Large Ind/Comm Boilers, Steam Generator, & Process Heaters	-	1.17	-	-	-	1.26	-	-
1146.1	Small Ind/Comm Boilers, Steam Generators & Process Heaters	-	0.46	-	-	-	0.49	-	-
1146.2	Large Water Heaters & Small Boilers	-	2.19	-	-	-	2.1	-	-
1147	NOx Reductions from Miscellaneous Sources	-	0.86	-	-	-	0.94	-	-
1177	LPG Transfer and Dispensing	6.7	-	-	-	7.06	-	-	-
444	Open Burning	-	-	-	0.25	-	-	-	0.25
2005	Reclaim NOx	-	12	-	-	-	12	-	-

* Adopted or amended as of December 2015. Only rules with emissions impact after 2012 are listed.

The demographic forecasts from the year 2012 through 2031 for population, housing, employment, and motor vehicle activity are shown in Table III-2-3.

TABLE III-2-3

Baseline Demographic Forecasts in the 2016 AQMP

CATEGORY		2012	2019	2021	2022	2023	2025	2031
Population	Millions	15.9	16.7	16.9	17.0	17.1	17.3	17.9
	Growth (%)		4%	6%	7%	7%	9%	12%
Housing Units	Millions	5.1	5.5	5.6	5.6	5.7	5.7	6.0
	Growth (%)		7%	9%	10%	10%	12%	16%
Total Employment	Millions	6.7	7.5	7.6	7.7	7.8	7.9	8.2
	Growth (%)		12%	14%	15%	16%	18%	23%
Daily VMT	Millions	380	400	401	404	407	403	409
	Growth (%)		5%	5%	6%	7%	6%	8%

Current forecasts indicate that this region will experience a population growth of 7 percent by the year 2023 with a 7 percent increase in vehicle miles traveled (VMT); and a population growth of 12 percent by the year 2031 with a 8 percent increase in VMT.

Demographic projections in the 2016 AQMP for the year 2031 differ slightly from the projection assumed in the 2012 AQMP. Population in 2031 is projected to be 200,000 inhabitants less than projected for 2030 in the 2012 AQMP, as a result of a slower population growth rate assumed in the 2016 AQMP. Similarly, the daily VMT forecast in the 2016 AQMP exhibits a slower rate of increase, with 409 million daily VMT forecasted for 2031, compared to the projected 421 million daily VMT for 2030 in the 2012 AQMP.

Table III-2-4 shows the relative distribution of population by county in the Basin for the years 1997, 2002, 2008, 2012, 2019, 2021, 2022, 2023, 2025, and 2031. By 2031 the population in Los Angeles County is projected to increase by 9 percent from 2012 levels, compared with increases for Orange, Riverside and San Bernardino counties of 11 percent, 26 percent, and 19 percent, respectively.

TABLE III-2-4

Population Distribution by County in SCAB (in Thousands)

YEAR	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO	BASIN TOTAL
1997	8,881	2,750	1,072	1,250	13,954
2002	9,486	2,931	1,278	1,410	15,105
2008	9,398	2,989	1,683	1,510	15,580
2012	9,541	3,071	1,787	1,549	15,948
2019	9,855	3,247	1,933	1,629	16,665
2021	9,948	3,287	1,981	1,659	16,876
2022	9,997	3,303	2,009	1,678	16,987
2023	10,045	3,319	2,036	1,697	17,097
2025	10,142	3,351	2,091	1,735	17,319
2031	10,433	3,404	2,256	1,847	17,940

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 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2025, 2026, 2031, 2035 and 2040. 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 to III-2-12 illustrate the growth factors for point sources by NAICS for years of 2019, 2021, 2022, 2023, 2025, and 2031 in the 2016 AQMP. Tables III-2-13 to III-2-18 contains the growth factors for years of 2019, 2021, 2022, 2023, 2025, and 2031 in the 2016 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 - Commerical 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 Dispersing Tank-Working Losses	Gasoline Consumption
Gasoline Dispensing Tank-Breathing Losses	Gasoline Consumption
Vehicle Refueling-Vapor Displacement Losses	Gasoline Consumption
Vehicle Refueling-Spillage	Gasoline Consumption
Storage Tank and Pipeline Cleaning	Gasoline Consumption
Tank Cargo-Pressure Related Fug. Losses	Gasoline Consumption
Tank Cargo-Vapor Hose Fugitive Losses	Gasoline Consumption
Tank Cargo-Product Hose Fugitive Losses	Gasoline Consumption
Bulk Gasoline Storage and Transfer (Unspec)	Gasoline Consumption
Rubber and Rubber Products	Plastic Output
Fiberglass and Fiberglass Products	Plastic Output
Plastic and Plastic Products	Plastic Output
Wine Fermentation	CARB Growth Data
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 provided actual 2012 emission data; Future emission grow flat from TAD2003.

TABLE III-2-7

NAIC Emission Growth Factors by County in the SCAB for the Year 2019

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.233	1.228	1.276	1.160
Oil and Gas Extraction	211	1.047	1.043	1.084	0.985
Mining (except Oil and Gas)	212	1.042	1.038	1.079	0.980
Support Activities for Mining	213	1.042	1.038	1.079	0.980
Utilities - Except Electricity	221	1.086	1.120	1.321	1.157
Utilities - Electricity*	221	0.793	0.793	0.793	0.793
Construction	23	1.301	1.288	1.783	1.415
Food Manufacturing	311	1.134	1.168	1.220	1.045
Beverage and Tobacco Product Manufacturing	312	1.086	1.118	1.168	1.001
Textile Mills	313	1.127	1.160	1.212	1.038
Textile Product Mills	314	1.127	1.160	1.212	1.038
Apparel Manufacturing	315	1.756	1.808	1.888	1.618
Leather and Allied Product Manufacturing	316	1.270	1.307	1.365	1.170
Wood Product Manufacturing	321	1.132	1.165	1.217	1.043
Paper Manufacturing	322	1.177	1.212	1.266	1.084
Printing and Related Support Activities	323	1.139	1.173	1.225	1.049
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.285	1.323	1.382	1.184
Plastics and Rubber Products Manufacturing	326	1.223	1.259	1.315	1.126
Nonmetallic Mineral Product Manufacturing	327	1.164	1.198	1.251	1.072
Primary Metal Manufacturing	331	1.170	1.205	1.258	1.078
Fabricated Metal Product Manufacturing	332	1.148	1.182	1.234	1.057
Machinery Manufacturing	333	1.287	1.324	1.384	1.185
Computer and Electronic Product Manufacturing	334	1.485	1.528	1.597	1.368
Electrical Equipment -Appliance-Component Manufacturing	335	1.329	1.368	1.429	1.224
Transportation Equipment Manufacturing	336	1.209	1.245	1.300	1.114
Furniture and Related Product Manufacturing	337	1.210	1.246	1.301	1.115

TABLE III-2-7 (Continued)

NAIC Emission Growth Factors by County in the SCAB for the Year 2019

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Miscellaneous Manufacturing	339	1.353	1.393	1.455	1.246
Wholesale Trade	42	1.073	1.099	1.098	1.122
Motor Vehicle and Parts Dealers	441	1.055	1.228	1.194	1.166
Furniture and Home Furniture Stores	442	1.055	1.228	1.194	1.166
Electronics and Appliance Stores	443	1.055	1.228	1.194	1.166
Building Material-Garden Equipment-Supplies Dealers	444	1.055	1.228	1.194	1.166
Food and Beverage Stores	445	1.055	1.228	1.194	1.166
Health and Personal Care Stores	446	1.055	1.228	1.194	1.166
Gasoline Stations	447	1.255	1.461	1.419	1.387
Clothing and Clothing Accessories Stores	448	1.255	1.461	1.419	1.387
Sporting Goods-Hobby-Book- Music Stores	451	1.255	1.461	1.419	1.387
General Merchandise Stores	452	1.255	1.461	1.419	1.387
Miscellaneous Store Retailers	453	1.255	1.461	1.419	1.387
Nonstore Retailers	454	1.255	1.461	1.419	1.387
Air Transportation	481	1.362	1.451	1.830	1.444
Rail Transportation	482	1.261	1.344	1.000	1.337
Water Transportation	483	1.069	1.139	1.437	1.133
Truck Transportation	484	1.191	1.269	1.601	1.262
Transit and Ground Passenger Transportation	485	1.047	1.115	1.407	1.109
Pipeline Transportation	486	1.460	1.556	1.963	1.548
Scenic and Sightseeing Transportation	487	1.119	1.192	1.504	1.186
Support Activities for Transportation	488	1.119	1.192	1.504	1.186
Postal Service	491	1.033	1.101	1.389	1.095
Couriers and Messengers	492	1.033	1.101	1.389	1.095
Warehousing and Storage	493	1.262	1.345	1.697	1.338
Information	51	1.427	1.470	1.887	1.360
Finance and Insurance	52	1.099	1.040	1.296	1.071
Real Estate and Rental and Leasing	53	1.099	1.040	1.296	1.071
Professional-Scientific-and Technical Services	541	1.156	1.113	1.377	1.115
Management of Companies and Enterprises	551	1.156	1.113	1.377	1.115

TABLE III-2-7 (Concluded)

NAIC Emission Growth Factors by County in the SCAB for the Year 2019

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Administrative and Support Services	561	1.156	1.113	1.377	1.115
Waste Management and Remediation Services	562	1.156	1.113	1.377	1.115
Educational Services	611	0.961	0.996	0.995	1.013
Ambulatory Health Care Services	621	1.033	1.057	1.082	1.052
Hospitals	622	1.155	1.168	1.251	1.171
Nursing and Residential Care Facilities	623	1.227	1.221	1.431	1.308
Social Assistance	624	1.109	1.156	1.344	1.259
Arts, Entertainment, Museums, and Recreation	71	1.105	1.162	1.450	1.229
Accommodation and Food Services	72	1.086	1.120	1.321	1.157
Repair and Maintenance	811	1.086	1.120	1.321	1.157
Personal and Laundry Services	812	1.086	1.120	1.321	1.157
Religious-Grant-Civic-Professional-and Similar Org	813	1.064	1.129	1.474	1.263
Private Households	814	1.064	1.129	1.474	1.263
Public Administration	92	1.010	1.043	1.135	1.041

(Base year is 2012)

TABLE III-2-8

NAIC Emission Growth Factors by County in the SCAB for the Year 2021

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.317	1.300	1.361	1.212
Oil and Gas Extraction	211	1.068	1.054	1.103	0.983
Mining (except Oil and Gas)	212	1.061	1.047	1.097	0.977
Support Activities for Mining	213	1.061	1.047	1.097	0.977
Utilities - Except Electricity	221	1.104	1.142	1.394	1.198
Utilities - Electricity*	221	0.823	0.823	0.823	0.823
Construction	23	1.351	1.339	1.948	1.501
Food Manufacturing	311	1.173	1.208	1.277	1.069
Beverage and Tobacco Product Manufacturing	312	1.110	1.143	1.208	1.012
Textile Mills	313	1.164	1.198	1.266	1.061
Textile Product Mills	314	1.164	1.198	1.266	1.061
Apparel Manufacturing	315	2.058	2.119	2.239	1.876
Leather and Allied Product Manufacturing	316	1.356	1.396	1.476	1.236
Wood Product Manufacturing	321	1.170	1.205	1.274	1.067
Paper Manufacturing	322	1.230	1.267	1.339	1.121
Printing and Related Support Activities	323	1.180	1.215	1.284	1.075
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.378	1.419	1.499	1.256
Plastics and Rubber Products Manufacturing	326	1.292	1.331	1.406	1.178
Nonmetallic Mineral Product Manufacturing	327	1.213	1.249	1.319	1.105
Primary Metal Manufacturing	331	1.221	1.257	1.329	1.113
Fabricated Metal Product Manufacturing	332	1.191	1.227	1.296	1.086
Machinery Manufacturing	333	1.380	1.420	1.501	1.257
Computer and Electronic Product Manufacturing	334	1.659	1.708	1.805	1.512
Electrical Equipment -Appliance-Component Manufacturing	335	1.438	1.480	1.564	1.310
Transportation Equipment Manufacturing	336	1.274	1.312	1.386	1.161
Furniture and Related Product Manufacturing	337	1.275	1.313	1.387	1.162

TABLE III-2-8 (Continued)

NAIC Emission Growth Factors by County in the SCAB for the Year 2021

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Miscellaneous Manufacturing	339	1.472	1.515	1.601	1.341
Wholesale Trade	42	1.089	1.120	1.122	1.158
Motor Vehicle and Parts Dealers	441	1.067	1.266	1.240	1.209
Furniture and Home Furniture Stores	442	1.067	1.266	1.240	1.209
Electronics and Appliance Stores	443	1.067	1.266	1.240	1.209
Building Material-Garden Equipment-Supplies Dealers	444	1.067	1.266	1.240	1.209
Food and Beverage Stores	445	1.067	1.266	1.240	1.209
Health and Personal Care Stores	446	1.067	1.266	1.240	1.209
Gasoline Stations	447	1.333	1.582	1.549	1.510
Clothing and Clothing Accessories Stores	448	1.333	1.582	1.549	1.510
Sporting Goods-Hobby-Book- Music Stores	451	1.333	1.582	1.549	1.510
General Merchandise Stores	452	1.333	1.582	1.549	1.510
Miscellaneous Store Retailers	453	1.333	1.582	1.549	1.510
Nonstore Retailers	454	1.333	1.582	1.549	1.510
Air Transportation	481	1.480	1.594	2.094	1.600
Rail Transportation	482	1.340	1.444	1.000	1.449
Water Transportation	483	1.084	1.168	1.534	1.172
Truck Transportation	484	1.245	1.342	1.762	1.346
Transit and Ground Passenger Transportation	485	1.055	1.136	1.493	1.140
Pipeline Transportation	486	1.619	1.744	2.291	1.750
Scenic and Sightseeing Transportation	487	1.149	1.238	1.627	1.243
Support Activities for Transportation	488	1.149	1.238	1.627	1.243
Postal Service	491	1.038	1.118	1.469	1.122
Couriers and Messengers	492	1.038	1.118	1.469	1.122
Warehousing and Storage	493	1.342	1.446	1.899	1.451
Information	51	1.559	1.607	2.147	1.485
Finance and Insurance	52	1.117	1.048	1.363	1.096
Real Estate and Rental and Leasing	53	1.117	1.048	1.363	1.096
Professional-Scientific-and Technical Services	541	1.189	1.137	1.465	1.150
Management of Companies and Enterprises	551	1.189	1.137	1.465	1.150

TABLE III-2-8 (Concluded)

NAIC Emission Growth Factors by County in the SCAB for the Year 2021

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Administrative and Support Services	561	1.189	1.137	1.465	1.150
Waste Management and Remediation Services	562	1.189	1.137	1.465	1.150
Educational Services	611	0.958	1.000	1.009	1.024
Ambulatory Health Care Services	621	1.043	1.070	1.109	1.071
Hospitals	622	1.200	1.216	1.320	1.225
Nursing and Residential Care Facilities	623	1.295	1.287	1.535	1.395
Social Assistance	624	1.136	1.189	1.430	1.323
Arts, Entertainment, Museums, and Recreation	71	1.138	1.206	1.574	1.299
Accommodation and Food Services	72	1.104	1.142	1.394	1.198
Repair and Maintenance	811	1.104	1.142	1.394	1.198
Personal and Laundry Services	812	1.104	1.142	1.394	1.198
Religious-Grant-Civic-Professional-and Similar Org	813	1.077	1.146	1.577	1.324
Private Households	814	1.077	1.146	1.577	1.324
Public Administration	92	1.012	1.050	1.166	1.058

(Base year is 2012)

TABLE III-2-9

NAIC Emission Growth Factors by County in the SCAB for the Year 2022

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Agriculture, Forestry, Animal, Fishing and Hunting	11	1.358	1.346	1.417	1.269
Oil and Gas Extraction	211	1.075	1.066	1.122	1.005
Mining (except Oil and Gas)	212	1.068	1.058	1.115	0.999
Support Activities for Mining	213	1.068	1.058	1.115	0.999
Utilities - Except Electricity	221	1.110	1.150	1.421	1.217
Utilities - Electricity*	221	0.844	0.844	0.844	0.844
Construction	23	1.363	1.355	2.000	1.532
Food Manufacturing	311	1.192	1.225	1.301	1.086
Beverage and Tobacco Product Manufacturing	312	1.121	1.152	1.224	1.021
Textile Mills	313	1.181	1.214	1.289	1.076
Textile Product Mills	314	1.181	1.214	1.289	1.076
Apparel Manufacturing	315	2.226	2.288	2.430	2.028
Leather and Allied Product Manufacturing	316	1.401	1.440	1.529	1.276
Wood Product Manufacturing	321	1.189	1.222	1.298	1.083
Paper Manufacturing	322	1.257	1.292	1.372	1.145
Printing and Related Support Activities	323	1.200	1.233	1.309	1.093
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.425	1.465	1.556	1.299
Plastics and Rubber Products Manufacturing	326	1.327	1.364	1.449	1.209
Nonmetallic Mineral Product Manufacturing	327	1.237	1.271	1.350	1.127
Primary Metal Manufacturing	331	1.246	1.281	1.361	1.136
Fabricated Metal Product Manufacturing	332	1.213	1.247	1.324	1.105
Machinery Manufacturing	333	1.427	1.467	1.558	1.301
Computer and Electronic Product Manufacturing	334	1.752	1.800	1.912	1.596
Electrical Equipment -Appliance-Component Manufacturing	335	1.494	1.536	1.631	1.362
Transportation Equipment Manufacturing	336	1.306	1.343	1.426	1.190
Furniture and Related Product Manufacturing	337	1.307	1.344	1.427	1.191

TABLE III-2-9 (Continued)

NAIC Emission Growth Factors by County in the SCAB for the Year 2022

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Miscellaneous Manufacturing	339	1.534	1.576	1.674	1.397
Wholesale Trade	42	1.097	1.132	1.141	1.179
Motor Vehicle and Parts Dealers	441	1.069	1.281	1.254	1.225
Furniture and Home Furniture Stores	442	1.069	1.281	1.254	1.225
Electronics and Appliance Stores	443	1.069	1.281	1.254	1.225
Building Material-Garden Equipment-Supplies Dealers	444	1.069	1.281	1.254	1.225
Food and Beverage Stores	445	1.069	1.281	1.254	1.225
Health and Personal Care Stores	446	1.069	1.281	1.254	1.225
Gasoline Stations	447	1.369	1.641	1.606	1.569
Clothing and Clothing Accessories Stores	448	1.369	1.641	1.606	1.569
Sporting Goods-Hobby-Book- Music Stores	451	1.369	1.641	1.606	1.569
General Merchandise Stores	452	1.369	1.641	1.606	1.569
Miscellaneous Store Retailers	453	1.369	1.641	1.606	1.569
Nonstore Retailers	454	1.369	1.641	1.606	1.569
Air Transportation	481	1.541	1.668	2.223	1.684
Rail Transportation	482	1.381	1.494	1.000	1.509
Water Transportation	483	1.091	1.180	1.573	1.191
Truck Transportation	484	1.273	1.377	1.835	1.390
Transit and Ground Passenger Transportation	485	1.058	1.145	1.526	1.156
Pipeline Transportation	486	1.703	1.842	2.456	1.860
Scenic and Sightseeing Transportation	487	1.164	1.259	1.679	1.272
Support Activities for Transportation	488	1.164	1.259	1.679	1.272
Postal Service	491	1.039	1.124	1.498	1.135
Couriers and Messengers	492	1.039	1.124	1.498	1.135
Warehousing and Storage	493	1.383	1.496	1.994	1.511
Information	51	1.625	1.675	2.291	1.568
Finance and Insurance	52	1.124	1.053	1.392	1.116
Real Estate and Rental and Leasing	53	1.124	1.053	1.392	1.116
Professional-Scientific-and Technical Services	541	1.199	1.146	1.501	1.168
Management of Companies and Enterprises	551	1.199	1.146	1.501	1.168

TABLE III-2-9 (Concluded)

NAIC Emission Growth Factors by County in the SCAB for the Year 2022

NAIC SECTOR	NAIC	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
Administrative and Support Services	561	1.199	1.146	1.501	1.168
Waste Management and Remediation Services	562	1.199	1.146	1.501	1.168
Educational Services	611	0.959	1.003	1.018	1.034
Ambulatory Health Care Services	621	1.048	1.075	1.124	1.083
Hospitals	622	1.226	1.241	1.362	1.255
Nursing and Residential Care Facilities	623	1.334	1.324	1.599	1.443
Social Assistance	624	1.146	1.200	1.460	1.349
Arts, Entertainment, Museums, and Recreation	71	1.156	1.227	1.631	1.337
Accommodation and Food Services	72	1.110	1.150	1.421	1.217
Repair and Maintenance	811	1.110	1.150	1.421	1.217
Personal and Laundry Services	812	1.110	1.150	1.421	1.217
Religious-Grant-Civic-Professional-and Similar Org	813	1.081	1.151	1.619	1.352
Private Households	814	1.081	1.151	1.619	1.352
Public Administration	92	1.015	1.057	1.185	1.073

(Base year is 2012)

TABLE III-2-10

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	1.378	1.364	1.439	1.287
Oil and Gas Extraction	211	1.079	1.069	1.127	1.008
Mining (except Oil and Gas)	212	1.072	1.061	1.120	1.001
Support Activities for Mining	213	1.072	1.061	1.120	1.001
Utilities - Except Electricity	221	1.115	1.158	1.449	1.236
Utilities - Electricity*	221	0.859	0.859	0.859	0.859
Construction	23	1.371	1.369	2.052	1.559
Food Manufacturing	311	1.198	1.230	1.310	1.092
Beverage and Tobacco Product Manufacturing	312	1.128	1.158	1.233	1.029
Textile Mills	313	1.188	1.220	1.299	1.083
Textile Product Mills	314	1.188	1.220	1.299	1.083
Apparel Manufacturing	315	2.298	2.360	2.513	2.096
Leather and Allied Product Manufacturing	316	1.412	1.451	1.544	1.288
Wood Product Manufacturing	321	1.196	1.228	1.307	1.091
Paper Manufacturing	322	1.267	1.301	1.385	1.156
Printing and Related Support Activities	323	1.207	1.240	1.320	1.101
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.443	1.482	1.578	1.316
Plastics and Rubber Products Manufacturing	326	1.339	1.376	1.464	1.222
Nonmetallic Mineral Product Manufacturing	327	1.245	1.279	1.361	1.136
Primary Metal Manufacturing	331	1.260	1.294	1.378	1.149
Fabricated Metal Product Manufacturing	332	1.220	1.252	1.333	1.112
Machinery Manufacturing	333	1.448	1.487	1.583	1.320
Computer and Electronic Product Manufacturing	334	1.802	1.850	1.970	1.643
Electrical Equipment -Appliance-Component Manufacturing	335	1.516	1.557	1.658	1.383
Transportation Equipment Manufacturing	336	1.320	1.355	1.443	1.204
Furniture and Related Product Manufacturing	337	1.319	1.355	1.442	1.203

TABLE III-2-10 (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	1.560	1.602	1.705	1.423
Wholesale Trade	42	1.103	1.141	1.151	1.196
Motor Vehicle and Parts Dealers	441	1.072	1.295	1.272	1.245
Furniture and Home Furniture Stores	442	1.072	1.295	1.272	1.245
Electronics and Appliance Stores	443	1.072	1.295	1.272	1.245
Building Material-Garden Equipment-Supplies Dealers	444	1.072	1.295	1.272	1.245
Food and Beverage Stores	445	1.072	1.295	1.272	1.245
Health and Personal Care Stores	446	1.072	1.295	1.272	1.245
Gasoline Stations	447	1.386	1.675	1.646	1.610
Clothing and Clothing Accessories Stores	448	1.386	1.675	1.646	1.610
Sporting Goods-Hobby-Book- Music Stores	451	1.386	1.675	1.646	1.610
General Merchandise Stores	452	1.386	1.675	1.646	1.610
Miscellaneous Store Retailers	453	1.386	1.675	1.646	1.610
Nonstore Retailers	454	1.386	1.675	1.646	1.610
Air Transportation	481	1.569	1.704	2.300	1.732
Rail Transportation	482	1.397	1.516	1.000	1.542
Water Transportation	483	1.092	1.185	1.600	1.205
Truck Transportation	484	1.282	1.392	1.879	1.415
Transit and Ground Passenger Transportation	485	1.058	1.149	1.551	1.168
Pipeline Transportation	486	1.729	1.878	2.535	1.909
Scenic and Sightseeing Transportation	487	1.169	1.269	1.714	1.290
Support Activities for Transportation	488	1.169	1.269	1.714	1.290
Postal Service	491	1.040	1.129	1.524	1.148
Couriers and Messengers	492	1.040	1.129	1.524	1.148
Warehousing and Storage	493	1.399	1.518	2.050	1.544
Information	51	1.657	1.708	2.358	1.602
Finance and Insurance	52	1.127	1.056	1.412	1.129
Real Estate and Rental and Leasing	53	1.127	1.056	1.412	1.129
Professional-Scientific-and Technical Services	541	1.210	1.155	1.533	1.186
Management of Companies and Enterprises	551	1.210	1.155	1.533	1.186

TABLE III-2-10 (Concluded)

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	1.210	1.155	1.533	1.186
Waste Management and Remediation Services	562	1.210	1.155	1.533	1.186
Educational Services	611	0.960	1.006	1.028	1.044
Ambulatory Health Care Services	621	1.053	1.080	1.140	1.095
Hospitals	622	1.251	1.265	1.401	1.284
Nursing and Residential Care Facilities	623	1.371	1.359	1.658	1.490
Social Assistance	624	1.157	1.214	1.499	1.379
Arts, Entertainment, Museums, and Recreation	71	1.165	1.238	1.672	1.364
Accommodation and Food Services	72	1.115	1.158	1.449	1.236
Repair and Maintenance	811	1.115	1.158	1.449	1.236
Personal and Laundry Services	812	1.115	1.158	1.449	1.236
Religious-Grant-Civic-Professional-and Similar Org	813	1.085	1.154	1.651	1.374
Private Households	814	1.085	1.154	1.651	1.374
Public Administration	92	1.015	1.061	1.197	1.083

(Base year is 2012)

TABLE III-2-11

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	1.404	1.396	1.528	1.366
Oil and Gas Extraction	211	1.075	1.070	1.171	1.046
Mining (except Oil and Gas)	212	1.068	1.063	1.163	1.040
Support Activities for Mining	213	1.068	1.063	1.163	1.040
Utilities - Except Electricity	221	1.127	1.174	1.504	1.275
Utilities - Electricity*	221	0.876	0.876	0.876	0.876
Construction	23	1.394	1.400	2.156	1.619
Food Manufacturing	311	1.209	1.237	1.330	1.101
Beverage and Tobacco Product Manufacturing	312	1.142	1.168	1.256	1.040
Textile Mills	313	1.201	1.229	1.321	1.094
Textile Product Mills	314	1.201	1.229	1.321	1.094
Apparel Manufacturing	315	2.449	2.506	2.695	2.231
Leather and Allied Product Manufacturing	316	1.436	1.470	1.581	1.309
Wood Product Manufacturing	321	1.209	1.237	1.330	1.101
Paper Manufacturing	322	1.288	1.318	1.417	1.173
Printing and Related Support Activities	323	1.223	1.251	1.345	1.114
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.480	1.514	1.628	1.348
Plastics and Rubber Products Manufacturing	326	1.364	1.395	1.501	1.242
Nonmetallic Mineral Product Manufacturing	327	1.262	1.291	1.388	1.149
Primary Metal Manufacturing	331	1.288	1.318	1.417	1.173
Fabricated Metal Product Manufacturing	332	1.233	1.262	1.357	1.123
Machinery Manufacturing	333	1.489	1.523	1.638	1.356
Computer and Electronic Product Manufacturing	334	1.906	1.950	2.097	1.736
Electrical Equipment -Appliance-Component Manufacturing	335	1.561	1.597	1.717	1.422
Transportation Equipment Manufacturing	336	1.346	1.377	1.481	1.226
Furniture and Related Product Manufacturing	337	1.342	1.373	1.477	1.223

TABLE III-2-11 (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	1.613	1.651	1.775	1.470
Wholesale Trade	42	1.119	1.163	1.185	1.235
Motor Vehicle and Parts Dealers	441	1.076	1.324	1.302	1.279
Furniture and Home Furniture Stores	442	1.076	1.324	1.302	1.279
Electronics and Appliance Stores	443	1.076	1.324	1.302	1.279
Building Material-Garden Equipment-Supplies Dealers	444	1.076	1.324	1.302	1.279
Food and Beverage Stores	445	1.076	1.324	1.302	1.279
Health and Personal Care Stores	446	1.076	1.324	1.302	1.279
Gasoline Stations	447	1.419	1.747	1.718	1.687
Clothing and Clothing Accessories Stores	448	1.419	1.747	1.718	1.687
Sporting Goods-Hobby-Book- Music Stores	451	1.419	1.747	1.718	1.687
General Merchandise Stores	452	1.419	1.747	1.718	1.687
Miscellaneous Store Retailers	453	1.419	1.747	1.718	1.687
Nonstore Retailers	454	1.419	1.747	1.718	1.687
Air Transportation	481	1.630	1.780	2.471	1.834
Rail Transportation	482	1.432	1.564	1.000	1.611
Water Transportation	483	1.097	1.198	1.663	1.234
Truck Transportation	484	1.303	1.423	1.976	1.466
Transit and Ground Passenger Transportation	485	1.061	1.158	1.608	1.193
Pipeline Transportation	486	1.788	1.953	2.710	2.011
Scenic and Sightseeing Transportation	487	1.182	1.291	1.792	1.330
Support Activities for Transportation	488	1.182	1.291	1.792	1.330
Postal Service	491	1.044	1.140	1.582	1.174
Couriers and Messengers	492	1.044	1.140	1.582	1.174
Warehousing and Storage	493	1.434	1.566	2.174	1.613
Information	51	1.730	1.789	2.581	1.712
Finance and Insurance	52	1.140	1.064	1.465	1.163
Real Estate and Rental and Leasing	53	1.140	1.064	1.465	1.163
Professional-Scientific-and Technical Services	541	1.230	1.173	1.603	1.223
Management of Companies and Enterprises	551	1.230	1.173	1.603	1.223

TABLE III-2-11 (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	1.230	1.173	1.603	1.223
Waste Management and Remediation Services	562	1.230	1.173	1.603	1.223
Educational Services	611	0.962	1.012	1.048	1.064
Ambulatory Health Care Services	621	1.063	1.091	1.170	1.120
Hospitals	622	1.300	1.313	1.482	1.344
Nursing and Residential Care Facilities	623	1.446	1.430	1.781	1.586
Social Assistance	624	1.176	1.237	1.561	1.432
Arts, Entertainment, Museums, and Recreation	71	1.182	1.263	1.760	1.420
Accommodation and Food Services	72	1.127	1.174	1.504	1.275
Repair and Maintenance	811	1.127	1.174	1.504	1.275
Personal and Laundry Services	812	1.127	1.174	1.504	1.275
Religious-Grant-Civic-Professional-and Similar Org	813	1.092	1.164	1.729	1.428
Private Households	814	1.092	1.164	1.729	1.428
Public Administration	92	1.024	1.075	1.235	1.112

(Base year is 2012)

TABLE III-2-12

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	1.515	1.501	1.694	1.524
Oil and Gas Extraction	211	1.086	1.076	1.214	1.093
Mining (except Oil and Gas)	212	1.080	1.070	1.208	1.087
Support Activities for Mining	213	1.080	1.070	1.208	1.087
Utilities - Except Electricity	221	1.163	1.208	1.669	1.389
Utilities - Electricity*	221	0.876	0.876	0.876	0.876
Construction	23	1.451	1.471	2.471	1.791
Food Manufacturing	311	1.241	1.243	1.386	1.133
Beverage and Tobacco Product Manufacturing	312	1.183	1.185	1.321	1.081
Textile Mills	313	1.239	1.241	1.383	1.131
Textile Product Mills	314	1.239	1.241	1.383	1.131
Apparel Manufacturing	315	2.961	2.967	3.307	2.705
Leather and Allied Product Manufacturing	316	1.508	1.511	1.685	1.378
Wood Product Manufacturing	321	1.248	1.250	1.394	1.140
Paper Manufacturing	322	1.350	1.352	1.507	1.233
Printing and Related Support Activities	323	1.268	1.270	1.416	1.158
Petroleum and Coal Products Manufacturing	324	1.000	1.000	1.000	1.000
Chemical Manufacturing	325	1.592	1.595	1.778	1.454
Plastics and Rubber Products Manufacturing	326	1.438	1.440	1.606	1.313
Nonmetallic Mineral Product Manufacturing	327	1.311	1.314	1.464	1.198
Primary Metal Manufacturing	331	1.372	1.375	1.532	1.253
Fabricated Metal Product Manufacturing	332	1.272	1.275	1.421	1.162
Machinery Manufacturing	333	1.616	1.620	1.805	1.476
Computer and Electronic Product Manufacturing	334	2.254	2.258	2.517	2.059
Electrical Equipment -Appliance-Component Manufacturing	335	1.700	1.703	1.898	1.552
Transportation Equipment Manufacturing	336	1.427	1.430	1.594	1.303
Furniture and Related Product Manufacturing	337	1.412	1.415	1.577	1.290

TABLE III-2-12 (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	1.782	1.786	1.990	1.628
Wholesale Trade	42	1.159	1.211	1.268	1.347
Motor Vehicle and Parts Dealers	441	1.092	1.385	1.400	1.391
Furniture and Home Furniture Stores	442	1.092	1.385	1.400	1.391
Electronics and Appliance Stores	443	1.092	1.385	1.400	1.391
Building Material-Garden Equipment-Supplies Dealers	444	1.092	1.385	1.400	1.391
Food and Beverage Stores	445	1.092	1.385	1.400	1.391
Health and Personal Care Stores	446	1.092	1.385	1.400	1.391
Gasoline Stations	447	1.528	1.938	1.960	1.947
Clothing and Clothing Accessories Stores	448	1.528	1.938	1.960	1.947
Sporting Goods-Hobby-Book- Music Stores	451	1.528	1.938	1.960	1.947
General Merchandise Stores	452	1.528	1.938	1.960	1.947
Miscellaneous Store Retailers	453	1.528	1.938	1.960	1.947
Nonstore Retailers	454	1.528	1.938	1.960	1.947
Air Transportation	481	1.817	2.008	3.020	2.165
Rail Transportation	482	1.535	1.697	1.000	1.830
Water Transportation	483	1.106	1.223	1.839	1.318
Truck Transportation	484	1.363	1.506	2.265	1.624
Transit and Ground Passenger Transportation	485	1.062	1.174	1.765	1.266
Pipeline Transportation	486	1.965	2.171	3.266	2.341
Scenic and Sightseeing Transportation	487	1.215	1.343	2.020	1.448
Support Activities for Transportation	488	1.215	1.343	2.020	1.448
Postal Service	491	1.049	1.159	1.743	1.250
Couriers and Messengers	492	1.049	1.159	1.743	1.250
Warehousing and Storage	493	1.538	1.699	2.556	1.833
Information	51	1.956	2.004	3.164	2.005
Finance and Insurance	52	1.170	1.077	1.605	1.258
Real Estate and Rental and Leasing	53	1.170	1.077	1.605	1.258
Professional-Scientific-and Technical Services	541	1.292	1.215	1.807	1.332
Management of Companies and Enterprises	551	1.292	1.215	1.807	1.332

TABLE III-2-12 (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	1.292	1.215	1.807	1.332
Waste Management and Remediation Services	562	1.292	1.215	1.807	1.332
Educational Services	611	0.979	1.024	1.114	1.123
Ambulatory Health Care Services	621	1.093	1.108	1.263	1.193
Hospitals	622	1.430	1.420	1.697	1.500
Nursing and Residential Care Facilities	623	1.645	1.596	2.096	1.830
Social Assistance	624	1.239	1.296	1.772	1.598
Arts, Entertainment, Museums, and Recreation	71	1.238	1.322	2.029	1.590
Accommodation and Food Services	72	1.163	1.208	1.669	1.389
Repair and Maintenance	811	1.163	1.208	1.669	1.389
Personal and Laundry Services	812	1.163	1.208	1.669	1.389
Religious-Grant-Civic-Professional-and Similar Org	813	1.115	1.176	1.947	1.576
Private Households	814	1.115	1.176	1.947	1.576
Public Administration	92	1.035	1.096	1.326	1.189

(Base year is 2012)

TABLE III-2-13

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2019

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.793	0.793	0.793	0.793
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.048	1.143	1.085	1.102
050	Industrial Stationary I.C. Engines - Natural Gas	1.033	1.033	1.033	1.033
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	1.248	1.343	1.335	1.149
060	Commercial Natural Gas Combustion - Space Heating	0.899	0.899	0.899	0.899
060	Commercial Natural Gas Combustion - Water Heating	0.899	0.899	0.899	0.899
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.899	0.899	0.899	0.899
060	Commercial L.P.G. Combustion	1.309	1.229	1.552	1.287
099	Resource Recovery	0.793	0.793	0.793	0.793
110	Sewage Treatment Plants-Potws - Ammonia	1.035	1.057	1.082	1.051
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.035	1.057	1.082	1.051
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.184	1.191	1.259	1.227
210	Dry Cleaning	1.086	1.120	1.321	1.157
220	Degreasing	1.248	1.343	1.335	1.149
230	Auto Refinishing - Coatings	1.064	1.092	1.480	1.280
230	Marine Coatings	1.069	1.162	1.439	1.163
230	Paper Coatings	1.177	1.211	1.264	1.112
230	Can And Coil, Metal Parts And Products Coatings	1.148	1.182	1.233	1.085
230	Wood Furniture And Fabricated Products Coatings	1.210	1.245	1.300	1.143
230	Plastic Parts	1.223	1.259	1.313	1.155
230	Semiconductor Coatings	1.485	1.528	1.595	1.403
230	Aircraft And Aerospace Coatings	1.362	1.481	1.833	1.482
240	Printing	1.139	1.173	1.224	1.076
250	Adhesives And Sealants	1.248	1.343	1.335	1.149
299	Miscellaneous Industrial Solvent Uses	1.248	1.343	1.335	1.149
310	Oil & Gas Production	1.048	1.143	1.085	1.102

TABLE III-2-13 (Continued)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2019

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
330	Petroleum Marketing - Natural Gas Transmission Losses	0.890	0.897	0.875	0.875
330	LPG Transfer And Dispensing - Fugitive Losses	1.059	1.066	1.126	1.098
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.846	0.839	0.879	0.861
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.846	0.839	0.879	0.861
410	Chemical	1.223	1.259	1.313	1.155
420	Wine Fermentation / Aging	1.142	1.139	1.143	1.152
420	Bakeries	1.134	1.167	1.218	1.072
430	Asphaltic Concrete Production	1.302	1.300	1.782	1.448
430	Surface Blasting	1.043	1.137	1.079	1.096
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.164	1.198	1.250	1.100
440	Secondary Metal Production	1.170	1.205	1.257	1.106
450	Wood Processing Losses	1.210	1.245	1.300	1.143
499	Industrial Lubricant	1.035	1.057	1.082	1.051
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	1.035	1.057	1.082	1.051
520	Architectural Coatings	1.059	1.066	1.126	1.098
540	Asphalt Paving And Roofing Operations	1.302	1.300	1.782	1.448
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.059	1.066	1.126	1.098
610	Residential Natural Gas Combustion - Space Heating	0.810	0.810	0.810	0.810
610	Residential Natural Gas Combustion - Water Heating	0.810	0.810	0.810	0.810
610	Residential Natural Gas Combustion - Cooking/Other	0.810	0.810	0.810	0.810
610	Residential L.P.G. Combustion (Unspecified)	1.059	1.066	1.126	1.098
620	Tilling/Harvest Operations - Dust	1.000	1.000	0.812	1.000

TABLE III-2-13 (Concluded)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2019

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	0.617	0.617
620	Livestock Husbandry - Layers	1.000	1.000	0.975	0.975
620	Livestock Husbandry - Others	1.000	1.000	1.000	1.000
630	Building And Road Construction - Dust	1.302	1.300	1.782	1.448
640	Paved Road Travel - Freeways - Dust	1.027	1.046	1.120	1.071
640	Paved Road Travel - (Unspecified) - Dust	1.000	1.000	1.000	1.000
640	Paved Road Travel - Major Streets - Dust	1.027	1.039	1.138	1.071
640	Paved Road Travel - Collector/Local Streets - Dust	1.015	1.070	1.065	1.049
645	Unpaved Road Travel - Farm Roads - Dust	1.000	1.000	0.812	1.000
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.701	0.692	0.849	0.742
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	0.812	1.000
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	1.060	1.060
690	Cooking	1.086	1.120	1.321	1.157
699	Domestic Activity - Ammonia	1.035	1.057	1.082	1.051

* 2012 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 2021

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.823	0.823	0.823	0.823
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.066	1.181	1.103	1.136
050	Industrial Stationary I.C. Engines - Natural Gas	0.967	0.995	1.120	1.120
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	1.329	1.448	1.438	1.205
060	Commercial Natural Gas Combustion - Space Heating	0.853	0.877	0.988	0.988
060	Commercial Natural Gas Combustion - Water Heating	0.853	0.877	0.988	0.988
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.853	0.877	0.988	0.988
060	Commercial L.P.G. Combustion	1.397	1.293	1.706	1.375
099	Resource Recovery	0.823	0.823	0.823	0.823
110	Sewage Treatment Plants-Potws - Ammonia	1.043	1.070	1.109	1.070
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.043	1.070	1.109	1.070
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.267	1.276	1.371	1.328
210	Dry Cleaning	1.104	1.142	1.394	1.198
220	Degreasing	1.329	1.448	1.438	1.205
230	Auto Refinishing - Coatings	1.077	1.104	1.577	1.344
230	Marine Coatings	1.084	1.194	1.535	1.207
230	Paper Coatings	1.230	1.266	1.339	1.154
230	Can And Coil, Metal Parts And Products Coatings	1.191	1.226	1.297	1.118
230	Wood Furniture And Fabricated Products Coatings	1.275	1.312	1.387	1.196
230	Plastic Parts	1.292	1.329	1.406	1.212
230	Semiconductor Coatings	1.659	1.706	1.805	1.556
230	Aircraft And Aerospace Coatings	1.480	1.630	2.096	1.647
240	Printing	1.180	1.214	1.284	1.107
250	Adhesives And Sealants	1.329	1.448	1.438	1.205
299	Miscellaneous Industrial Solvent Uses	1.329	1.448	1.438	1.205
310	Oil & Gas Production	1.066	1.181	1.103	1.136

TABLE III-2-14 (Continued)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2021

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
330	Petroleum Marketing - Natural Gas Transmission Losses	0.849	0.876	0.913	0.913
330	LPG Transfer And Dispensing - Fugitive Losses	1.074	1.082	1.162	1.126
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.794	0.803	0.854	0.817
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.794	0.803	0.854	0.817
410	Chemical	1.292	1.329	1.406	1.212
420	Wine Fermentation / Aging	1.176	1.171	1.180	1.188
420	Bakeries	1.173	1.207	1.277	1.100
430	Asphaltic Concrete Production	1.351	1.352	1.946	1.542
430	Surface Blasting	1.060	1.174	1.097	1.129
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.213	1.248	1.320	1.137
440	Secondary Metal Production	1.221	1.256	1.329	1.145
450	Wood Processing Losses	1.275	1.312	1.387	1.196
499	Industrial Lubricant	1.043	1.070	1.109	1.070
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	1.043	1.070	1.109	1.070
520	Architectural Coatings	1.074	1.082	1.162	1.126
540	Asphalt Paving And Roofing Operations	1.351	1.352	1.946	1.542
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.074	1.082	1.162	1.126
610	Residential Natural Gas Combustion - Space Heating	0.783	0.801	0.816	0.816
610	Residential Natural Gas Combustion - Water Heating	0.783	0.801	0.816	0.816
610	Residential Natural Gas Combustion - Cooking/Other	0.783	0.801	0.816	0.816
610	Residential L.P.G. Combustion (Unspecified)	1.074	1.082	1.162	1.126
620	Tilling/Harvest Operations - Dust	1.000	1.000	0.776	1.000
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	0.541	0.541

TABLE III-2-14 (Concluded)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2021

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
620	Livestock Husbandry - Layers	1.000	1.000	0.975	0.975
620	Livestock Husbandry - Others	1.000	1.000	1.000	1.000
630	Building And Road Construction - Dust	1.351	1.352	1.946	1.542
640	Paved Road Travel - Freeways - Dust	1.029	1.064	1.159	1.086
640	Paved Road Travel - (Unspecified) - Dust	1.000	1.000	1.000	1.000
640	Paved Road Travel - Major Streets - Dust	1.041	1.073	1.206	1.111
640	Paved Road Travel - Collector/Local Streets - Dust	1.024	1.109	1.116	1.077
645	Unpaved Road Travel - Farm Roads - Dust	1.000	1.000	0.776	1.000
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.633	0.623	0.810	0.682
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	0.776	1.000
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	1.086	1.087
690	Cooking	1.104	1.142	1.394	1.198
699	Domestic Activity - Ammonia	1.043	1.070	1.109	1.070

* 2012 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 2022

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.844	0.844	0.844	0.844
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.076	1.191	1.119	1.157
050	Industrial Stationary I.C. Engines - Natural Gas	0.958	0.985	1.109	1.109
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	1.372	1.501	1.486	1.238
060	Commercial Natural Gas Combustion - Space Heating	0.846	0.870	0.980	0.980
060	Commercial Natural Gas Combustion - Water Heating	0.846	0.870	0.980	0.980
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.846	0.870	0.980	0.980
060	Commercial L.P.G. Combustion	1.437	1.325	1.774	1.420
099	Resource Recovery	0.844	0.844	0.844	0.844
110	Sewage Treatment Plants-Potws - Ammonia	1.048	1.075	1.124	1.082
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.048	1.075	1.124	1.082
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.323	1.333	1.446	1.396
210	Dry Cleaning	1.109	1.150	1.421	1.217
220	Degreasing	1.372	1.501	1.486	1.238
230	Auto Refinishing - Coatings	1.081	1.110	1.613	1.369
230	Marine Coatings	1.090	1.207	1.571	1.226
230	Paper Coatings	1.257	1.291	1.371	1.179
230	Can And Coil, Metal Parts And Products Coatings	1.213	1.246	1.323	1.138
230	Wood Furniture And Fabricated Products Coatings	1.308	1.343	1.426	1.227
230	Plastic Parts	1.328	1.364	1.448	1.245
230	Semiconductor Coatings	1.752	1.799	1.911	1.643
230	Aircraft And Aerospace Coatings	1.541	1.706	2.221	1.733
240	Printing	1.200	1.232	1.308	1.125
250	Adhesives And Sealants	1.372	1.501	1.486	1.238
299	Miscellaneous Industrial Solvent Uses	1.372	1.501	1.486	1.238
310	Oil & Gas Production	1.076	1.191	1.119	1.157

TABLE III-2-15 (Continued)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2022

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
330	Petroleum Marketing - Natural Gas Transmission Losses	0.842	0.869	0.906	0.906
330	LPG Transfer And Dispensing - Fugitive Losses	1.080	1.088	1.180	1.139
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.779	0.770	0.827	0.801
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.779	0.770	0.827	0.801
410	Chemical	1.328	1.364	1.448	1.245
420	Wine Fermentation / Aging	1.192	1.186	1.197	1.205
420	Bakeries	1.193	1.225	1.300	1.118
430	Asphaltic Concrete Production	1.361	1.368	2.000	1.572
430	Surface Blasting	1.069	1.183	1.111	1.149
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.237	1.271	1.349	1.160
440	Secondary Metal Production	1.247	1.281	1.360	1.169
450	Wood Processing Losses	1.308	1.343	1.426	1.227
499	Industrial Lubricant	1.048	1.075	1.124	1.082
499	Industrial Process Losses (Unspecified Material)	1.000	1.000	1.000	1.000
510	Consumer Products - Aerosol	1.000	1.000	1.000	1.000
510	Consumer Products - Non Aerosol	1.048	1.075	1.124	1.082
520	Architectural Coatings	1.080	1.088	1.180	1.139
540	Asphalt Paving And Roofing Operations	1.361	1.368	2.000	1.572
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.080	1.088	1.180	1.139
610	Residential Natural Gas Combustion - Space Heating	0.778	0.796	0.811	0.811
610	Residential Natural Gas Combustion - Water Heating	0.778	0.796	0.811	0.811
610	Residential Natural Gas Combustion - Cooking/Other	0.778	0.796	0.811	0.811
610	Residential L.P.G. Combustion (Unspecified)	1.080	1.088	1.180	1.139
620	Tilling/Harvest Operations - Dust	1.000	1.000	0.764	1.000

TABLE III-2-15 (Concluded)

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2022

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	0.507	0.507
620	Livestock Husbandry - Layers	1.000	1.000	0.975	0.975
620	Livestock Husbandry - Others	1.000	1.000	1.000	1.000
630	Building And Road Construction - Dust	1.361	1.368	2.000	1.572
640	Paved Road Travel - Freeways - Dust	1.039	1.082	1.163	1.111
640	Paved Road Travel - (Unspecified) - Dust	1.000	1.000	1.000	1.000
640	Paved Road Travel - Major Streets - Dust	1.046	1.044	1.203	1.120
640	Paved Road Travel - Collector/Local Streets - Dust	1.038	1.099	1.113	1.092
645	Unpaved Road Travel - Farm Roads - Dust	1.000	1.000	0.764	1.000
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.603	0.593	0.792	0.655
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	0.764	1.000
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	1.100	1.100
690	Cooking	1.109	1.150	1.421	1.217
699	Domestic Activity - Ammonia	1.048	1.075	1.124	1.082

* 2012 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 2023

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.859	0.859	0.859	0.859
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.078	1.198	1.126	1.170
050	Industrial Stationary I.C. Engines - Natural Gas	0.945	0.972	1.094	1.094
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	1.390	1.524	1.508	1.251
060	Commercial Natural Gas Combustion - Space Heating	0.839	0.863	0.971	0.971
060	Commercial Natural Gas Combustion - Water Heating	0.839	0.863	0.971	0.971
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.839	0.863	0.971	0.971
060	Commercial L.P.G. Combustion	1.459	1.342	1.821	1.449
099	Resource Recovery	0.859	0.859	0.859	0.859
110	Sewage Treatment Plants-Potws - Ammonia	1.053	1.081	1.138	1.093
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.053	1.081	1.138	1.093
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.379	1.390	1.523	1.464
210	Dry Cleaning	1.115	1.158	1.449	1.236
220	Degreasing	1.390	1.524	1.508	1.251
230	Auto Refinishing - Coatings	1.085	1.112	1.648	1.394
230	Marine Coatings	1.092	1.212	1.601	1.241
230	Paper Coatings	1.268	1.299	1.385	1.188
230	Can And Coil, Metal Parts And Products Coatings	1.220	1.251	1.333	1.144
230	Wood Furniture And Fabricated Products Coatings	1.320	1.353	1.441	1.237
230	Plastic Parts	1.340	1.374	1.464	1.256
230	Semiconductor Coatings	1.802	1.848	1.969	1.690
230	Aircraft And Aerospace Coatings	1.569	1.742	2.301	1.783
240	Printing	1.208	1.238	1.319	1.132
250	Adhesives And Sealants	1.390	1.524	1.508	1.251
299	Miscellaneous Industrial Solvent Uses	1.390	1.524	1.508	1.251
310	Oil & Gas Production	1.078	1.198	1.126	1.170

TABLE III-2-16 (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	0.834	0.861	0.897	0.897
330	LPG Transfer And Dispensing - Fugitive Losses	1.085	1.094	1.197	1.152
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.748	0.759	0.821	0.776
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.748	0.759	0.821	0.776
410	Chemical	1.340	1.374	1.464	1.256
420	Wine Fermentation / Aging	1.208	1.202	1.214	1.221
420	Bakeries	1.198	1.228	1.309	1.123
430	Asphaltic Concrete Production	1.371	1.382	2.051	1.601
430	Surface Blasting	1.071	1.190	1.118	1.162
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.246	1.277	1.361	1.168
440	Secondary Metal Production	1.261	1.292	1.377	1.182
450	Wood Processing Losses	1.320	1.353	1.441	1.237
499	Industrial Lubricant	1.053	1.081	1.138	1.093
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	1.053	1.081	1.138	1.093
520	Architectural Coatings	1.085	1.094	1.197	1.152
540	Asphalt Paving And Roofing Operations	1.371	1.382	2.051	1.601
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.085	1.094	1.197	1.152
610	Residential Natural Gas Combustion - Space Heating	0.772	0.790	0.805	0.805
610	Residential Natural Gas Combustion - Water Heating	0.772	0.790	0.805	0.805
610	Residential Natural Gas Combustion - Cooking/Other	0.772	0.790	0.805	0.805
610	Residential L.P.G. Combustion (Unspecified)	1.085	1.094	1.197	1.152
620	Tilling/Harvest Operations - Dust	1.000	1.000	0.752	1.000
620	Livestock Husbandry - Dairy Cattle	1.000	1.000	0.474	0.474

TABLE III-2-16 (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 - Layers	1.000	1.000	0.975	0.975
620	Livestock Husbandry - Others	1.000	1.000	1.000	1.000
630	Building And Road Construction - Dust	1.371	1.382	2.051	1.601
640	Paved Road Travel - Freeways - Dust	1.037	1.094	1.186	1.126
640	Paved Road Travel - (Unspecified) - Dust	1.000	1.000	1.000	1.000
640	Paved Road Travel - Major Streets - Dust	1.049	1.072	1.246	1.134
640	Paved Road Travel - Collector/Local Streets - Dust	1.033	1.136	1.156	1.093
645	Unpaved Road Travel - Farm Roads - Dust	1.000	1.000	0.752	1.000
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.574	0.563	0.774	0.627
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	0.752	1.000
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	1.115	1.114
690	Cooking	1.115	1.158	1.449	1.236
699	Domestic Activity - Ammonia	1.053	1.081	1.138	1.093

* 2012 emissions based on information provided by Forest Management Services and special handling for future year emissions.

TABLE III-2-17

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2025

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.876	0.876	0.876	0.876
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.081	1.201	1.145	1.203
050	Industrial Stationary I.C. Engines - Natural Gas	0.927	0.953	1.073	1.073
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	1.426	1.570	1.557	1.277
060	Commercial Natural Gas Combustion - Space Heating	0.828	0.851	0.959	0.959
060	Commercial Natural Gas Combustion - Water Heating	0.828	0.851	0.959	0.959
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.828	0.851	0.959	0.959
060	Commercial L.P.G. Combustion	1.505	1.377	1.929	1.514
099	Resource Recovery	0.876	0.876	0.876	0.876
110	Sewage Treatment Plants-Potws - Ammonia	1.063	1.091	1.167	1.116
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.063	1.091	1.167	1.116
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.494	1.506	1.681	1.605
210	Dry Cleaning	1.127	1.174	1.504	1.274
220	Degreasing	1.426	1.570	1.557	1.277
230	Auto Refinishing - Coatings	1.092	1.121	1.725	1.446
230	Marine Coatings	1.095	1.226	1.662	1.270
230	Paper Coatings	1.288	1.315	1.415	1.206
230	Can And Coil, Metal Parts And Products Coatings	1.233	1.259	1.355	1.155
230	Wood Furniture And Fabricated Products Coatings	1.342	1.371	1.475	1.257
230	Plastic Parts	1.364	1.393	1.499	1.277
230	Semiconductor Coatings	1.906	1.947	2.094	1.785
230	Aircraft And Aerospace Coatings	1.628	1.822	2.470	1.887
240	Printing	1.222	1.249	1.343	1.145
250	Adhesives And Sealants	1.426	1.570	1.557	1.277
299	Miscellaneous Industrial Solvent Uses	1.426	1.570	1.557	1.277
310	Oil & Gas Production	1.081	1.201	1.145	1.203

TABLE III-2-17 (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	0.822	0.849	0.885	0.885
330	LPG Transfer And Dispensing - Fugitive Losses	1.097	1.107	1.232	1.179
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.711	0.702	0.770	0.740
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.711	0.702	0.770	0.740
410	Chemical	1.364	1.393	1.499	1.277
420	Wine Fermentation / Aging	1.240	1.232	1.248	1.255
420	Bakeries	1.209	1.235	1.328	1.132
430	Asphaltic Concrete Production	1.392	1.412	2.157	1.662
430	Surface Blasting	1.074	1.194	1.138	1.196
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.262	1.289	1.386	1.182
440	Secondary Metal Production	1.288	1.315	1.415	1.206
450	Wood Processing Losses	1.342	1.371	1.475	1.257
499	Industrial Lubricant	1.063	1.091	1.167	1.116
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	1.063	1.091	1.167	1.116
520	Architectural Coatings	1.097	1.107	1.232	1.179
540	Asphalt Paving And Roofing Operations	1.392	1.412	2.157	1.662
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.097	1.107	1.232	1.179
610	Residential Natural Gas Combustion - Space Heating	0.764	0.782	0.797	0.797
610	Residential Natural Gas Combustion - Water Heating	0.764	0.782	0.797	0.797
610	Residential Natural Gas Combustion - Cooking/Other	0.764	0.782	0.797	0.797
610	Residential L.P.G. Combustion (Unspecified)	1.097	1.107	1.232	1.179
620	Tilling/Harvest Operations - Dust	1.000	1.000	0.730	1.000

TABLE III-2-17 (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	0.474	0.474
620	Livestock Husbandry - Layers	1.000	1.000	0.975	0.975
620	Livestock Husbandry - Others	1.000	1.000	1.000	1.000
630	Building And Road Construction - Dust	1.392	1.412	2.157	1.662
640	Paved Road Travel - Freeways - Dust	1.041	1.094	1.186	1.130
640	Paved Road Travel - (Unspecified) - Dust	1.000	1.000	1.000	1.000
640	Paved Road Travel - Major Streets - Dust	1.048	1.042	1.253	1.164
640	Paved Road Travel - Collector/Local Streets - Dust	1.040	1.108	1.165	1.135
645	Unpaved Road Travel - Farm Roads - Dust	1.000	1.000	0.730	1.000
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.515	0.503	0.737	0.573
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	0.730	1.000
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	1.145	1.146
690	Cooking	1.127	1.174	1.504	1.274
699	Domestic Activity - Ammonia	1.063	1.091	1.167	1.116

* 2012 emissions based on information provided by Forest Management Services and special handling for future year emissions.

TABLE III-2-18

Stationary Area Source Emission Growth Factors in the SCAB for the Year 2031

EIC3	CATEGORY DESCRIPTION	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO
020	Cogeneration	0.876	0.876	0.876	0.876
030	Petroleum Production Fuel Combustion - Gaseous Fuel	1.090	1.211	1.201	1.292
050	Industrial Stationary I.C. Engines - Natural Gas	0.889	0.914	1.029	1.029
050	Industrial Combustion - L.P.G./Distillate Oil/Other Fuel	1.541	1.699	1.709	1.359
060	Commercial Natural Gas Combustion - Space Heating	0.825	0.848	0.955	0.955
060	Commercial Natural Gas Combustion - Water Heating	0.825	0.848	0.955	0.955
060	Commercial Natural Gas Ice/Ext. Comb (Others)	0.825	0.848	0.955	0.955
060	Commercial L.P.G. Combustion	1.650	1.472	2.258	1.712
099	Resource Recovery	0.876	0.876	0.876	0.876
110	Sewage Treatment Plants-Potws - Ammonia	1.094	1.108	1.257	1.188
120	Landfills - Municipal Solid Waste Disposal (Biodegradation)	1.094	1.108	1.257	1.188
199	Composting - Ammonia	1.000	1.000	1.000	1.000
199	Composting Waste Disposal	1.542	1.531	1.828	1.714
210	Dry Cleaning	1.163	1.208	1.669	1.389
220	Degreasing	1.541	1.699	1.709	1.359
230	Auto Refinishing - Coatings	1.115	1.135	1.945	1.599
230	Marine Coatings	1.105	1.254	1.840	1.356
230	Paper Coatings	1.350	1.347	1.505	1.261
230	Can And Coil, Metal Parts And Products Coatings	1.273	1.270	1.419	1.189
230	Wood Furniture And Fabricated Products Coatings	1.413	1.409	1.575	1.319
230	Plastic Parts	1.438	1.434	1.603	1.343
230	Semiconductor Coatings	2.254	2.249	2.514	2.105
230	Aircraft And Aerospace Coatings	1.816	2.059	3.022	2.228
240	Printing	1.268	1.265	1.414	1.184
250	Adhesives And Sealants	1.541	1.699	1.709	1.359
299	Miscellaneous Industrial Solvent Uses	1.541	1.699	1.709	1.359
310	Oil & Gas Production	1.090	1.211	1.201	1.292

TABLE III-2-18 (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	0.807	0.832	0.870	0.870
330	LPG Transfer And Dispensing - Fugitive Losses	1.133	1.125	1.338	1.259
330	Gasoline Dispensing & Transfers/Storage/Cargo Tanks	0.564	0.569	0.658	0.611
330	Bulk Gasoline Storage & Transfer (Unspecified)	0.564	0.569	0.658	0.611
410	Chemical	1.438	1.434	1.603	1.343
420	Wine Fermentation / Aging	1.350	1.339	1.361	1.365
420	Bakeries	1.241	1.238	1.384	1.159
430	Asphaltic Concrete Production	1.452	1.484	2.471	1.842
430	Surface Blasting	1.084	1.204	1.195	1.285
430	Open Storage Piles	1.000	1.000	1.000	1.000
430	Mineral Processes - Sand/Gravel/Cement Concrete	1.311	1.308	1.462	1.225
440	Secondary Metal Production	1.372	1.369	1.530	1.282
450	Wood Processing Losses	1.413	1.409	1.575	1.319
499	Industrial Lubricant	1.094	1.108	1.257	1.188
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	1.094	1.108	1.257	1.188
520	Architectural Coatings	1.133	1.125	1.338	1.259
540	Asphalt Paving And Roofing Operations	1.452	1.484	2.471	1.842
610	Residential Wood Combustion	1.000	1.000	1.000	1.000
610	Residential Distillate Oil Combustion - Space Heating	1.133	1.125	1.338	1.259
610	Residential Natural Gas Combustion - Space Heating	0.757	0.774	0.789	0.789
610	Residential Natural Gas Combustion - Water Heating	0.757	0.774	0.789	0.789
610	Residential Natural Gas Combustion - Cooking/Other	0.757	0.774	0.789	0.789
610	Residential L.P.G. Combustion (Unspecified)	1.133	1.125	1.338	1.259
620	Tilling/Harvest Operations - Dust	1.000	1.000	0.672	1.000

TABLE III-2-18 (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	0.474	0.474
620	Livestock Husbandry - Layers	1.000	1.000	0.975	0.975
620	Livestock Husbandry - Others	1.000	1.000	1.000	1.000
630	Building And Road Construction - Dust	1.452	1.484	2.471	1.842
640	Paved Road Travel - Freeways - Dust	1.023	1.065	1.223	1.141
640	Paved Road Travel - (Unspecified) - Dust	1.000	1.000	1.000	1.000
640	Paved Road Travel - Major Streets - Dust	1.019	1.061	1.353	1.226
640	Paved Road Travel - Collector/Local Streets - Dust	0.990	1.120	1.287	1.177
645	Unpaved Road Travel - Farm Roads - Dust	1.000	1.000	0.672	1.000
645	Unpaved Road Travel - Others - Dust	1.000	1.000	1.000	1.000
650	Agricultural Lands - Windblown Dust	0.400	0.387	0.656	0.464
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	0.672	1.000
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	1.263	1.264
690	Cooking	1.163	1.208	1.669	1.389
699	Domestic Activity - Ammonia	1.094	1.108	1.257	1.188

* 2012 emissions based on information provided by Forest Management Services and special handling for future year emissions.

Emission Trend Analysis

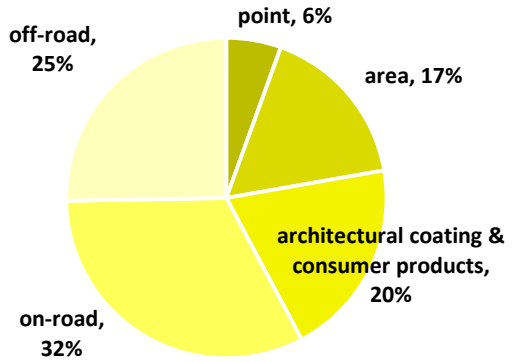
Figures II-2-1 through III-2-14 present the relative contributions by source categories (i.e., point, area, on-road, and off-road) and the primary responsible agency (the agency [U.S. EPA, CARB or SCAQMD] with authority to regulate emissions from the source category) for the years 2012, 2019, 2021, 2022, 2023, 2025, and 2031. These figures present total emission levels from the summer planning inventory for VOC and NOx, and emission levels from the annual average inventories for CO, SOx and PM2.5. Figures 2-15 through 2-18 illustrate the emission trends by pollutant (VOC, NOx, PM2.5, and SOx) for the same years: 2012, 2019, 2021, 2022, 2023, 2025, and 2031.

Significant reductions in NOx, VOC, and CO emissions are shown in the figures, particularly for the mobile source categories, with the on-road category showing the largest reductions for VOC and NOx emissions. Overall, VOC, NOx, and CO emissions are projected to be reduced by 28 percent, 59 percent, and 44 percent between 2012 and 2031. The magnitude of emission reductions through 2019 is greater than that magnitude of emission reductions from 2019 to 2031. This is consistent with the timing of the implementation of the mobile source regulations, which require fleets adopt cleaner equipment on an accelerated timeframe. By 2023, most fleets will be required to operate equipment meeting the most stringent emissions limits required by regulation. Turnover of the last remaining higher emitting equipment and vehicles beyond 2023 yields more modest reductions by 2031, which will not be sufficient to meet the ozone ambient air quality standard. Additional reductions will need to be identified and implemented to ensure attainment of the standard.

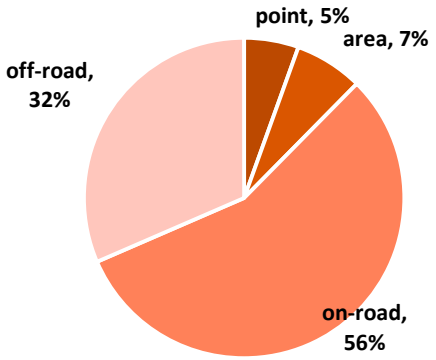
Little or no change in the emissions of PM2.5 and SOx are shown in the figures as expected since there are few new regulations being implemented beyond 2012 affecting the largest source categories of these pollutants. As shown in Figures 2-17 and 2-18, the emissions of SOx and PM2.5 are expected to increase from 2019 to 2031 as emissions growth overtakes the modest emission reductions benefits from fleet turnover to cleaner equipment.

Even-numbered figures from Figure III-2-2 to Figure III-2-14 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 SCAQMD – for all the years modeled. For ozone formation, the Basin's most difficult air quality attainment challenge, VOC and NOx emissions are the most important precursors; sources that are not under SCAQMD regulatory authority are the major contributors. In 2031, over 64 percent of the VOC emissions and 78 percent of the NOx emissions fall under U.S. EPA and CARB control. Conversely, the majority of the SOx and PM2.5 emissions are from sources under SCAQMD authority. This demonstrates that successfully meeting the districts ozone and

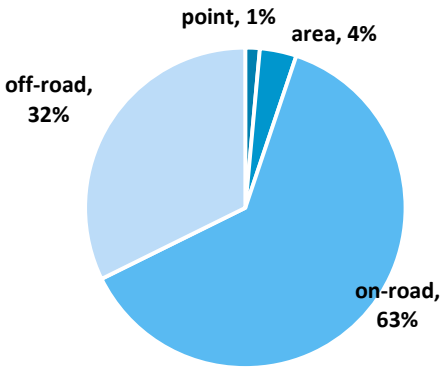
PM2.5 attainment obligations will require collaboration and efforts from all three agencies.



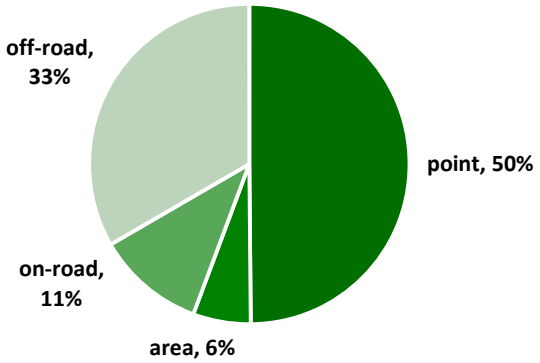
VOC Emissions: 500 tons/day



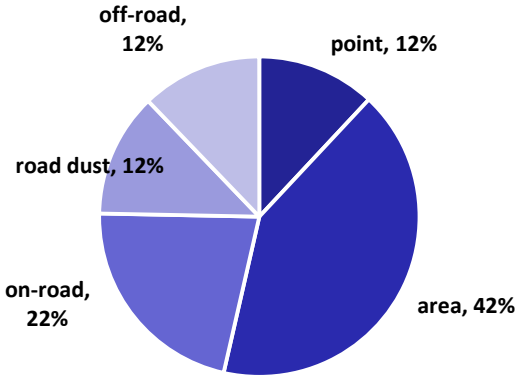
NOx Emissions: 522 tons/day



CO Emissions: 2123 tons/day



SOx Emissions: 18 tons/day



PM2.5 Emissions: 66 tons/day

FIGURE III-2-1

Relative Contribution by Source Category to 2012 Emission Inventory

(VOC & NOx – Summer Planning; CO, SOx, & PM2.5 – Annual Average Inventory)

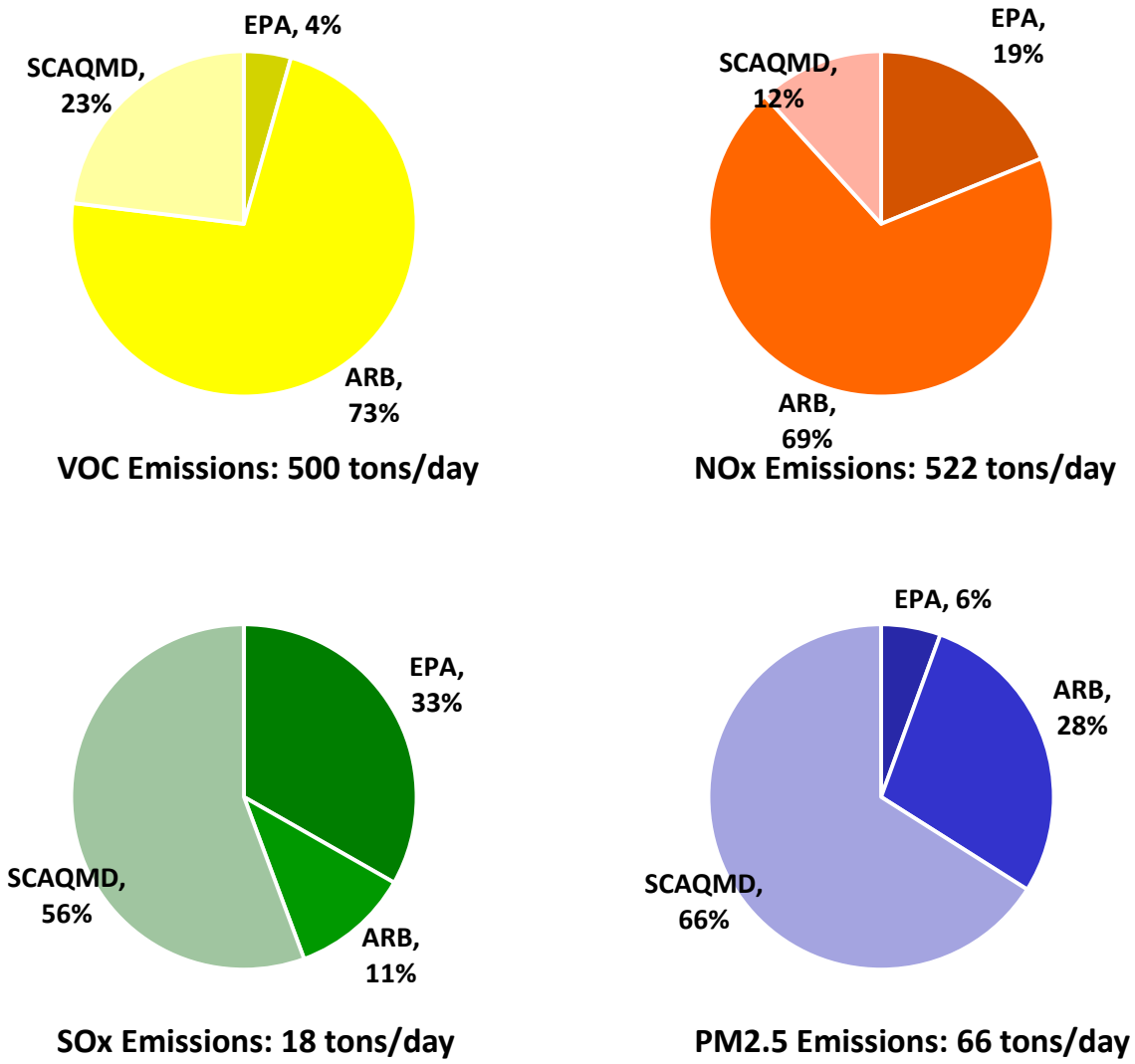
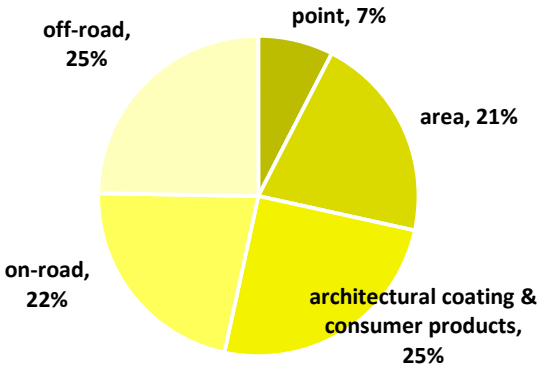


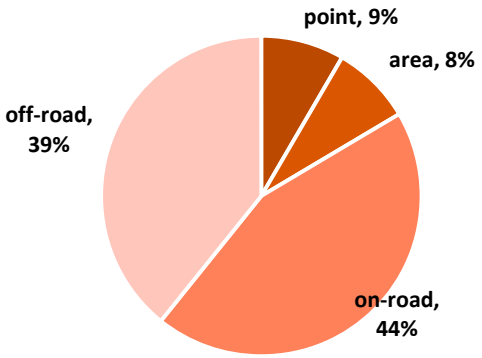
FIGURE III-2-2

2012 Emission Inventory Agency Responsibility

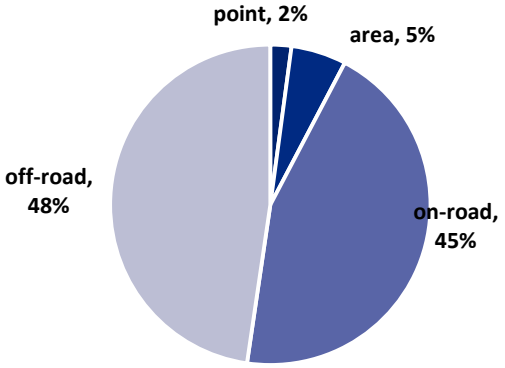
(VOC & NOx – Summer Planning; SOx, & PM2.5 – Annual Average Inventory)



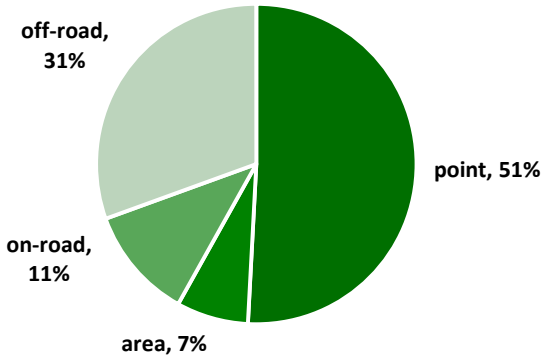
VOC Emissions: 398 tons/day



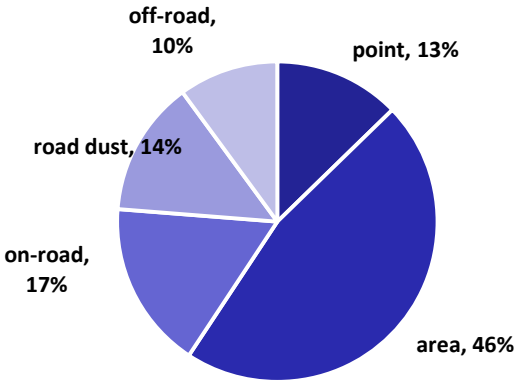
NOx Emissions: 348 tons/day



CO Emissions: 1447 tons/day



SOx Emissions: 17 tons/day



PM2.5 Emissions: 64 tons/day

FIGURE III-2-3

Relative Contribution by Source Category to 2019 Emission Inventory

(VOC & NOx – Summer Planning; CO, SOx, & PM2.5 – Annual Average Inventory)

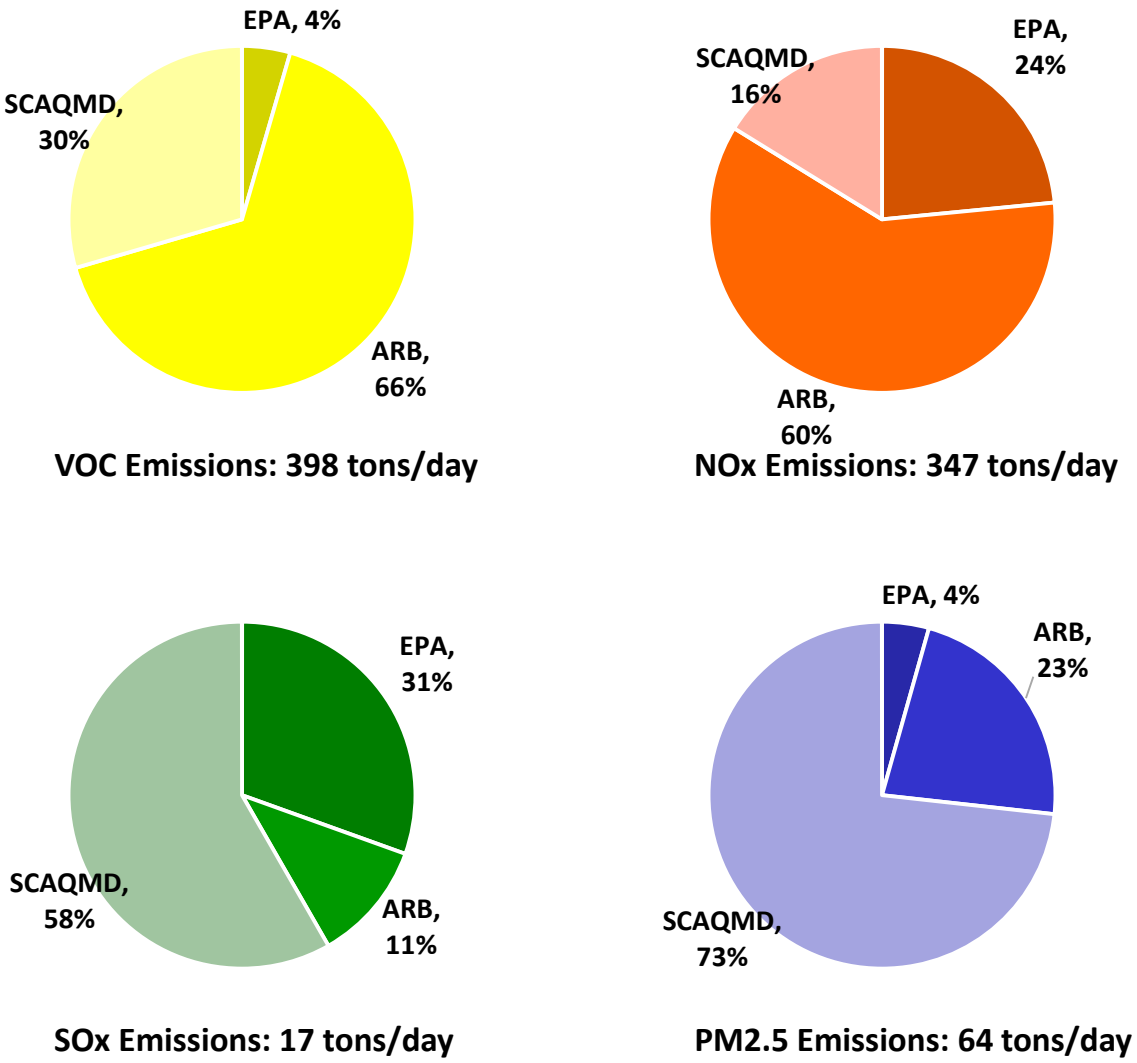
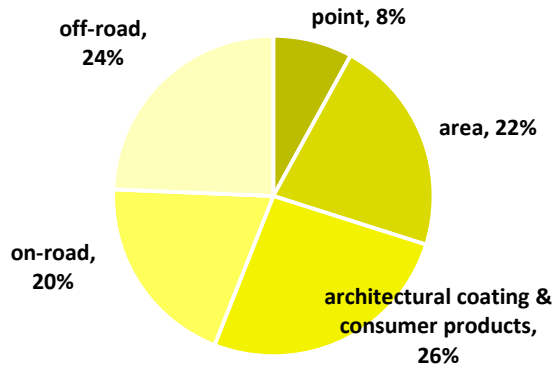


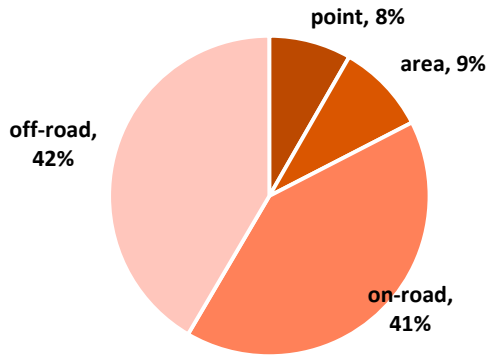
FIGURE III-2-4

2019 Emission Inventory Agency Responsibility

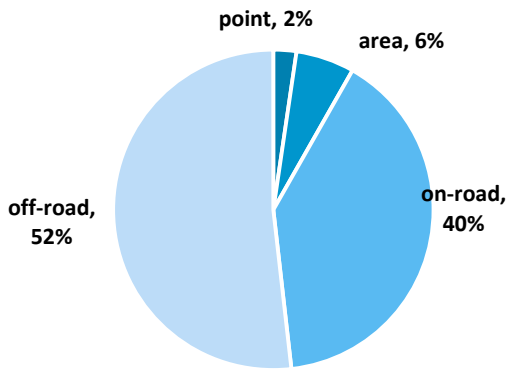
(VOC & NOx – Summer Planning; SOx, & PM2.5 – Annual Average Inventory)



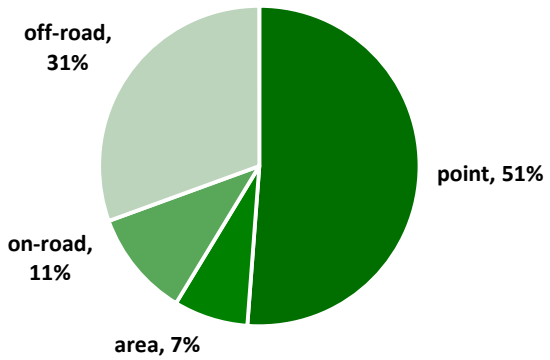
VOC Emissions: 386 tons/day



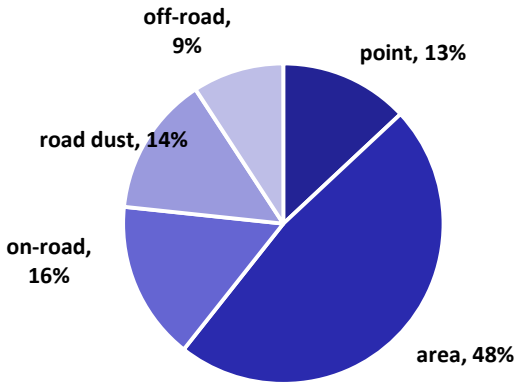
NOx Emissions: 305 tons/day



CO Emissions: 1357 tons/day



SOx Emissions: 17 tons/day



PM2.5 Emissions: 64 tons/day

FIGURE III-2-5

Relative Contribution by Source Category to 2021 Emission Inventory

(VOC & NOx – Summer Planning; CO, SOx, & PM2.5 – Annual Average Inventory)

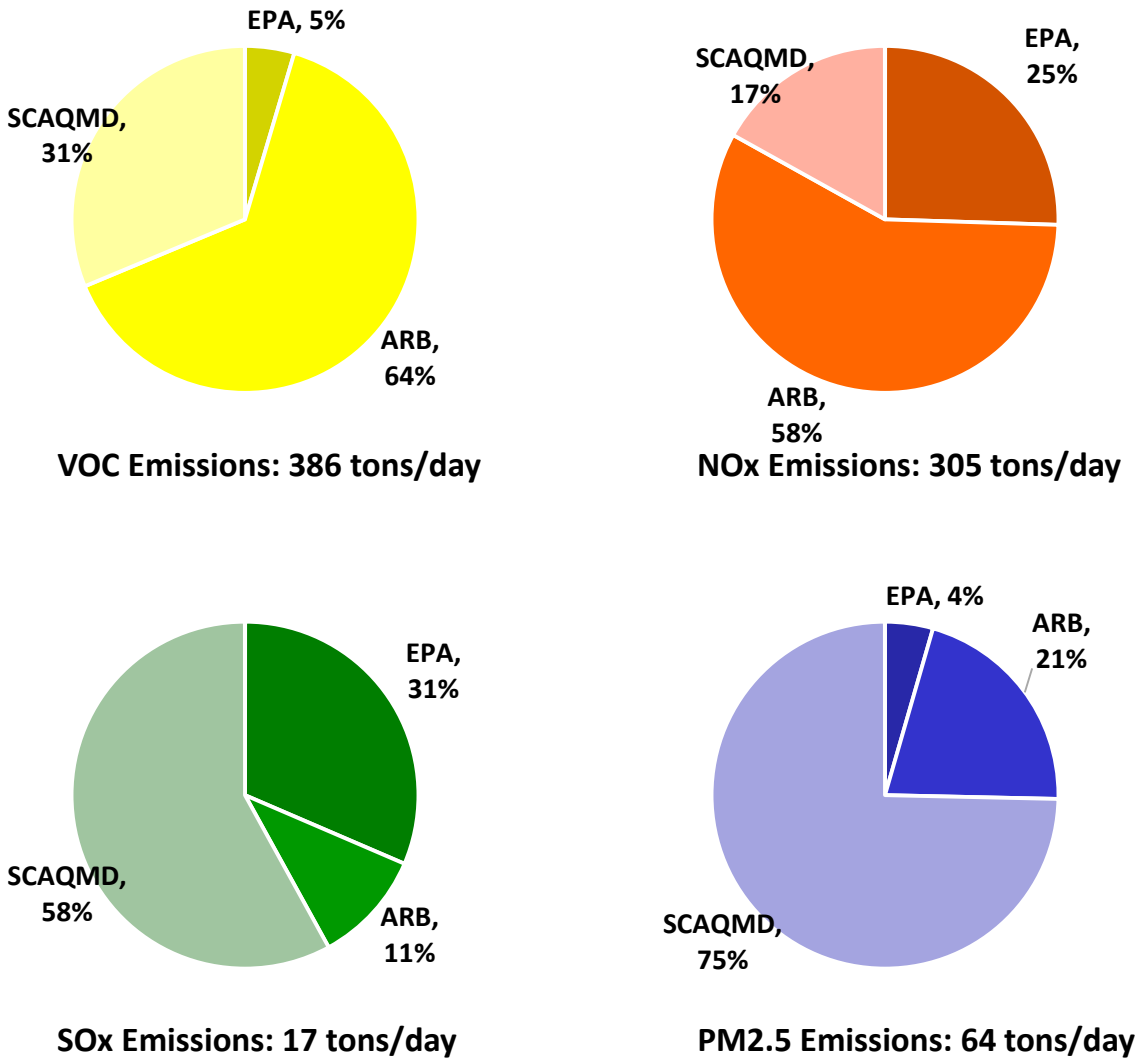
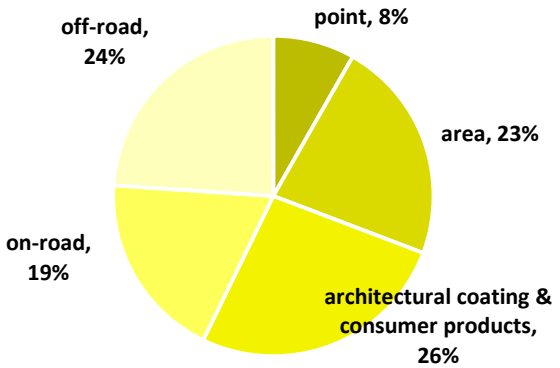


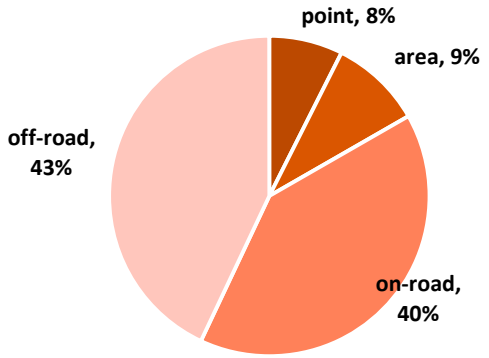
FIGURE III-2-6

2021 Emission Inventory Agency Responsibility

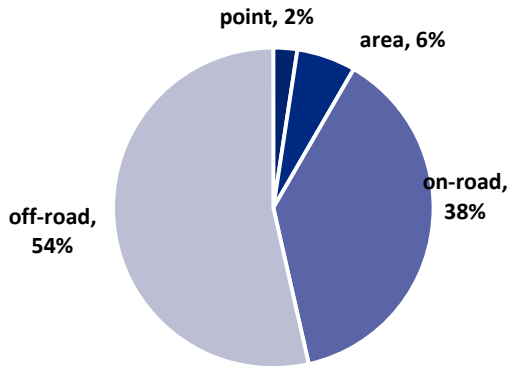
(VOC & NOx – Summer Planning; SOx, & PM2.5 – Annual Average Inventory)



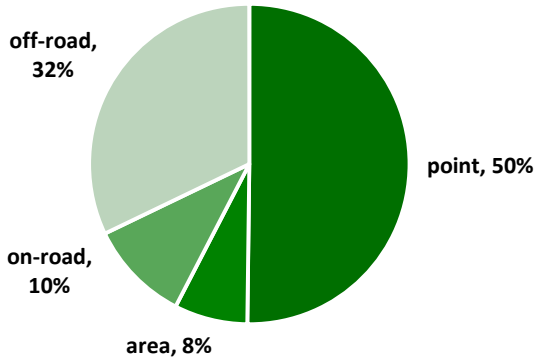
VOC Emissions: 383 tons/day



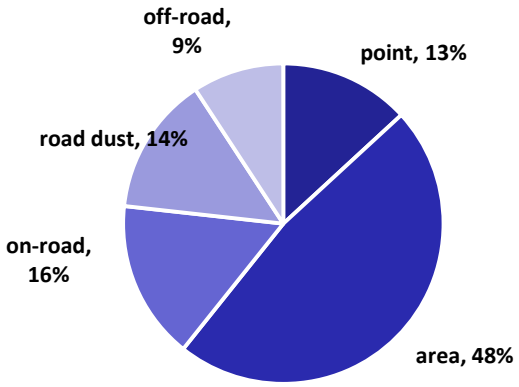
NOx Emissions: 287 tons/day



CO Emissions: 1325 tons/day



SOx Emissions: 17 tons/day



PM2.5 Emissions: 64 tons/day

FIGURE III-2-7

Relative Contribution by Source Category to 2022 Emission Inventory

(VOC & NOx – Summer Planning; CO, SOx, & PM2.5 – Annual Average Inventory)

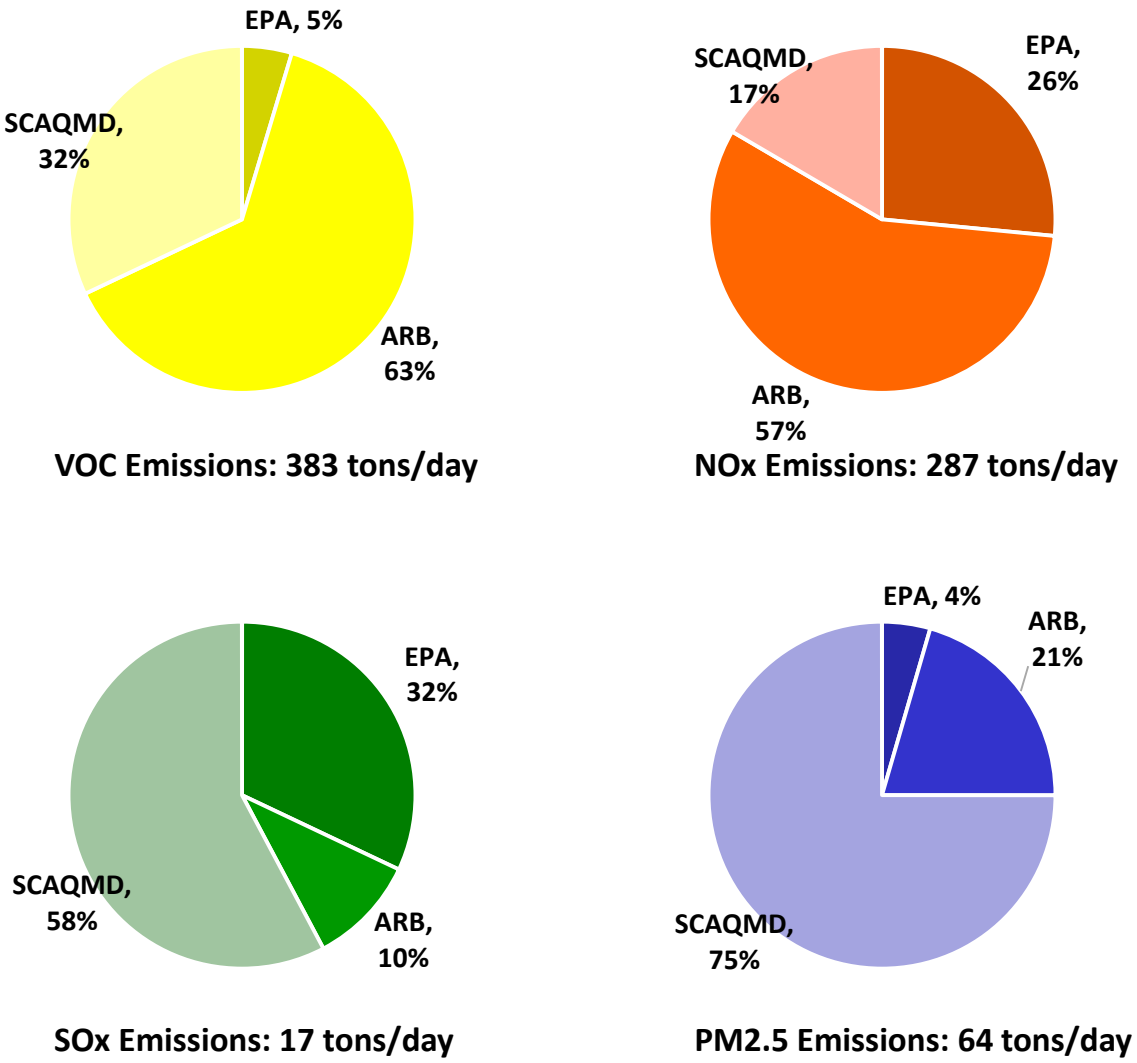
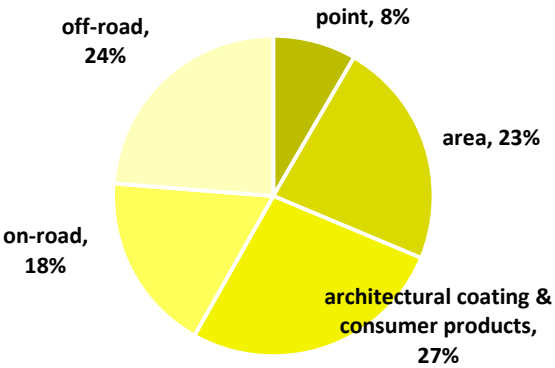


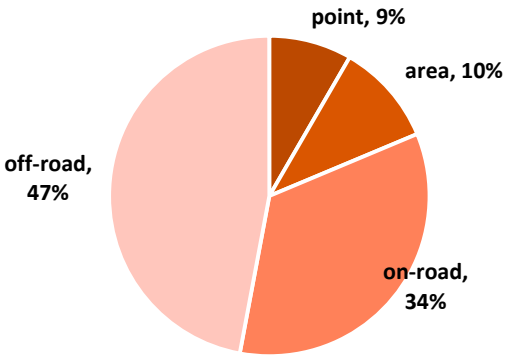
FIGURE III-2-8

2022 Emission Inventory Agency Responsibility

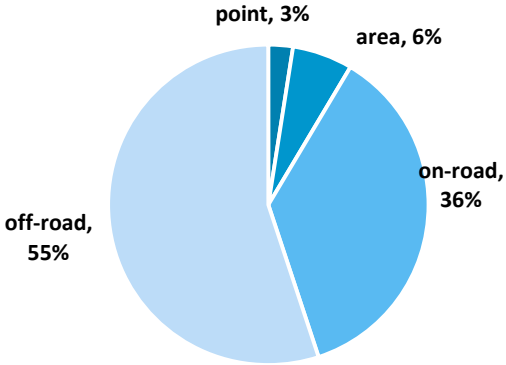
(VOC & NOx – Summer Planning; SOx, & PM2.5 – Annual Average Inventory)



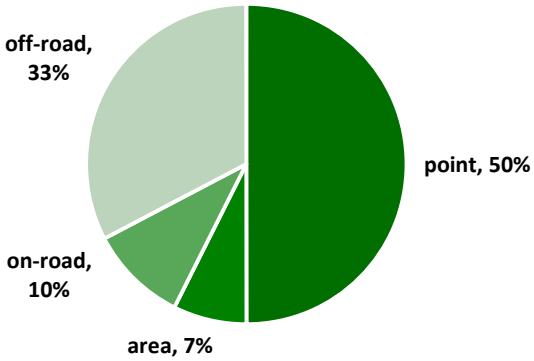
VOC Emissions: 379 tons/day



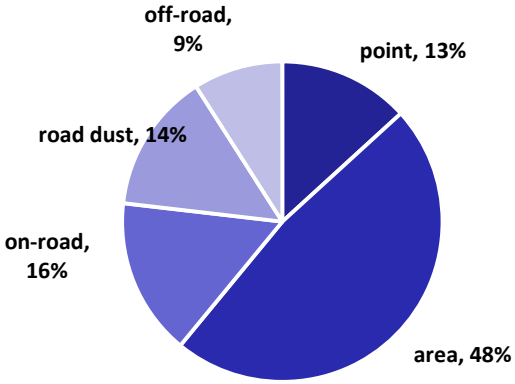
NOx Emissions: 255 tons/day



CO Emissions: 1298 tons/day



SOx Emissions: 17 tons/day



PM2.5 Emissions: 64 tons/day

FIGURE III-2-9

Relative Contribution by Source Category to 2023 Emission Inventory

(VOC & NOx – Summer Planning; CO, SOx, & PM2.5 – Annual Average Inventory)

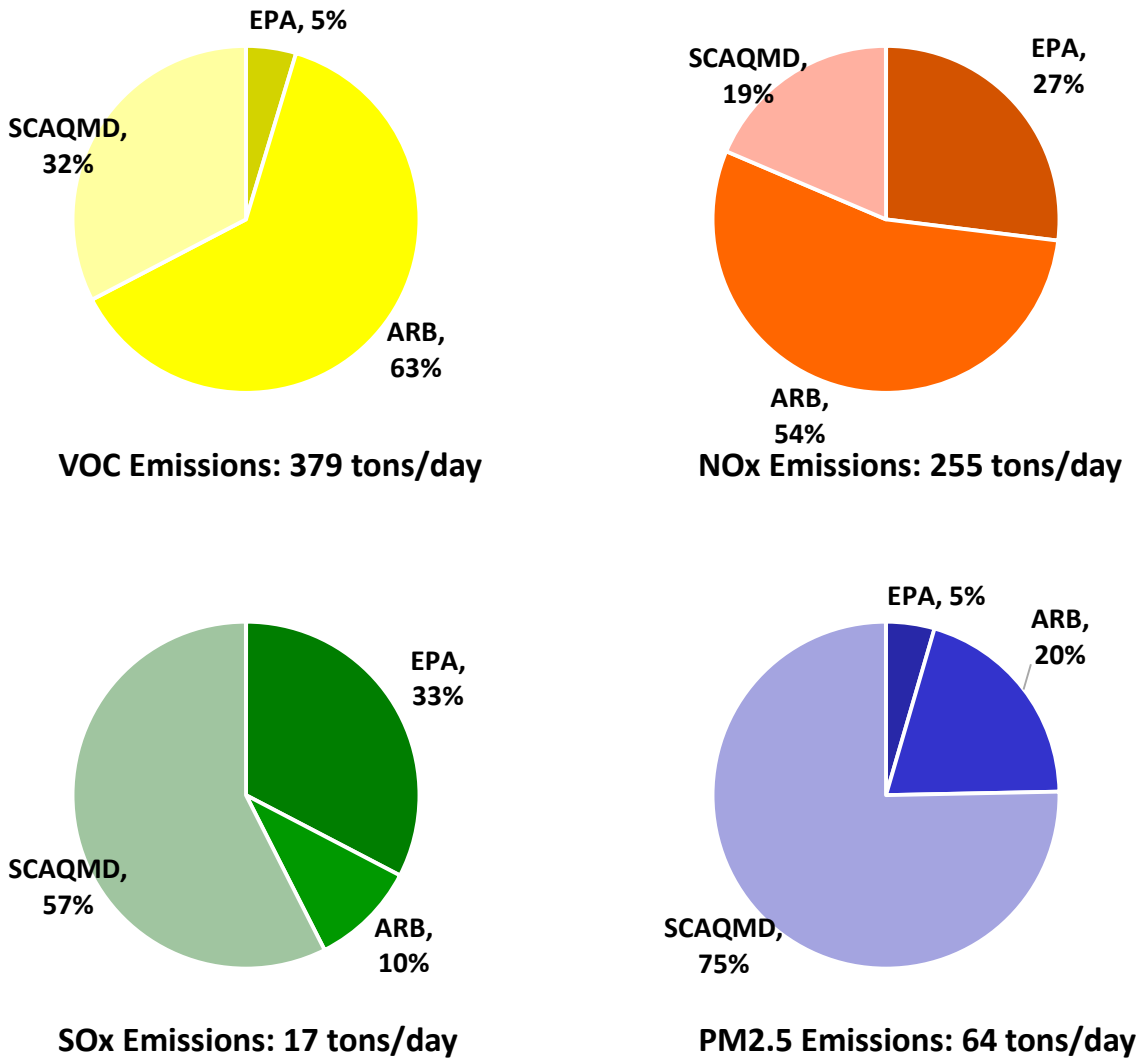


FIGURE III-2-10

2023 Emission Inventory Agency Responsibility

(VOC & NOx – Summer Planning; SOx, & PM2.5 – Annual Average Inventory)

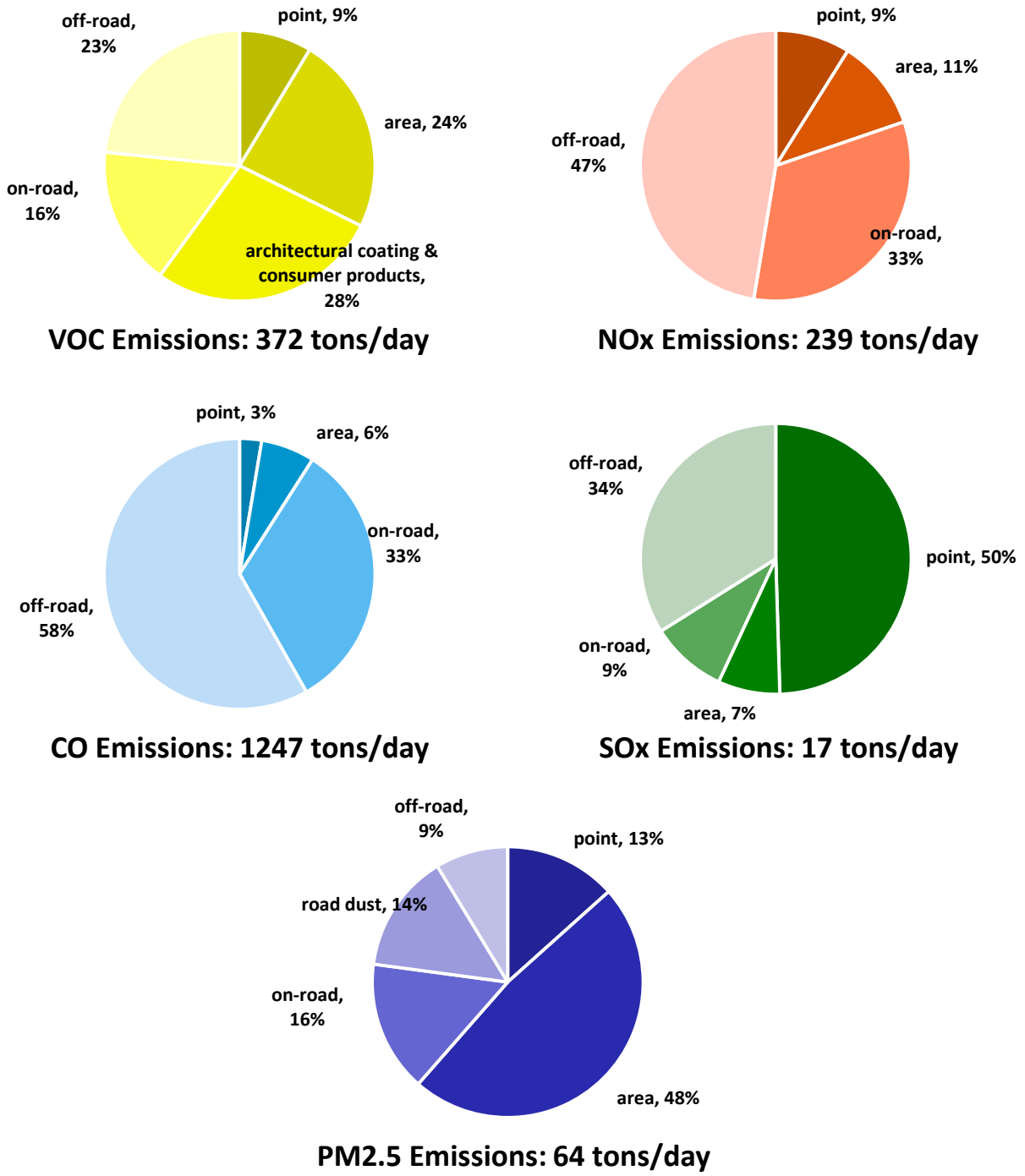


FIGURE III-2-11

Relative Contribution by Source Category to 2025 Emission Inventory

(VOC & NOx – Summer Planning; CO, SOx, & PM2.5 – Annual Average Inventory)

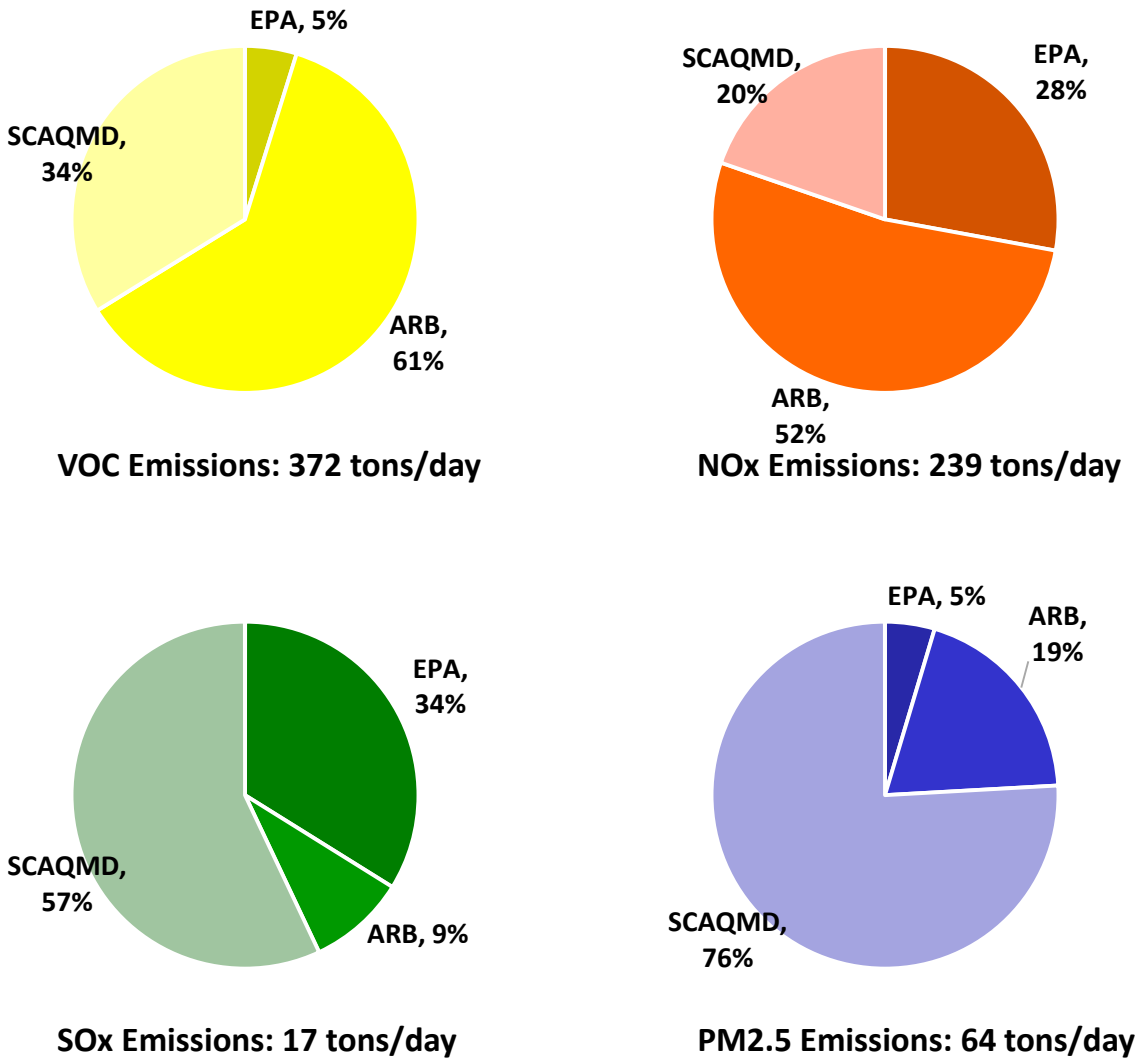
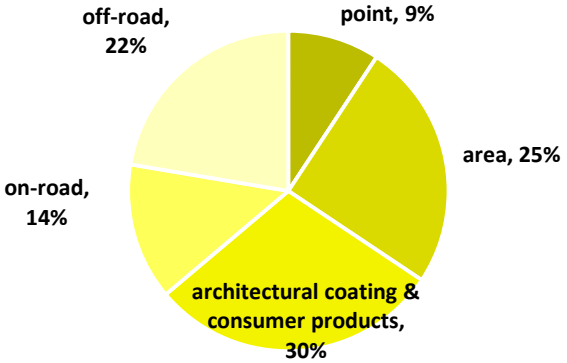


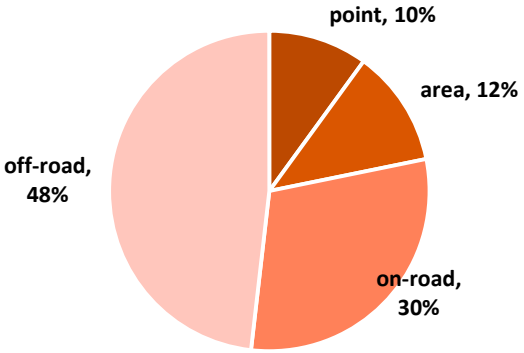
FIGURE III-2-12

2025 Emission Inventory Agency Responsibility

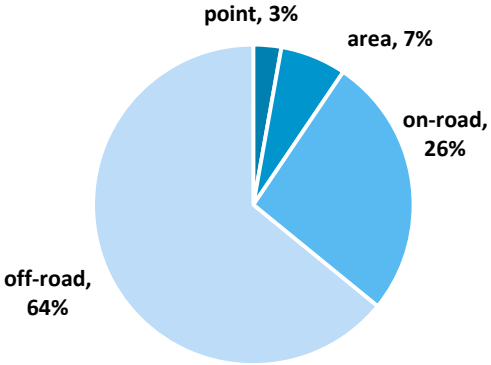
(VOC & NOx – Summer Planning; SOx, & PM2.5 – Annual Average Inventory)



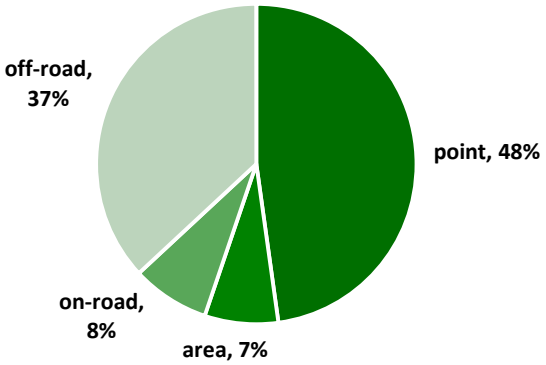
VOC Emissions: 362 tons/day



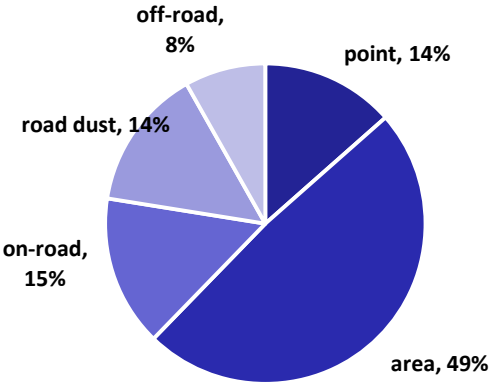
NOx Emissions: 214 tons/day



CO Emissions: 1188 tons/day



SOx Emissions: 18 tons/day



PM2.5 Emissions: 65 tons/day

FIGURE III-2-13

Relative Contribution by Source Category to 2031 Emission Inventory

(VOC & NOx – Summer Planning; CO, SOx, & PM2.5 – Annual Average Inventory)

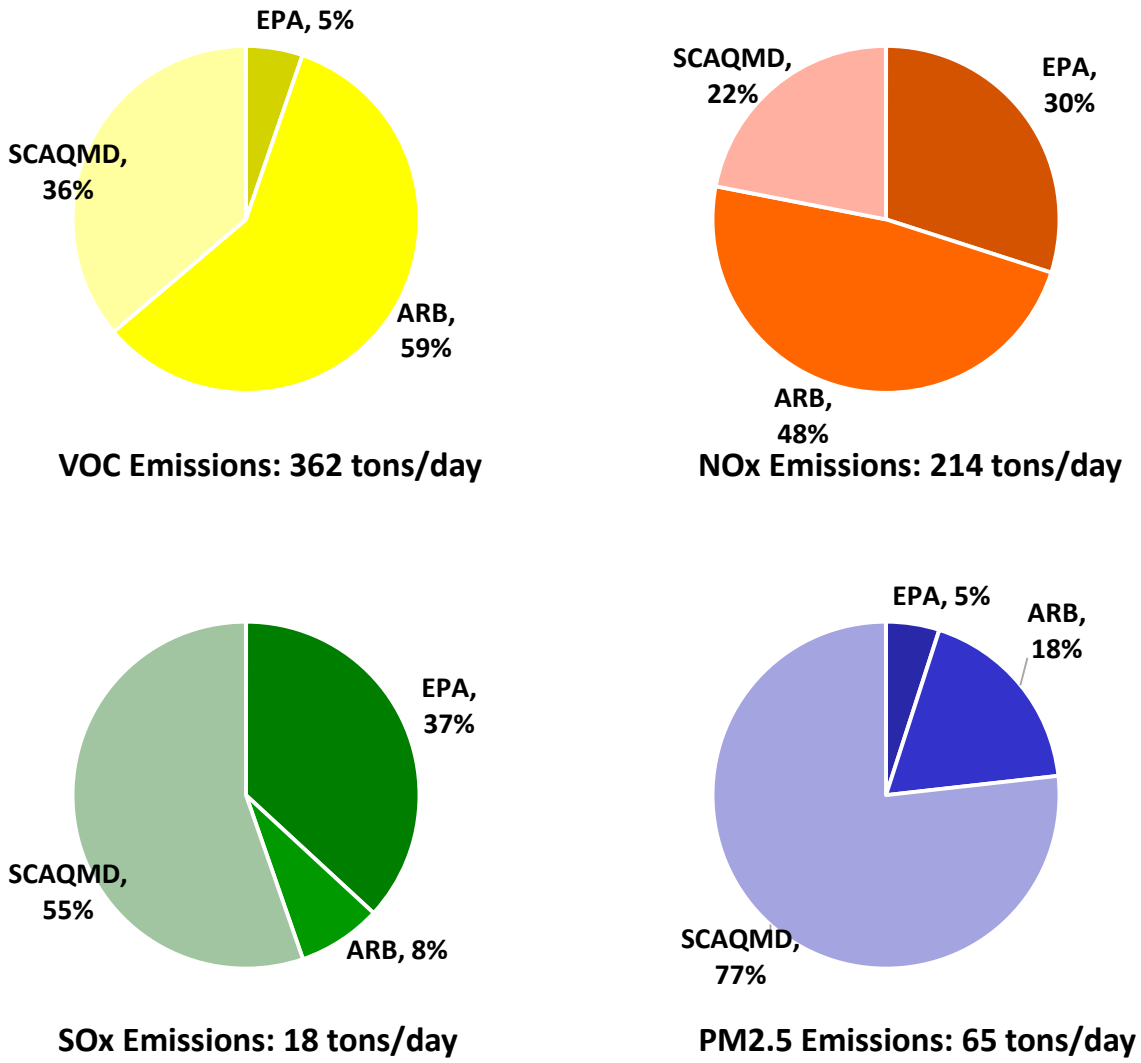


FIGURE III-2-14

2031 Emission Inventory Agency Responsibility

(VOC & NOx – Summer Planning; SOx, & PM2.5 – Annual Average Inventory)

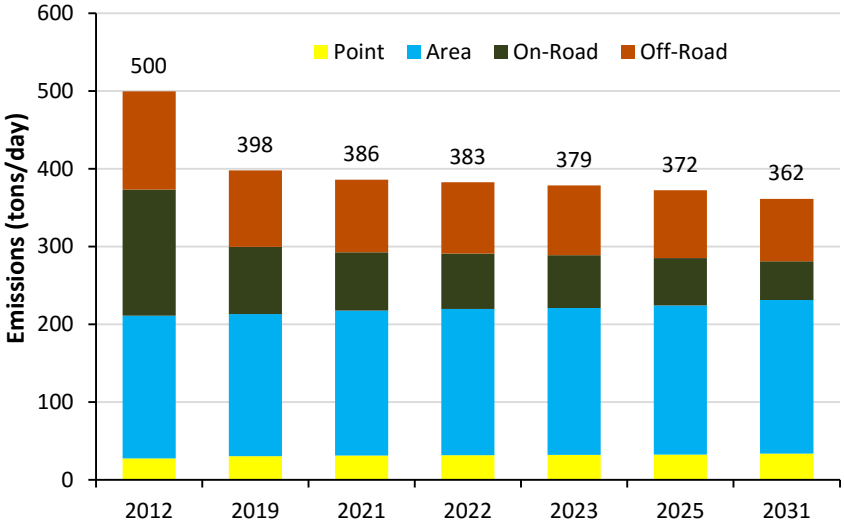


FIGURE III-2-15

VOC Emission Trend by Source Category – Summer Planning

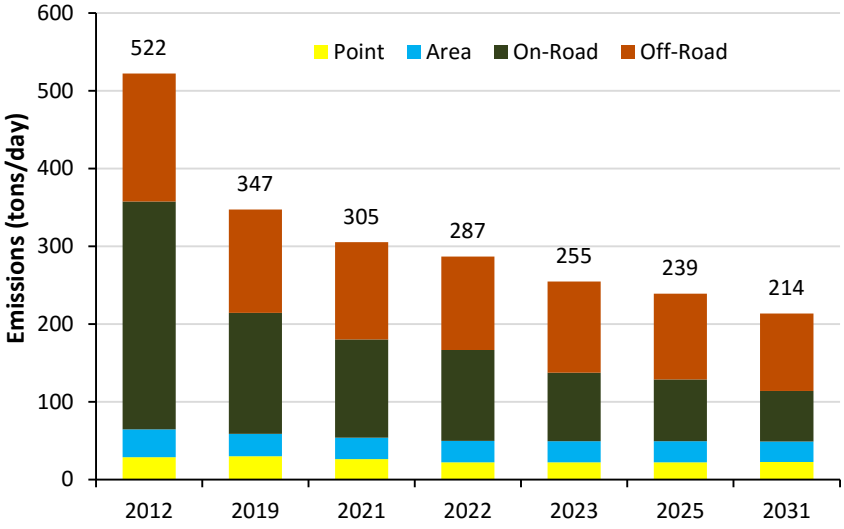


FIGURE III-2-16

NOx Emission Trend by Source Category – Summer Planning

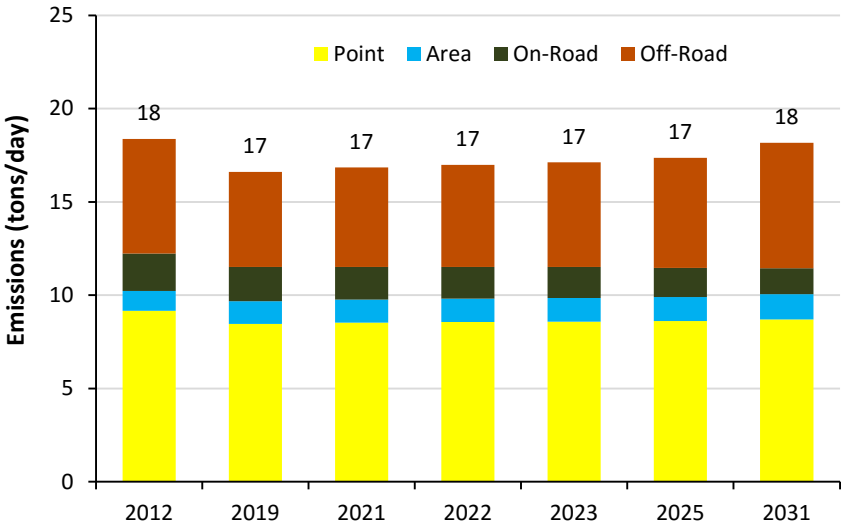


FIGURE III-2-17

SOx Emission Trend by Source Category – Average Annual Day

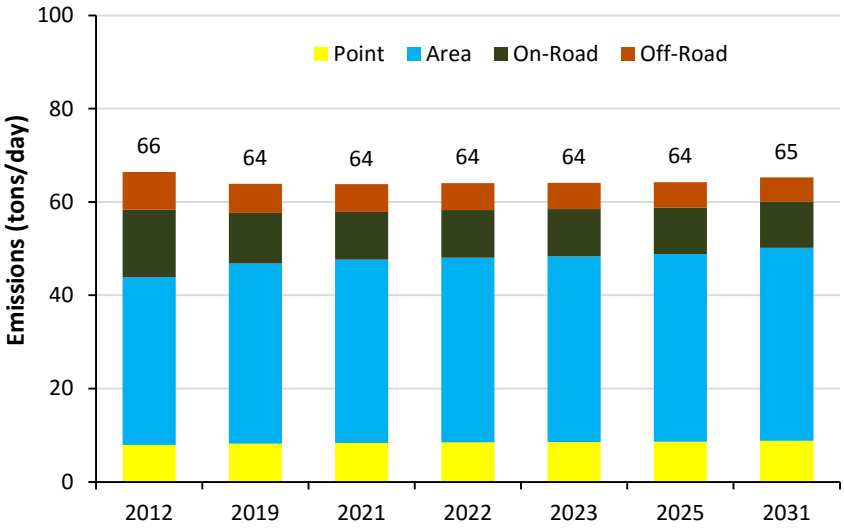


FIGURE III-2-18

PM2.5 Emission Trend by Source Category – Average Annual Day

VOC Emissions

As presented in Figure III-2-15, emissions from off-road and on-road mobile sources show a significant decrease over time, with the majority of the decrease occurring between 2012 and 2019. Between 2012 and 2019, VOC emissions from off-road mobile sources are expected to fall from 126 tons per day to 98 tons per day; from 2019 to 2031, off-road VOC emissions are projected to fall at a much more modest rate to 81 tons per day. On-road emissions show a similar trend, dropping from 162 tons per day to 86 tons per day from 2012 to 2019 and dropping to 49 tons per day by 2031. Off-road reductions will result primarily from turnover to cleaner off-road equipment such as pleasure craft and off-road recreational vehicles meeting more stringent emissions standards adopted by U.S. EPA and 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 growth, both point and area sources are expected to increase from 28 and 183 tons per day in 2012 to 34 and 198 tons per day in 2031, respectively.

NOx Emissions

Figure III-2-16 illustrates the NOx emissions by major source category. NOx emissions are projected to decrease from both off-road mobile (165 tons per day to 100 tons per day) and on-road mobile (293 tons per day to 65 tons per day) sources from 2012 to 2031. As in the case of VOC emissions, most of the anticipated reductions will occur from 2012 to 2019 because most of the regulations affecting mobile sources will be fully implemented by 2023. The reductions for mobile sources largely reflect the vehicle fleet's turnover to newer vehicles meeting more stringent emissions standards. Point sources show a slight increase from 2012 to 2019 due to increase in activity from growth, and after 2019 they decrease slightly. Area sources decline slightly from the effect of regulation implementation.

SOx Emissions

Figure III-2-17 illustrates the SOx emissions trend. SOx emissions show a slight decrease from 2012 to 2019 and then increase through 2031 due to increased activity caused by growth of the major SOx emission source categories (off-road and point sources).

PM2.5 Emissions

Figure III-2-18 shows the PM2.5 emission trend. Point and area sources are projected to increase from 2012 to 2031 due to increased activity from growth. Mobile source tail pipe emissions decrease due to fleet turnover to cleaner vehicles. Overall PM2.5 emissions begin to increase slightly from 2021 to 2031 due to growth.

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.
>
> ***(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 2016 AQMP forecasts the 2031 emissions inventories ‘‘with growth’’ through a detailed consultation process with the Southern California Association of Governments (SCAG). SCAG provides extensive data on demographics and all emissions sources in the South Coast. It performs an exhaustive analysis of the growth in the inventory of sources that is likely to occur through the planning periods of 2031. The region is likely to see a 12 percent growth in population, 16 percent growth in housing units, 23 percent growth in employment, and 8 percent growth in vehicle miles traveled between 2012 and 2031. Emissions for the year 2031 are projected with growth and without growth, (in which case emissions were estimated by removing the growth factors from the 2031 baseline emissions). Per 40 CFR 51.165(a)(3)(i)(C)(1), the District’s growth projections (projected emissions inventories) include the emissions impact of pre-base year offsets. Table III-2-19 presents the comparison of the projected 2031 emissions inventory for all emissions sources for each criteria pollutant with and without growth. . The growth impacts to year 2031 for VOC, NOx, CO, SOx and PM2.5 are 48, 35, 262, 3, and 8 tons per day, respectively. The impact of growth increases emissions from all major categories of sources and pollutants, except for NOX emissions from area sources. The decrease in NOx from area sources is due to the projected decrease in residential fuel combustion due to efficiency gains over time, which offsets any other growth in population.

TABLE III-2-19

Growth Impact to 2031 Emissions* in Tons per Day

WITH GROWTH	VOC	NOx	CO	SOx	PM2.5
Point	30	21	34	9	9
Area	201	29	80	1	32
Road Dust	0	0	0	0	9
On-Road	47	69	309	1	10
Off-Road	66	94	766	7	5
Total	**344**	**213**	**1189**	**18**	**65**
NO GROWTH	**VOC**	**NOX**	**CO**	**SOX**	**PM2.5**
Point	24	20	31	8	8
Area	178	32	78	1	28
Road Dust	0	0	0	0	8
On-Road	46	51	299	1	9
Off-Road	49	76	519	5	4
Total	**297**	**179**	**927**	**15**	**57**
IMPACT OF GROWTH	**VOC**	**NOX**	**CO**	**SOX**	**PM2.5**
Point	6	1	3	1	1
Area	23	-3	2	0	4
Road Dust	0	0	0	0	1
On-Road	1	18	10	0	1
Off-Road	18	19	247	2	1
Total	**48**	**35**	**262**	**3**	**8**

*Annual Average Inventory

As shown in Table III-2-19, the District's growth projections include emissions from the pre-base year offsets, consistent with the requirements of 40 CFR 51.165(a)(3)(i)(C)(1). Each pollutant is discussed here. For PM2.5, the District added emissions into its future year 2031 inventory for growth of both point and area sources. For point sources of

PM2.5, the District added 1 tpd (from 8 tpd to 9 tpd); for area sources 4 tpd were added (from 28 tpd to 32 tpd) in its future year 2031 inventory. Therefore, the District added a total of 5 tpd of PM2.5 emissions to its future year 2031 inventory for all point and area sources. (On-road and off-road sources as well as road dust are not subject to offsets and are not relevant to this calculation.)

For VOC, the District added emissions into its future year 2031 inventory for growth of both point and area sources. For point sources of VOC, the District added 6 tpd (from 24 tpd to 30 tpd); for area sources 23 tpd were added (from 178 tpd to 201 tpd) in its future year 2031 inventory. See Table III-2-19. Therefore, the District added a total of 29 tpd of VOC emissions to its future year 2031 inventory for all point and area sources.

For NOx, the District added emissions into its future year 2031 inventory for growth of both point sources. The District added 1 tpd (from 20 tpd to 21 tpd) for point sources; for area sources 3 tpd were reduced (from 32 tpd to 29 tpd) in its future year 2031 inventory due to the projected decrease in residential fuel combustion caused by efficiency gains over time. See Table III-2-19. Therefore, the District reduced a net of 2 tpd of NOx emissions to its future year 2031 inventory for all point and area sources. However, for purposes of this analysis, it is the point source inventory of NOx that is relevant, since the reduction in emissions from area sources comes entirely from residential fuel combustion, a source category that is not subject to offsets. Therefore, the projected growth for sources that may use pre-base year NOx offsets is 1 tpd (i.e., the point source increase).

For CO, the District added emissions into its future year 2031 inventory for growth of both point and area sources. For point sources of CO, the District added 3 tpd (from 31 tpd to 34 tpd); for area sources 2 tpd were added (from 78 tpd to 80 tpd) in its future year 2031 inventory. See Table III-2-19. Therefore, the District added a total of 5 tpd of CO emissions to its future year 2031 inventory for all point and area sources. (CO is no longer subject to offsets because the Basin is in attainment for CO, but growth projections are still made.)

For SOx, the District added emissions into its future year 2031 inventory for growth of point sources. The District added 1 tpd (from 8 tpd to 9 tpd); for area sources there was no change in its future year 2031 inventory. See Table III-2-19. Therefore, the District added a total of 1 tpd of SOx emissions to its future year 2031 inventory for all point and area sources.

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 2031.

However, not *all* point and area sources are subject to NSR permit requirements. The point and area sources subject to NSR are the only sources for which 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.

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 2012 base year). When those sources shut down, the most their offsets can do is replace the emissions from that shut down source, thus keeping 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, as demonstrated in Table III-2-20, the growth projection for point and area sources subject to NSR consists of emissions from pre-base year shutdowns.

Table III-2-20 shows the difference between growth and no growth in the future year 2031 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 extracts from the 2016 AQMP's emission inventories those point and area sources subject to NSR based on whether the source category includes sources that are required to obtain permits, and excluding source categories, such as architectural coatings, that are not required to obtain permits and thus not subject to offsets.

TABLE III-2-20

Impact of Growth and Point and Area Sources Subject to NSR Offset Requirements (Tons per Day)

IMPACT OF GROWTH	VOC	NOX	CO	SOX	PM2.5
Point	6	1	3	1	1
Area	23	-3	2	0	4
SUBJECT TO NSR					
Point	6	1	3	1	1
Area	11	0	0	0	1
TOTAL Point and Area Sources	17	1	3	1	2

The data in Table III-2-20 shows that the District explicitly included 17 tpd of VOC in its future year 2031 inventory for point and area sources subject to the District's NSR program. The District explicitly included 1 tpd of NOx in its future year 2031 inventory for point sources subject to the District's NSR program. The District explicitly included 3 tpd of CO in its future year 2031 inventory for point sources subject to the District's NSR program. The District explicitly included 1 tpd of SOx in its future year 2031 inventory for point sources subject to the District's NSR program. And finally, the District explicitly included 2 tpd of PM2.5 in its future year 2031 inventory for point and area sources subject to the District's NSR program.

Table III-2-21a provides all the stationary source categories and the "no growth" VOC, CO, NOx, SOx and PM2.5 emissions from area and point sources that are subject to NSR. Table III-2-21b provides the total area and point source emissions from Table III-2-21a. Table III-2-22a provides all the stationary source categories and the "growth" VOC, CO, NOx, SOx and PM2.5 emissions from area and point sources that are subject to NSR. Table III-2-22b provides the total area and point source emissions from Table III-2-22a. Table III-2-23 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-2-21b and III-2-22b. In addition, these emissions match the totals provided in Table III-2-20 and Table III-2-24.

TABLE III-2-21a

2031 Stationary Source Categories for Area and Point Sources with No Growth (Tons per Day)

	AREA SOURCES					POINT SOURCES				
Source Category	**VOC**	**CO**	**NOx**	**SOx**	**PM2.5**	**VOC**	**CO**	**NOx**	**SOx**	**PM2.5**
Electric Utilities	0	0	0	0	0	1.06	8.28	0.15	0.32	1.2
Cogeneration	0.02	0.14	0.01	0	0.01	0.08	0.38	0	0.01	0.14
Oil and Gas Production (combustion)	0.03	0.16	0.61	0	0.01	0.07	0.59	0.06	0.01	0.09
Petroleum Refining (Combustion)	0	0	0	0	0	1.01	4.95	0	0	1.49
Manufacturing and Industrial	3.49	11.43	8.38	0.16	0.71	0.39	3.14	0.75	0.08	0.38
Food and Agricultural Processing	0	0.01	0.01	0	0	0.03	0.27	0.1	0	0.03
Service and Commercial	4.09	11.54	7.24	0.34	0.76	0.76	5.04	2.21	0.81	0.63
Other (Fuel Combustion)	0.09	0.61	1.95	0.01	0.04	0.13	1.76	0.25	0.12	0.13
Sewage Treatment	0	0	0	0	0	0.34	0.01	0.01	0.03	0
Landfills	8.3	0	0	0	0	0.08	0.47	0.59	0.32	0.13
Incineration	0	0	0	0	0	0.07	0.48	1.33	0.13	0.07
Soil Remediation	0	0	0	0	0	0	0	0	0	0
Other (Waste Disposal)	6.32	0	0	0	0	0	0	0	0	0
Laundering	0.13	0	0	0	0	0	0	0	0	0
Degreasing	8.67	0	0	0	0	1.44	0	0	0	0
Coatings and Related Processes	13.99	0	0	0	1.14	4.24	0.01	0.01	0	0.23
Printing	0.51	0	0	0	0	1	0	0	0	0
Adhesives and Sealants	3.37	0	0	0	0	0.06	0	0	0	0
Other (Cleaning and Surface Coatings)	0.48	0	0	0	0	0.21	0.05	0.02	0	0.04
Oil and Gas Production	1.31	0.02	0	0.06	0	1	0	0.01	0	0
Petroleum Refining	0	0	0	0	0	4.49	5.09	0.25	0.36	1.5
Petroleum Marketing	13.21	0	0	0	0	1.48	0.01	0.01	0	0
Other (Petroleum Production/Marketing)	0	0	0	0	0	0.08	0	0	0	0
Chemical	2.16	0	0	0	0.22	2.75	0.03	0.01	0.01	0.18
Food and Agriculture	0.39	0	0	0	0	0.76	0	0	0.01	0.1
Mineral Processes	0	0	0	0	1.98	0.65	0.15	0.01	0	0.73
Metal Processes	0	0	0	0	0.03	0.12	0.17	0.04	0.09	0.17
Wood and Paper	0	0	0	0	2.25	0.24	0	0	0	0.11
Glass and Related Products	0	0	0	0	0	0	0	0	0	0.1
Electronics	0	0	0	0	0	0.02	0	0	0	0.01
Other (Industrial Processes)	1.76	0	0	0	0	1.29	0.11	0.02	0	0.47
RECLAIM								14.51	6.08	
TOTAL (tons per day)	**68.32**	**23.91**	**18.2**	**0.57**	**7.15**	**23.85**	**30.99**	**20.34**	**8.38**	**7.93**

TABLE III-2-21b

2031 Stationary Source Categories for Total Area and Point Sources with No Growth (Tons per Day)

	TOTAL AREA AND POINT SOURCES				
Source Category	**VOC**	**CO**	**NOx**	**SOx**	**PM2.5**
Electric Utilities	1.06	8.28	0.15	0.32	1.2
Cogeneration	0.1	0.52	0.01	0.01	0.15
Oil and Gas Production (combustion)	0.1	0.75	0.67	0.01	0.1
Petroleum Refining (Combustion)	1.01	4.95	0	0	1.49
Manufacturing and Industrial	3.88	14.57	9.13	0.24	1.09
Food and Agricultural Processing	0.03	0.28	0.11	0	0.03
Service and Commercial	4.85	16.58	9.45	1.15	1.39
Other (Fuel Combustion)	0.22	2.37	2.2	0.13	0.17
Sewage Treatment	0.34	0.01	0.01	0.03	0
Landfills	8.38	0.47	0.59	0.32	0.13
Incineration	0.07	0.48	1.33	0.13	0.07
Soil Remediation	0	0	0	0	0
Other (Waste Disposal)	6.32	0	0	0	0
Laundering	0.13	0	0	0	0
Degreasing	10.11	0	0	0	0
Coatings and Related Processes	18.23	0.01	0.01	0	1.37
Printing	1.51	0	0	0	0
Adhesives and Sealants	3.43	0	0	0	0
Other (Cleaning and Surface Coatings)	0.69	0.05	0.02	0	0.04
Oil and Gas Production	2.31	0.02	0.01	0.06	0
Petroleum Refining	4.49	5.09	0.25	0.36	1.5
Petroleum Marketing	14.69	0.01	0.01	0	0
Other (Petroleum Production/Marketing)	0.08	0	0	0	0
Chemical	4.91	0.03	0.01	0.01	0.4
Food and Agriculture	1.15	0	0	0.01	0.1
Mineral Processes	0.65	0.15	0.01	0	2.71
Metal Processes	0.12	0.17	0.04	0.09	0.2
Wood and Paper	0.24	0	0	0	2.36
Glass and Related Products	0	0	0	0	0.1
Electronics	0.02	0	0	0	0.01
Other (Industrial Processes)	3.05	0.11	0.02	0	0.47
RECLAIM	0	0	14.51	6.08	0
TOTAL (tons per day)	**92.17**	**54.9**	**38.54**	**8.95**	**15.08**

TABLE III-2-22a

2031 Stationary Source Categories for Area and Point Sources with Growth (Tons per Day)

	AREA SOURCES					POINT SOURCES				
Source Category	**VOC**	**CO**	**NOx**	**SOx**	**PM2.5**	**VOC**	**CO**	**NOx**	**SOx**	**PM2.5**
Electric Utilities	0	0	0	0	0	0.94	7.26	0.13	0.28	1.07
Cogeneration	0.02	0.12	0.01	0	0.01	0.09	0.59	0	0.02	0.15
Oil and Gas Production (combustion)	0.04	0.17	0.66	0	0.01	0.08	0.64	0.07	0.01	0.09
Petroleum Refining (Combustion)	0	0	0	0	0	1.01	4.95	0	0	1.49
Manufacturing and Industrial	3.85	12.98	8.73	0.22	0.68	0.5	4.05	0.95	0.11	0.5
Food and Agricultural Processing	0	0.01	0.01	0	0	0.04	0.33	0.14	0	0.04
Service and Commercial	3.61	10.15	6.56	0.53	0.67	0.97	6.55	2.47	0.96	0.81
Other (Fuel Combustion)	0.09	0.6	1.95	0.01	0.04	0.16	2.17	0.3	0.16	0.14
Sewage Treatment	0	0	0	0	0	0.47	0.01	0.01	0.04	0.01
Landfills	9.45	0	0	0	0	0.1	0.58	0.73	0.39	0.16
Incineration	0	0	0	0	0	0.09	0.66	1.76	0.16	0.09
Soil Remediation	0	0	0	0	0	0	0	0	0	0
Other (Waste Disposal)	6.32	0	0	0	0	0	0	0	0	0
Laundering	0.16	0	0	0	0	0.01	0	0	0	0
Degreasing	13.61	0	0	0	0	2.19	0	0	0	0
Coatings and Related Processes	19.47	0	0	0	1.47	5.84	0.01	0.02	0	0.32
Printing	0.65	0	0	0	0	1.38	0	0	0	0
Adhesives and Sealants	5.29	0	0	0	0	0.1	0	0	0	0
Other (Cleaning and Surface Coatings)	0.75	0	0	0	0	0.29	0.07	0.03	0	0.05
Oil and Gas Production	1.42	0.02	0	0.06	0	1.1	0	0.03	0	0
Petroleum Refining	0	0	0	0	0	4.58	5.27	0.25	0.36	1.54
Petroleum Marketing	9.24	0	0	0	0	1.77	0.01	0.01	0	0
Other (Petroleum Production/Marketing)	0	0	0	0	0	0.12	0	0	0	0
Chemical	3.1	0	0	0	0.32	3.94	0.04	0.01	0.01	0.28
Food and Agriculture	0.49	0	0	0	0	0.93	0	0	0.01	0.13
Mineral Processes	0	0	0	0	2.03	0.88	0.18	0.01	0	0.85
Metal Processes	0	0	0	0	0.04	0.16	0.21	0.05	0.11	0.23
Wood and Paper	0	0	0	0	3.17	0.31	0	0	0	0.14
Glass and Related Products	0	0	0	0	0	0	0	0	0	0.13
Electronics	0	0	0	0	0	0.04	0	0	0	0.02
Other (Industrial Processes)	1.97	0	0	0	0	1.61	0.15	0.03	0	0.57
RECLAIM								14.51	6.08	
TOTAL (tons per day)	**79.53**	**24.05**	**17.92**	**0.82**	**8.44**	**29.7**	**33.73**	**21.51**	**8.7**	**8.81**

TABLE III-2-22b

2031 Stationary Source Categories for Total Area and Point Sources with Growth (Tons per Day)

	TOTAL AREA AND POINT SOURCES				
Source Category	**VOC**	**CO**	**NOx**	**SOx**	**PM2.5**
Electric Utilities	0.94	7.26	0.13	0.28	1.07
Cogeneration	0.11	0.71	0.01	0.02	0.16
Oil and Gas Production (combustion)	0.12	0.81	0.73	0.01	0.1
Petroleum Refining (Combustion)	1.01	4.95	0	0	1.49
Manufacturing and Industrial	4.35	17.03	9.68	0.33	1.18
Food and Agricultural Processing	0.04	0.34	0.15	0	0.04
Service and Commercial	4.58	16.7	9.03	1.49	1.48
Other (Fuel Combustion)	0.25	2.77	2.25	0.17	0.18
Sewage Treatment	0.47	0.01	0.01	0.04	0.01
Landfills	9.55	0.58	0.73	0.39	0.16
Incineration	0.09	0.66	1.76	0.16	0.09
Soil Remediation	0	0	0	0	0
Other (Waste Disposal)	6.32	0	0	0	0
Laundering	0.17	0	0	0	0
Degreasing	15.8	0	0	0	0
Coatings and Related Processes	25.31	0.01	0.02	0	1.79
Printing	2.03	0	0	0	0
Adhesives and Sealants	5.39	0	0	0	0
Other (Cleaning and Surface Coatings)	1.04	0.07	0.03	0	0.05
Oil and Gas Production	2.52	0.02	0.03	0.06	0
Petroleum Refining	4.58	5.27	0.25	0.36	1.54
Petroleum Marketing	11.01	0.01	0.01	0	0
Other (Petroleum Production/Marketing)	0.12	0	0	0	0
Chemical	7.04	0.04	0.01	0.01	0.6
Food and Agriculture	1.42	0	0	0.01	0.13
Mineral Processes	0.88	0.18	0.01	0	2.88
Metal Processes	0.16	0.21	0.05	0.11	0.27
Wood and Paper	0.31	0	0	0	3.31
Glass and Related Products	0	0	0	0	0.13
Electronics	0.04	0	0	0	0.02
Other (Industrial Processes)	3.58	0.15	0.03	0	0.57
RECLAIM	0	0	14.51	6.08	0
TOTAL (tons per day)	**109.23**	**57.78**	**39.43**	**9.52**	**17.25**

TABLE III-2-23

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 (tpd)	109.23	57.78	39.43	9.52	17.25
TOTAL with No Growth (tpd)	92.17	54.9	38.54	8.95	15.08
Difference in Growth (tpd)	**17**	**3**	**1**	**1**	**2**

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 SCAQMD 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 14 years, rather than the District's internal bank, was used as an estimate of what could be used annually from the private market in the future. The issuance of offsets from the SCAQMD 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[1]. 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 2012.

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-2-24 provides the estimated future demand for each criteria pollutant based on issuance of offsets from the SCAQMD internal banks and from the projected annual usage from non-SCAQMD providers. Table III-2-24 demonstrates the point source growth estimate is sufficient to account for the projected demand.

[1] Incremental annual was determined by Rule 1315 Cumulative Net divided by the number of program years. For example, by 2030, the VOC cumulative net = 25.24 tpd/20 years = 1.26 tpd VOC annual average. For NOx, 1.96 tpd/20 years = 0.10 tpd NOx annual average. For SOx, 0.61 tpd/20 years = 0.03 tpd SOx annual average. For PM, 3.83 tpd/20 years = 0.19 tpd PM annual average.

TABLE III-2-24

Projected Annual Offset Demand (Tons per Day)

	VOC	NOx	SOx	PM2.5
SCAQMD Internal Banks	1.26	0.10	0.03	0.19
Open Market ERC Use	0.359	0.026	0.007	0.021
TOTAL Projected Annual Demand	1.62	0.12	0.04	0.21
TOTAL AREA AND POINT SOURCES SUBJECT TO NSR	17	1	1	2

General Conformity Budget

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 SCAQMD 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 PM2.5. The general conformity de minimis threshold is 10 tons per year of VOC and 10 tons per year of NOx for extreme ozone nonattainment areas; and 100 tons per year of PM2.5 for PM2.5 nonattainment areas.

Based on historical records none of the projects requiring general conformity determinations received by the District exceeded the PM2.5 threshold. Rather, NOx is the main pollutant of concern, with emissions occurring primarily during the two to three year construction phase of projects. To streamline the review process and to facilitate the conformity determination, two separate VOC and NOx general conformity budgets were established in the 2012 AQMP. They were 1 TPD of NOx and 0.2 TPD of VOC set aside for every year, starting in 2013 until 2030.

The District set up a tracking system for projects requiring conformity determinations on a first come first serve basis. The projects that were accommodated under the set-aside general conformity account were Los Angeles International Airport (LAX) Landside Access Modernization Projects (LAMP) and general aviation improvement program by John Wayne Airport (JAW). The LAX LAMP will have construction phase of the project from 2017 to 2023. The NOx and VOC emissions from the project will be above the de minimis threshold thus subject to the general conformity determination. The amount of NOx and VOC emissions proposed by the LAX are listed in Tables III-2-25 and III-2-26.

TABLE III-2-25

Summary of LAX LAMP Construction NOx Emissions

	NOx Emissions, tons per year						
Emission Source	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Off-Road, On-Site Equipment [a.]	56	94	105	124	82	37	30
On-Road, On-Site Trucks [b.]	8	18	21	16	11	7	6
On-Road, Off-Site Haul & Deliveries [b.]	16	45	59	51	22	15	13
On-Road, Off-Site Worker Trips	2	7	8	6	7	4	4
Total	**82**	**164**	**194**	**198**	**122**	**63**	**53**

a. Assumes the fleet average emissions from off-road construction equipment meets the Tier 3 NOx Standards.
b. Assumes the fleet average emissions from on-road trucks meets the phased-in 2007 model year NOx standard (~1.2 g/mile).

TABLE III-2-26

Summary of LAX LAMP Construction VOC Emissions

	VOC Emissions, tons per year						
Emission Source	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Off-Road, On-Site Equipment [a.]	3	5	6	7	4	2	2
On-Road, On-Site Trucks [b.]	2	8	13	18	16	10	9
On-Road, Off-Site Haul & Deliveries [b.]	1	2	3	3	1	1	1
On-Road, Off-Site Worker Trips	4	17	19	15	16	11	9
Total	**10**	**32**	**41**	**42**	**37**	**23**	**21**

a. Assumes the fleet average emissions from off-road construction equipment meets the Tier 3 VOC Standards.
b. Assumes the fleet average emissions from on-road trucks meets the phased-in 2007 model year VOC standard (0.14 g/mile).

The County of Orange, John Wayne Airport (JWA) submitted a request to accommodate a project, 'General Aviation Improvement Program', which will begin in 2018 and end in 2020. All but the NOx emissions were below the general conformity de minimis levels. The summary of emissions associated with the project is summarized in Table III-2-27.

TABLE III-2-27

Estimated Emissions (TPD) from the JWA General Aviation Improvement Program

Calendar Year	Category	VOC	CO	NO_X	PM_{10}	$PM_{2.5}$
2018	Off-Road	1.58	10.68	16.99	0.72	0.66
	On-Road Vehicles	0.14	1.30	2.97	0.13	0.07
	Fugitives[1]	0.00	--	--	22.94	9.27
	Total	***1.73***	***11.98***	***19.96***	***23.79***	***10.01***
2019	Off-Road	2.57	19.00	26.25	1.21	1.12
	On-Road Vehicles	0.19	3.93	2.81	0.23	0.12
	Fugitives[1]	0.82	--	--	22.23	9.30
	Total	***3.58***	***22.93***	***29.05***	***23.67***	***10.54***
2020	Off-Road	0.98	7.47	9.74	0.39	0.36
	On-Road Vehicles	0.06	1.14	0.90	0.08	0.04
	Fugitives[1]	0.39	--	--	7.31	2.63
	Total	***1.43***	***8.62***	***10.64***	***7.78***	***3.03***
	De Minimis Threshold[2]	**10**	**100**	**10**	**70**	**100**
	Above threshold?	**NO**	**NO**	**YES**	**NO**	**NO**

Notes:

[1] Fugitive PM_{10} and $PM_{2.5}$ emissions are based on controlled emission factors which assume watering the construction site twice daily.

[2] Conformity threshold values are defined by the USEPA. Available at: http://www.epa.gov/oar/genconform/deminimis.html. Accessed: June 2015. Listed thresholds based on Current Attainment Status for All Criteria Pollutants for Orange County, California: http://www.epa.gov/oaqps001/greenbk/ancl.html. Accessed: June 2015.

The emissions from these two projects have been accounted for in the general conformity set-aside account.

The set-aside account was re-evaluated in the 2016 AQMP based on expected growth and the number of projects that are planned to take place in near future years. They are 2.0 TPD of NOx and 0.5 TPD of VOC each year starting from 2017 to 2030 and changed to 0.5 TPD of NOx and 0.2 TPD of VOC each year in 2031. These set-aside emissions in the 2016 AQMP represent approximately 2.0 percent and 4.5 percent of projected mobile source growth in emissions shown in Table 2-19 for VOC and NOx, respectively.

The District debit the project emissions from the applicable set aside accounts until it is depleted. The unused portion cannot be carried forward to the following year. For those projects that come in after the conformity budget is exhausted, the corresponding federal agency will have to go through the regular general conformity determination process to demonstrate that these emissions are accounted for in the SIP. The set aside accounts will be revised and updated via AQMP/SIP revisions.

While economic growth for the region is desirable, it presents a challenge to our air quality improvement efforts since the projected growth could offset the impressive progress made in reducing VOC, NOx, and PM2.5 emissions through adopted regulations. Meeting the U.S. EPA's current and more-stringent future air quality standards will require the continuation of emission reduction efforts from all levels of government.

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 the District also have improved the accuracy of the emissions inventory. Area source inventories that rely on average emission factors and regional activities have inherent uncertainty. Industry-specific surveys and source-specific studies during rule development have provided much-needed refinement to the emissions estimates. As described earlier, many improvements are included in the on-road mobile source model EMFAC2014 which estimate 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-highway recreational vehicles, cargo handling equipment, and farm equipment. Many sectors in area sources were revised extensively as well. Overall, the 2016 AQMP inventory is based on the most current information and estimation methodologies, resulting in the most accurate inventory available. However, it should be acknowledged that 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 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 four 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 2016 AQMP are implemented for the years 2023 and 2031. 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 District 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) is used. CEPA is developed to calculate projected remaining emissions and/or emission reductions for specified control scenarios. CEPA is briefly discussed in this section. A more comprehensive and extensive discussion of CEPA is presented in Technical Report III-A of the 1991 AQMP.

Since 1998, the District has been implementing several funding incentive programs for the replacement or retrofit of heavy-duty diesel vehicles, including the Carl Moyer and Lower Emission School Bus programs, Proposition 1B Goods Movement program, and the SOON off-road equipment program. Over the years, thousands of diesel engines in the on-road and off-road sectors have been converted to natural gas, repowered, or retrofitted with particulate traps to achieve significant emission reductions.

Emission benefits from these incentive programs were estimated based on contracts awarded and executed to-date and have remaining project life in 2023 and 2031. In addition, funding from the Carl Moyer Program will continue through 2024. As such, estimated emission reductions associated with future funded projects are identified. The reductions that were projected to achieve beyond the baseline emissions of 2023 and 2031 are summarized in Table III-2-28 (see Appendix IV for details). These contracts continue to be closely tracked and the resulting level of emission reductions will be confirmed once achieved. The District has dedicated staff performing field audits to ensure that the agreed upon protocols are followed. Based on past contract

performance, emission reductions from these awarded contracts were discounted by 30 percent to reflect the fact that occasionally, contract awards are not completed and monies are returned.

It should be noted that these surplus reductions, attributable to accelerated fleet turnover or early compliance with State regulations, will diminish over time given that the baseline emissions inventory already incorporates normal fleet turnover and rule compliance deadlines.

TABLE III-2-28

Summary of Emission Reductions from Mobile Source Incentive Programs*
(Tons per Day)

Year	NOx	PM2.5
2023	9.47	0.21
2031	5.62	0.11
Total	15.09	0.32

*Emission reductions were estimated based on Annual Average inventory

Emission Impacts of SCAQMD Programs

There are several District regulatory programs that have specific impacts on future emissions through certain "set-aside" or exemption provisions. As a result, special emission accounts were created for the 2016 AQMP to track these emissions. For air quality modeling purposes, these emissions (except RECLAIM allocations) are distributed across the entire non-RECLAIM point source.

SIP Set Aside Accounts

Background

The 2016 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-2-29). The methodology and assumptions used to develop these tracking accounts for

the 2016 AQMP are discussed in detail below. It should be noted that emission increases or decreases discussed herein are in reference to the projected AQMP baseline.

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. 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 the District to adopt and amend rules with technology forcing limits, while maintaining SIP approvability if a rule relaxation or delay is needed.

The potential delay of R1110.2 biogas engine reductions beyond 2023 was included in the estimates for 2031.

TABLE III-2-29

Summary of SIP Set-Aside Accounts for the 2016 AQMP
(2023/2031 Tons per Day)

	VOC	NOx
VOC Emissions from Phase-out of Toxics	3/3	N/A
SIP Reserve (Technology Assessment)	1/1	1/0.5
General Conformity	0.5/0.2	2.0/0.5
Total	4.5/4.2	3.0/1.0

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 2016 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:

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

And, the remaining emissions can be calculated as:

$$REM = BE * CF$$

Where REM is Remaining Emissions, and BE is Baseline Emissions

The Final 2012 AQMP has many milestones for which emission reduction progress needs to be projected. As a result, control factors for each milestone year 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 2016 AQMP is the date the District or other 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 reach the final emission target (e.g., a technology-forcing regulation). Or, a rule may regulate such a large population of equipment that it is impractical to implement it all at once, and it becomes administratively necessary to phase in its implementation. 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 2016 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.

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

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

CEPA Emission Calculations

The District uses the CEPA program to calculate emission projections for the proposed AQMP control measures. Based on the control factor profile and projected baseline emissions, CEPA estimates emission reductions and remaining emissions for future years by pollutant (i.e., summer VOC and NOx; winter CO and NO_2; and average annual day for VOC, NOx, CO, SOx and PM10).

CEPA allows interaction of multiple control measures affecting a specific emission source, avoiding double counting of emission reductions from additional measures. It also provides flexibility in analyzing various scenarios and improves accuracy by standardizing calculation methodologies.

To run CEPA, the program requires four data input files. These input files are as follows:

1. Master Measure File - This file contains all the measures proposed in the AQMP. There is one master measure file in the CEPA program.

2. Scenario File - This file is a listing of selected measures to characterize emission reductions, and is a subset of the master measure file. For example, it can contain a group of control measures for mobile sources only, or a group of measures to be implemented by U.S. EPA.

3. Control Factor File - This file shows control factor by pollutant by SCC/SIC (or CES/CES) pairs for each control measure in a specified year.

4. Baseline Emission File - This file contains projected emission data (tons per day) for future years based on the 2012 emissions inventory. There are different types of baseline emission data available for CEPA runs. These are the average annual day emissions inventory with pollutants VOC, NOx, CO, SOx, PM10; and PM2.5; and the planning inventory with pollutants VOC and NOx during summer, and CO and NO_2 during winter.

CEPA calculates the remaining emissions at the SCC/SIC level. It can generate many types of emission summary reports or electronic files. For example, the program can provide composite control factors for on-road mobile sources in sixteen categories used in the air quality modeling analysis or composite control factors from all the proposed control measures in the scenario file. It can also provide remaining emissions by SCC/SIC or CES/SIC pairs; by major source category; or by SIC. It can present emission reductions by each control measure in the absence of other competing measures; or reductions for each control measure following a pre-determined implementation sequence. The result of CEPA runs is presented in Appendix V of the 2016 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 CARB's coding method called Emission Inventory Codes (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 indicate 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 2016 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.

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REFERENCES

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Attachment A:

Annual Average Emissions by Source Category in South Coast Air Basin

Attachment A

2012 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	6.72	1.06	0.44	8.29	0.32	1.21	1.20	1.20	1.99
20	Cogeneration	0.93	0.11	0.01	0.52	0.01	0.16	0.15	0.14	0.32
30	Oil and Gas Production (Combustion)	0.87	0.11	0.68	0.74	0.01	0.10	0.10	0.10	0.22
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	25.02	3.88	11.31	14.58	0.24	1.10	1.10	1.09	2.19
52	Food and Agricultural Processing	0.08	0.03	0.16	0.28	0.00	0.03	0.03	0.03	0.04
60	Service and Commercial	14.25	4.85	11.79	16.58	1.16	1.40	1.39	1.39	3.28
99	Other (Fuel Combustion)	1.32	0.29	3.28	2.65	0.13	0.35	0.27	0.19	0.02
Total Fuel Combustion		**52.55**	**11.34**	**27.67**	**48.59**	**1.87**	**5.91**	**5.75**	**5.63**	**8.97**
Waste Disposal										
110	Sewage Treatment	0.61	0.34	0.01	0.01	0.03	0.01	0.00	0.00	0.23
120	Landfills	596.15	8.38	0.59	0.47	0.32	0.14	0.13	0.13	3.79
130	Incineration	0.35	0.07	1.42	0.48	0.13	0.17	0.08	0.07	0.31
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	49.13	3.93	0.00	0.00	0.00	0.00	0.00	0.00	0.95
Total Waste Disposal		**646.24**	**12.72**	**2.02**	**0.96**	**0.48**	**0.32**	**0.21**	**0.20**	**5.28**
Cleaning and Surface Coatings										
210	Laundering	3.09	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	54.28	10.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	18.87	18.23	0.02	0.01	0.00	1.48	1.42	1.37	0.12
240	Printing	1.51	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.04
250	Adhesives and Sealants	3.93	3.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.69	0.69	0.04	0.05	0.00	0.04	0.04	0.04	0.26
Total Cleaning and Surface Coatings		**82.37**	**34.10**	**0.06**	**0.06**	**0.00**	**1.52**	**1.46**	**1.41**	**0.42**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.00	2.31	0.02	0.02	0.06	0.00	0.00	0.00	0.00
320	Petroleum Refining	6.86	4.55	0.25	5.09	0.36	2.63	1.71	1.50	0.23
330	Petroleum Marketing	67.92	22.10	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.09	0.08	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**79.87**	**29.04**	**0.28**	**5.12**	**0.42**	**2.64**	**1.72**	**1.50**	**0.23**
Industrial Processes										
410	Chemical	6.10	4.91	0.01	0.03	0.01	0.64	0.50	0.40	0.02
420	Food and Agriculture	1.18	1.15	0.00	0.00	0.01	0.39	0.22	0.10	0.02
430	Mineral Processes	0.78	0.65	0.01	0.15	0.00	7.51	4.94	2.70	0.12
440	Metal Processes	0.16	0.12	0.04	0.17	0.09	0.48	0.31	0.20	0.01
450	Wood and Paper	0.24	0.24	0.00	0.00	0.00	5.52	3.87	2.35	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.12	0.11	0.10	0.00
470	Electronics	0.02	0.02	0.00	0.00	0.00	0.02	0.01	0.01	0.00
499	Other (Industrial Processes)	3.39	3.04	0.02	0.11	0.00	1.19	0.80	0.47	8.57
Total Industrial Processes		**11.87**	**10.13**	**0.08**	**0.46**	**0.11**	**15.87**	**10.76**	**6.33**	**8.74**
Solvent Evaporation										
510	Consumer Products	103.79	86.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	14.00	13.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.32	1.32	0.00	0.00	0.00	0.00	0.00	0.00	1.34
540	Asphalt Paving/Roofing	0.78	0.71	0.00	0.00	0.00	0.02	0.02	0.02	0.00
Total Solvent Evaporation		**119.89**	**101.85**	**0.00**	**0.00**	**0.00**	**0.02**	**0.02**	**0.02**	**1.34**

(Continued)

2012 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.82	8.65	20.43	48.69	0.50	7.79	7.42	7.22	0.11
620	Farming Operations	30.25	2.46	0.00	0.00	0.00	2.49	1.20	0.21	12.69
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	34.72	16.98	1.70	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	112.00	51.18	7.73	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.91	5.89	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.70	1.85	0.26	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.41	0.22	0.10	2.34	0.01	0.31	0.31	0.29	0.03
690	Cooking	2.48	1.73	0.00	0.00	0.00	10.39	10.39	10.39	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM			19.06		6.87				
Total Miscellaneous Processes		**53.30**	**13.29**	**39.67**	**54.05**	**7.38**	**181.76**	**95.66**	**28.79**	**37.86**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	70.13	65.00	47.49	539.39	0.82	11.10	10.86	4.71	7.68
722	Light Duty Trucks 1 (T1)	19.03	17.78	11.83	133.50	0.09	1.19	1.15	0.55	0.96
723	Light Duty Trucks 2 (T2)	27.75	25.52	29.83	241.69	0.40	3.97	3.88	1.67	4.12
724	Medium Duty Trucks (T3)	23.63	21.20	30.49	234.70	0.39	3.00	2.94	1.26	4.34
732	Light Heavy Duty Gas Trucks 1 (T4)	5.86	5.43	7.66	34.10	0.04	0.50	0.49	0.21	0.42
733	Light Heavy Duty Gas Trucks 2 (T5)	0.83	0.77	1.18	4.57	0.01	0.10	0.09	0.04	0.07
734	Medium Heavy Duty Gas Trucks (T6)	1.76	1.58	2.60	18.48	0.01	0.13	0.13	0.06	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.37	0.32	0.57	7.28	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.46	0.40	16.13	2.79	0.01	0.33	0.33	0.19	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.16	0.14	5.46	0.95	0.01	0.14	0.13	0.07	0.00
744	Medium Heavy Duty Diesels Truck (T6)	2.30	2.02	37.01	6.41	0.05	2.14	2.12	1.66	0.13
746	Heavy Heavy Duty Diesel Trucks (HHD)	6.81	5.47	96.36	20.42	0.14	3.74	3.72	3.09	0.22
750	Motorcycles (MCY)	10.31	9.35	2.31	52.54	0.00	0.04	0.03	0.02	0.01
760	Diesel Urban Buses (UB)	5.25	1.20	19.64	14.48	0.01	1.03	1.02	0.58	0.02
762	Gas Urban Buses (UB)	0.60	0.44	0.78	4.98	0.00	0.03	0.03	0.01	0.01
771	Gas School Buses (SB)	0.13	0.11	0.12	1.76	0.00	0.05	0.05	0.02	0.00
772	Diesel School Buses (SB)	0.18	0.16	2.25	0.43	0.00	0.21	0.21	0.13	0.00
777	Gas Other Buses (OB)	0.24	0.20	0.58	2.96	0.00	0.05	0.05	0.02	0.02
778	Motor Coaches	0.10	0.09	1.56	0.32	0.00	0.06	0.06	0.04	0.00
779	Diesel Other Buses (OB)	0.11	0.10	1.63	0.28	0.00	0.08	0.08	0.06	0.01
780	Motor Homes (MH)	0.29	0.24	1.15	5.96	0.01	0.09	0.09	0.05	0.02
Total On-Road Motor Vehicles		**176.30**	**157.52**	**316.63**	**1327.99**	**1.99**	**27.99**	**27.47**	**14.44**	**18.08**
	Other Mobile Sources									
810	Aircraft	3.35	3.30	13.78	33.64	1.47	0.69	0.67	0.60	0.00
820	Trains	1.47	1.23	19.72	3.86	0.01	0.43	0.43	0.39	0.01
833	Ocean Going Vessels	1.96	1.75	30.14	3.43	4.57	0.96	0.96	0.92	0.03
835	Commercial Harbor Crafts	1.37	1.15	15.84	5.43	0.00	0.74	0.74	0.68	0.00
840	Recreational Boats	35.42	30.44	5.69	97.20	0.01	2.09	1.88	1.42	0.01
850	Off-Road Recreation Vehicles	2.71	2.60	0.05	3.32	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	58.44	51.47	65.63	533.79	0.07	4.71	4.54	3.93	0.09
870	Farm Equipment	0.78	0.69	2.59	5.22	0.00	0.17	0.17	0.15	0.00
890	Fuel Storage and Handling	7.53	7.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**113.03**	**100.13**	**153.44**	**685.89**	**6.13**	**9.80**	**9.40**	**8.10**	**0.14**
Total Stationary and Area Sources		1046.09	212.47	69.78	109.24	10.26	208.04	115.58	43.88	62.84
Total On-Road Vehicles		176.30	157.52	316.63	1327.99	1.99	27.99	27.47	14.44	18.08
Total Other Mobile		113.03	100.13	153.44	685.89	6.13	9.80	9.40	8.10	0.14
Total		**1335.42**	**470.12**	**539.85**	**2123.12**	**18.38**	**245.83**	**152.45**	**66.42**	**81.06**

Attachment A

2017 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.35	0.84	0.12	6.54	0.25	0.97	0.96	0.96	1.59
20	Cogeneration	0.94	0.10	0.01	0.56	0.01	0.16	0.15	0.15	0.28
30	Oil and Gas Production (Combustion)	0.89	0.11	0.69	0.77	0.01	0.10	0.10	0.10	0.22
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	26.52	4.22	10.04	15.96	0.27	1.19	1.18	1.18	2.33
52	Food and Agricultural Processing	0.09	0.03	0.12	0.30	0.00	0.04	0.04	0.04	0.04
60	Service and Commercial	13.82	4.58	9.04	16.04	1.24	1.39	1.38	1.38	3.09
99	Other (Fuel Combustion)	1.39	0.26	2.63	2.61	0.14	0.33	0.25	0.18	0.02
Total Fuel Combustion		**52.36**	**11.15**	**22.65**	**47.73**	**1.92**	**5.74**	**5.57**	**5.48**	**8.48**
Waste Disposal										
110	Sewage Treatment	0.69	0.39	0.01	0.01	0.04	0.01	0.00	0.00	0.24
120	Landfills	618.69	8.70	0.64	0.51	0.34	0.15	0.14	0.14	3.90
130	Incineration	0.40	0.08	1.50	0.55	0.14	0.19	0.09	0.08	0.35
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	56.05	4.49	0.00	0.00	0.00	0.00	0.00	0.00	1.03
Total Waste Disposal		**675.83**	**13.66**	**2.15**	**1.07**	**0.52**	**0.35**	**0.23**	**0.22**	**5.52**
Cleaning and Surface Coatings										
210	Laundering	3.36	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	64.37	11.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	21.53	20.79	0.01	0.01	0.00	1.65	1.59	1.53	0.14
240	Printing	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	4.65	4.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.80	0.80	0.03	0.06	0.00	0.05	0.04	0.04	0.27
Total Cleaning and Surface Coatings		**96.41**	**39.42**	**0.04**	**0.07**	**0.00**	**1.70**	**1.63**	**1.57**	**0.46**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.18	2.39	0.02	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	6.90	4.53	0.25	5.15	0.36	2.64	1.72	1.51	0.23
330	Petroleum Marketing	55.54	14.32	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.11	0.10	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**67.73**	**21.34**	**0.28**	**5.18**	**0.42**	**2.66**	**1.73**	**1.51**	**0.23**
Industrial Processes										
410	Chemical	7.06	5.67	0.01	0.03	0.01	0.76	0.59	0.47	0.03
420	Food and Agriculture	1.28	1.25	0.00	0.00	0.01	0.43	0.24	0.11	0.02
430	Mineral Processes	0.87	0.72	0.01	0.16	0.00	7.68	5.05	2.76	0.13
440	Metal Processes	0.18	0.13	0.04	0.18	0.09	0.53	0.34	0.22	0.01
450	Wood and Paper	0.26	0.26	0.00	0.00	0.00	6.35	4.45	2.70	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.14	0.12	0.11	0.00
470	Electronics	0.02	0.02	0.00	0.00	0.00	0.02	0.02	0.01	0.00
499	Other (Industrial Processes)	3.57	3.20	0.02	0.12	0.00	1.22	0.82	0.48	8.58
Total Industrial Processes		**13.24**	**11.25**	**0.08**	**0.49**	**0.11**	**17.13**	**11.63**	**6.86**	**8.77**
Solvent Evaporation										
510	Consumer Products	104.80	87.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.11	11.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.34	1.34	0.00	0.00	0.00	0.00	0.00	0.00	1.23
540	Asphalt Paving/Roofing	1.02	0.93	0.00	0.00	0.00	0.02	0.02	0.02	0.00
Total Solvent Evaporation		**119.27**	**100.80**	**0.00**	**0.00**	**0.00**	**0.02**	**0.02**	**0.02**	**1.23**

(Continued)

2017 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.30	8.43	14.83	46.78	0.47	7.16	6.80	6.61	0.11
620	Farming Operations	23.70	1.94	0.00	0.00	0.00	2.09	1.01	0.18	9.81
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	44.39	21.71	2.18	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	116.90	53.42	8.07	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.88	5.87	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.28	1.66	0.24	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.81	0.47	0.19	6.31	0.05	0.72	0.70	0.63	0.03
690	Cooking	2.69	1.88	0.00	0.00	0.00	11.28	11.28	11.28	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.84
	RECLAIM			24.51		6.78				
Total Miscellaneous Processes		**46.84**	**12.95**	**39.61**	**56.11**	**7.30**	**196.15**	**102.89**	**30.18**	**35.79**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	38.72	35.99	26.27	304.55	0.79	11.70	11.46	4.85	6.44
722	Light Duty Trucks 1 (T1)	10.60	9.97	5.97	66.84	0.08	1.03	1.00	0.45	0.68
723	Light Duty Trucks 2 (T2)	17.59	16.32	15.88	142.10	0.39	4.24	4.15	1.75	3.45
724	Medium Duty Trucks (T3)	18.27	16.69	18.78	160.31	0.33	2.80	2.74	1.16	3.40
732	Light Heavy Duty Gas Trucks 1 (T4)	4.38	4.12	5.36	19.24	0.03	0.36	0.35	0.15	0.27
733	Light Heavy Duty Gas Trucks 2 (T5)	0.59	0.56	0.86	2.58	0.01	0.09	0.08	0.04	0.05
734	Medium Heavy Duty Gas Trucks (T6)	0.83	0.74	1.57	9.31	0.01	0.13	0.13	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.11	0.09	0.37	3.49	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.40	0.35	11.54	2.38	0.01	0.35	0.35	0.19	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.14	0.12	3.54	0.76	0.01	0.16	0.16	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	1.20	1.05	23.82	3.63	0.07	1.60	1.58	1.04	0.17
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.86	1.76	62.79	8.47	0.17	1.44	1.42	0.77	0.28
750	Motorcycles (MCY)	10.42	9.23	2.49	48.64	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.72	0.77	11.93	10.25	0.01	0.75	0.74	0.40	0.02
762	Gas Urban Buses (UB)	0.44	0.32	0.59	3.31	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.05	0.07	0.59	0.00	0.06	0.06	0.03	0.00
772	Diesel School Buses (SB)	0.05	0.04	2.16	0.13	0.00	0.18	0.18	0.09	0.01
777	Gas Other Buses (OB)	0.18	0.16	0.40	2.08	0.00	0.06	0.06	0.02	0.02
778	Motor Coaches	0.04	0.03	1.09	0.11	0.00	0.03	0.03	0.02	0.00
779	Diesel Other Buses (OB)	0.03	0.03	1.09	0.09	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.15	0.12	0.77	2.67	0.01	0.08	0.08	0.04	0.02
Total On-Road Motor Vehicles		**110.78**	**98.51**	**197.34**	**791.53**	**1.92**	**25.20**	**24.71**	**11.19**	**14.90**
	Other Mobile Sources									
810	Aircraft	3.58	3.53	15.09	36.75	1.71	0.73	0.71	0.65	0.00
820	Trains	1.09	0.92	18.42	3.94	0.01	0.35	0.35	0.32	0.01
833	Ocean Going Vessels	2.35	2.10	29.38	3.99	3.04	0.88	0.88	0.84	0.03
835	Commercial Harbor Crafts	1.27	1.07	11.74	6.34	0.00	0.50	0.50	0.46	0.00
840	Recreational Boats	27.39	23.61	4.99	87.59	0.01	1.62	1.46	1.10	0.01
850	Off-Road Recreation Vehicles	2.63	2.54	0.07	3.56	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	48.94	43.10	53.83	540.53	0.08	3.98	3.80	3.24	0.10
870	Farm Equipment	0.59	0.51	2.15	4.94	0.00	0.14	0.14	0.13	0.00
890	Fuel Storage and Handling	5.70	5.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**93.54**	**83.06**	**135.67**	**687.64**	**4.85**	**8.21**	**7.85**	**6.75**	**0.15**
Total Stationary and Area Sources		1071.68	210.57	64.81	110.65	10.27	223.75	123.70	45.84	60.48
Total On-Road Vehicles		110.78	98.51	197.34	791.53	1.92	25.20	24.71	11.19	14.90
Total Other Mobile		93.54	83.06	135.67	687.64	4.85	8.21	7.85	6.75	0.15
Total		**1276.00**	**392.14**	**397.82**	**1589.82**	**17.04**	**257.16**	**156.26**	**63.78**	**75.53**

Attachment A

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

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.39	0.85	0.12	6.59	0.25	0.97	0.97	0.97	1.60
20	Cogeneration	0.95	0.10	0.01	0.57	0.01	0.16	0.15	0.15	0.29
30	Oil and Gas Production (Combustion)	0.90	0.11	0.70	0.78	0.01	0.10	0.10	0.10	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	26.51	4.26	10.04	16.15	0.28	1.20	1.19	1.18	2.34
52	Food and Agricultural Processing	0.09	0.03	0.13	0.31	0.00	0.04	0.04	0.04	0.04
60	Service and Commercial	13.93	4.59	9.04	16.15	1.27	1.40	1.40	1.39	3.10
99	Other (Fuel Combustion)	1.42	0.26	2.63	2.64	0.15	0.33	0.25	0.18	0.02
Total Fuel Combustion		**52.55**	**11.21**	**22.67**	**48.14**	**1.97**	**5.76**	**5.61**	**5.50**	**8.53**
Waste Disposal										
110	Sewage Treatment	0.70	0.40	0.01	0.01	0.04	0.01	0.00	0.00	0.24
120	Landfills	622.83	8.76	0.65	0.52	0.35	0.15	0.15	0.14	3.92
130	Incineration	0.41	0.08	1.53	0.56	0.15	0.20	0.09	0.08	0.36
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	57.50	4.60	0.00	0.00	0.00	0.00	0.00	0.00	1.05
Total Waste Disposal		**681.44**	**13.84**	**2.19**	**1.09**	**0.54**	**0.36**	**0.24**	**0.22**	**5.57**
Cleaning and Surface Coatings										
210	Laundering	3.42	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	66.55	12.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	22.08	21.33	0.01	0.01	0.00	1.69	1.62	1.56	0.14
240	Printing	1.74	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	4.80	4.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.83	0.83	0.03	0.06	0.00	0.05	0.04	0.04	0.28
Total Cleaning and Surface Coatings		**99.42**	**40.56**	**0.04**	**0.07**	**0.00**	**1.74**	**1.66**	**1.60**	**0.47**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.22	2.41	0.02	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	6.91	4.53	0.25	5.16	0.36	2.65	1.72	1.51	0.23
330	Petroleum Marketing	55.04	13.96	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.11	0.10	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**67.28**	**21.00**	**0.28**	**5.19**	**0.42**	**2.67**	**1.73**	**1.51**	**0.23**
Industrial Processes										
410	Chemical	7.27	5.83	0.01	0.03	0.01	0.78	0.61	0.49	0.03
420	Food and Agriculture	1.30	1.27	0.00	0.00	0.01	0.43	0.24	0.12	0.02
430	Mineral Processes	0.89	0.74	0.01	0.16	0.00	7.72	5.08	2.78	0.13
440	Metal Processes	0.18	0.14	0.04	0.19	0.10	0.54	0.35	0.23	0.01
450	Wood and Paper	0.27	0.27	0.00	0.00	0.00	6.52	4.57	2.78	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.14	0.13	0.12	0.00
470	Electronics	0.02	0.02	0.00	0.00	0.00	0.02	0.02	0.01	0.00
499	Other (Industrial Processes)	3.61	3.24	0.02	0.13	0.00	1.24	0.84	0.49	8.58
Total Industrial Processes		**13.54**	**11.51**	**0.08**	**0.51**	**0.12**	**17.39**	**11.84**	**7.02**	**8.77**
Solvent Evaporation										
510	Consumer Products	105.32	87.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.23	11.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.34	1.34	0.00	0.00	0.00	0.00	0.00	0.00	1.20
540	Asphalt Paving/Roofing	1.06	0.98	0.00	0.00	0.00	0.03	0.02	0.02	0.00
Total Solvent Evaporation		**119.95**	**101.42**	**0.00**	**0.00**	**0.00**	**0.03**	**0.02**	**0.02**	**1.20**

(Continued)

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

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.29	8.43	14.56	46.75	0.48	7.15	6.79	6.60	0.11
620	Farming Operations	22.72	1.86	0.00	0.00	0.00	2.02	0.98	0.18	9.38
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	46.32	22.65	2.27	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	117.88	53.87	8.13	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.87	5.86	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.20	1.62	0.23	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.81	0.47	0.19	6.31	0.05	0.72	0.70	0.63	0.03
690	Cooking	2.73	1.91	0.00	0.00	0.00	11.44	11.44	11.44	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.98
	RECLAIM			23.51		6.78				
Total Miscellaneous Processes		**45.89**	**12.90**	**38.34**	**56.08**	**7.31**	**199.05**	**104.35**	**30.47**	**35.50**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	33.95	31.60	22.90	267.54	0.76	11.67	11.42	4.84	6.16
722	Light Duty Trucks 1 (T1)	9.26	8.73	5.10	56.57	0.07	1.00	0.97	0.43	0.63
723	Light Duty Trucks 2 (T2)	15.72	14.62	13.55	124.15	0.37	4.22	4.13	1.74	3.29
724	Medium Duty Trucks (T3)	16.92	15.53	16.53	144.32	0.32	2.72	2.66	1.13	3.19
732	Light Heavy Duty Gas Trucks 1 (T4)	4.15	3.92	5.00	17.33	0.03	0.34	0.33	0.14	0.25
733	Light Heavy Duty Gas Trucks 2 (T5)	0.54	0.51	0.80	2.28	0.01	0.08	0.08	0.03	0.05
734	Medium Heavy Duty Gas Trucks (T6)	0.75	0.67	1.42	8.29	0.01	0.13	0.13	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.10	0.08	0.36	3.37	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.39	0.34	10.66	2.27	0.01	0.36	0.35	0.19	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.13	0.11	3.19	0.72	0.01	0.17	0.16	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	1.09	0.95	22.35	3.34	0.07	1.57	1.55	0.98	0.17
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.71	1.57	59.49	8.18	0.17	1.35	1.34	0.65	0.29
750	Motorcycles (MCY)	10.35	9.14	2.50	47.75	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.39	0.68	10.23	9.28	0.00	0.68	0.67	0.36	0.02
762	Gas Urban Buses (UB)	0.40	0.29	0.55	2.98	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.07	0.56	0.00	0.06	0.06	0.03	0.00
772	Diesel School Buses (SB)	0.04	0.03	2.01	0.10	0.00	0.18	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.17	0.15	0.37	1.94	0.00	0.06	0.06	0.02	0.02
778	Motor Coaches	0.03	0.03	0.98	0.10	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.02	0.02	1.02	0.07	0.00	0.05	0.04	0.02	0.01
780	Motor Homes (MH)	0.12	0.10	0.70	2.09	0.00	0.08	0.08	0.04	0.02
Total On-Road Motor Vehicles		**100.29**	**89.11**	**179.78**	**703.23**	**1.83**	**24.84**	**24.32**	**10.86**	**14.19**
	Other Mobile Sources									
810	Aircraft	3.68	3.63	15.51	37.66	1.77	0.75	0.73	0.66	0.00
820	Trains	1.02	0.85	17.66	3.98	0.01	0.32	0.32	0.30	0.01
833	Ocean Going Vessels	2.42	2.16	27.76	4.08	3.10	0.90	0.90	0.86	0.03
835	Commercial Harbor Crafts	1.27	1.07	11.45	6.47	0.00	0.48	0.48	0.44	0.00
840	Recreational Boats	26.02	22.45	4.88	86.44	0.01	1.54	1.39	1.05	0.01
850	Off-Road Recreation Vehicles	2.63	2.54	0.07	3.68	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	47.83	42.09	49.95	544.65	0.09	3.75	3.57	3.03	0.11
870	Farm Equipment	0.56	0.48	2.07	4.92	0.00	0.14	0.14	0.12	0.00
890	Fuel Storage and Handling	5.48	5.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**90.91**	**80.73**	**129.35**	**691.88**	**4.98**	**7.89**	**7.54**	**6.47**	**0.16**
Total Stationary and Area Sources		1080.07	212.44	63.60	111.08	10.36	227.00	125.45	46.34	60.27
Total On-Road Vehicles		100.29	89.11	179.78	703.23	1.83	24.84	24.32	10.86	14.19
Total Other Mobile		90.91	80.73	129.35	691.88	4.98	7.89	7.54	6.47	0.16
Total		**1271.27**	**382.28**	**372.73**	**1506.19**	**17.17**	**259.73**	**157.31**	**63.67**	**74.62**

Attachment A

2019 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.37	0.85	0.12	6.57	0.25	0.97	0.97	0.96	1.59
20	Cogeneration	0.95	0.10	0.01	0.59	0.01	0.16	0.16	0.15	0.29
30	Oil and Gas Production (Combustion)	0.91	0.11	0.70	0.78	0.01	0.10	0.10	0.10	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	26.34	4.29	9.98	16.29	0.28	1.20	1.19	1.19	2.33
52	Food and Agricultural Processing	0.09	0.03	0.13	0.31	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.01	4.59	9.00	16.21	1.29	1.41	1.41	1.40	3.09
99	Other (Fuel Combustion)	1.44	0.26	2.63	2.67	0.15	0.33	0.25	0.18	0.02
Total Fuel Combustion		**52.47**	**11.24**	**22.57**	**48.37**	**1.99**	**5.77**	**5.63**	**5.51**	**8.51**
Waste Disposal										
110	Sewage Treatment	0.72	0.40	0.01	0.01	0.04	0.01	0.00	0.00	0.24
120	Landfills	627.16	8.82	0.66	0.53	0.35	0.15	0.15	0.14	3.94
130	Incineration	0.42	0.08	1.56	0.58	0.15	0.20	0.10	0.08	0.36
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	58.95	4.72	0.00	0.00	0.00	0.00	0.00	0.00	1.07
Total Waste Disposal		**687.25**	**14.02**	**2.23**	**1.12**	**0.54**	**0.36**	**0.25**	**0.22**	**5.61**
Cleaning and Surface Coatings										
210	Laundering	3.47	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	68.85	12.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	22.63	21.86	0.01	0.01	0.00	1.72	1.65	1.59	0.14
240	Printing	1.78	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	4.97	4.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.86	0.86	0.03	0.06	0.00	0.05	0.05	0.04	0.28
Total Cleaning and Surface Coatings		**102.56**	**41.72**	**0.04**	**0.07**	**0.00**	**1.77**	**1.70**	**1.63**	**0.47**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.25	2.42	0.02	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	6.94	4.53	0.25	5.18	0.36	2.65	1.73	1.52	0.23
330	Petroleum Marketing	54.42	13.68	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.11	0.10	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**66.72**	**20.73**	**0.28**	**5.21**	**0.42**	**2.67**	**1.74**	**1.52**	**0.23**
Industrial Processes										
410	Chemical	7.48	6.00	0.01	0.03	0.01	0.81	0.63	0.50	0.03
420	Food and Agriculture	1.32	1.29	0.00	0.00	0.01	0.44	0.25	0.12	0.02
430	Mineral Processes	0.91	0.76	0.01	0.17	0.00	7.75	5.09	2.79	0.13
440	Metal Processes	0.18	0.14	0.04	0.19	0.10	0.55	0.35	0.23	0.01
450	Wood and Paper	0.27	0.27	0.00	0.00	0.00	6.70	4.69	2.85	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.14	0.13	0.12	0.00
470	Electronics	0.03	0.02	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.65	3.27	0.02	0.13	0.00	1.26	0.85	0.50	8.58
Total Industrial Processes		**13.84**	**11.75**	**0.08**	**0.52**	**0.12**	**17.68**	**12.01**	**7.12**	**8.77**
Solvent Evaporation										
510	Consumer Products	105.90	88.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.35	11.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.35	1.35	0.00	0.00	0.00	0.00	0.00	0.00	1.18
540	Asphalt Paving/Roofing	1.11	1.02	0.00	0.00	0.00	0.03	0.03	0.02	0.00
Total Solvent Evaporation		**120.71**	**102.07**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.02**	**1.18**

(Continued)

2019 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.27	8.42	14.23	46.69	0.48	7.14	6.78	6.59	0.11
620	Farming Operations	21.81	1.79	0.00	0.00	0.00	1.96	0.96	0.17	8.98
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	48.19	23.56	2.36	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	118.85	54.32	8.20	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.87	5.86	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.13	1.59	0.23	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.81	0.47	0.19	6.31	0.05	0.72	0.70	0.63	0.03
690	Cooking	2.77	1.94	0.00	0.00	0.00	11.62	11.62	11.62	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.15
	RECLAIM			22.51		6.08				
Total Miscellaneous Processes		**45.00**	**12.85**	**37.01**	**56.02**	**6.61**	**201.93**	**105.83**	**30.79**	**35.27**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	30.64	28.56	20.37	241.27	0.74	11.78	11.53	4.88	6.00
722	Light Duty Trucks 1 (T1)	8.44	7.98	4.52	50.35	0.07	0.98	0.96	0.42	0.60
723	Light Duty Trucks 2 (T2)	14.34	13.37	11.77	111.16	0.36	4.26	4.17	1.76	3.21
724	Medium Duty Trucks (T3)	15.73	14.48	14.64	130.50	0.31	2.68	2.62	1.12	3.04
732	Light Heavy Duty Gas Trucks 1 (T4)	3.88	3.67	4.63	15.37	0.03	0.31	0.31	0.13	0.22
733	Light Heavy Duty Gas Trucks 2 (T5)	0.49	0.46	0.73	2.01	0.01	0.08	0.08	0.03	0.04
734	Medium Heavy Duty Gas Trucks (T6)	0.68	0.61	1.26	7.35	0.01	0.13	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.09	0.07	0.35	3.31	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.37	0.32	9.69	2.14	0.01	0.36	0.35	0.18	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.12	0.11	2.82	0.67	0.01	0.17	0.17	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.96	0.85	20.48	3.03	0.07	1.52	1.50	0.92	0.18
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.76	1.58	58.17	8.58	0.18	1.38	1.37	0.66	0.30
750	Motorcycles (MCY)	10.46	9.21	2.55	47.68	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.09	0.60	9.12	8.56	0.00	0.64	0.63	0.33	0.02
762	Gas Urban Buses (UB)	0.38	0.28	0.51	2.70	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.07	0.55	0.00	0.07	0.07	0.03	0.00
772	Diesel School Buses (SB)	0.04	0.03	1.90	0.10	0.00	0.18	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.16	0.14	0.35	1.81	0.00	0.06	0.06	0.02	0.02
778	Motor Coaches	0.03	0.03	0.93	0.10	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.02	0.02	1.02	0.07	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.10	0.08	0.64	1.72	0.00	0.07	0.07	0.04	0.01
Total On-Road Motor Vehicles		**92.84**	**82.49**	**166.52**	**639.03**	**1.80**	**24.84**	**24.35**	**10.80**	**13.74**
	Other Mobile Sources									
810	Aircraft	3.75	3.70	15.84	38.43	1.83	0.76	0.74	0.67	0.00
820	Trains	0.94	0.79	16.88	4.01	0.01	0.30	0.30	0.27	0.01
833	Ocean Going Vessels	2.49	2.22	26.18	4.17	3.15	0.91	0.91	0.87	0.04
835	Commercial Harbor Crafts	1.27	1.06	11.15	6.60	0.00	0.46	0.46	0.43	0.00
840	Recreational Boats	24.69	21.32	4.77	85.29	0.01	1.47	1.32	1.00	0.01
850	Off-Road Recreation Vehicles	2.60	2.52	0.08	3.77	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	47.11	41.43	47.46	549.78	0.09	3.60	3.42	2.89	0.11
870	Farm Equipment	0.53	0.46	2.00	4.91	0.00	0.13	0.13	0.12	0.00
890	Fuel Storage and Handling	5.28	5.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**88.66**	**78.76**	**124.36**	**696.96**	**5.09**	**7.64**	**7.29**	**6.26**	**0.17**
Total Stationary and Area Sources		1088.55	214.38	62.21	111.31	9.68	230.21	127.19	46.81	60.04
Total On-Road Vehicles		92.84	82.49	166.52	639.03	1.80	24.84	24.35	10.80	13.74
Total Other Mobile		88.66	78.76	124.36	696.96	5.09	7.64	7.29	6.26	0.17
Total		**1270.05**	**375.63**	**353.09**	**1447.30**	**16.57**	**262.69**	**158.83**	**63.87**	**73.95**

Attachment A

2020 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.37	0.85	0.12	6.57	0.25	0.97	0.97	0.96	1.59
20	Cogeneration	0.96	0.10	0.01	0.61	0.01	0.16	0.16	0.15	0.29
30	Oil and Gas Production (Combustion)	0.91	0.11	0.70	0.78	0.01	0.11	0.10	0.10	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	25.63	4.25	9.77	16.25	0.29	1.19	1.18	1.18	2.35
52	Food and Agricultural Processing	0.09	0.04	0.13	0.32	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.02	4.56	8.92	16.19	1.32	1.42	1.41	1.41	3.04
99	Other (Fuel Combustion)	1.42	0.24	2.23	2.59	0.15	0.32	0.24	0.17	0.02
Total Fuel Combustion		**51.76**	**11.16**	**21.88**	**48.26**	**2.03**	**5.77**	**5.61**	**5.50**	**8.48**
Waste Disposal										
110	Sewage Treatment	0.73	0.41	0.01	0.01	0.04	0.01	0.00	0.00	0.25
120	Landfills	631.62	8.89	0.67	0.53	0.36	0.16	0.15	0.15	3.97
130	Incineration	0.43	0.08	1.59	0.59	0.15	0.20	0.10	0.08	0.37
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	60.44	4.84	0.00	0.00	0.00	0.00	0.00	0.00	1.09
Total Waste Disposal		**693.22**	**14.22**	**2.27**	**1.13**	**0.55**	**0.37**	**0.25**	**0.23**	**5.68**
Cleaning and Surface Coatings										
210	Laundering	3.52	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	71.21	13.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	23.18	22.38	0.02	0.01	0.00	1.76	1.69	1.63	0.15
240	Printing	1.82	1.82	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.13	4.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.88	0.88	0.03	0.06	0.00	0.05	0.05	0.05	0.28
Total Cleaning and Surface Coatings		**105.74**	**42.88**	**0.05**	**0.07**	**0.00**	**1.81**	**1.74**	**1.68**	**0.48**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.30	2.44	0.03	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	6.96	4.54	0.25	5.19	0.36	2.65	1.73	1.52	0.24
330	Petroleum Marketing	53.41	13.45	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.12	0.10	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**65.79**	**20.53**	**0.29**	**5.22**	**0.42**	**2.67**	**1.74**	**1.52**	**0.24**
Industrial Processes										
410	Chemical	7.70	6.17	0.01	0.03	0.01	0.83	0.65	0.52	0.03
420	Food and Agriculture	1.34	1.31	0.00	0.00	0.01	0.45	0.25	0.12	0.02
430	Mineral Processes	0.93	0.77	0.01	0.17	0.00	7.78	5.11	2.80	0.14
440	Metal Processes	0.19	0.14	0.04	0.19	0.10	0.56	0.36	0.24	0.01
450	Wood and Paper	0.28	0.28	0.00	0.00	0.00	6.88	4.82	2.93	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.14	0.13	0.12	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.69	3.31	0.02	0.13	0.00	1.28	0.86	0.50	8.58
Total Industrial Processes		**14.16**	**12.01**	**0.08**	**0.52**	**0.12**	**17.95**	**12.20**	**7.24**	**8.78**
Solvent Evaporation										
510	Consumer Products	106.49	88.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.47	11.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.35	1.35	0.00	0.00	0.00	0.00	0.00	0.00	1.16
540	Asphalt Paving/Roofing	1.16	1.06	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**121.47**	**102.72**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.16**

(Continued)

2020 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.24	8.41	13.84	46.58	0.48	7.12	6.76	6.57	0.11
620	Farming Operations	20.95	1.72	0.00	0.00	0.00	1.91	0.93	0.17	8.60
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	50.04	24.47	2.45	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	119.81	54.75	8.27	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.86	5.86	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.05	1.55	0.22	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.81	0.47	0.19	6.31	0.05	0.72	0.70	0.63	0.03
690	Cooking	2.81	1.97	0.00	0.00	0.00	11.78	11.78	11.78	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.31
	RECLAIM			20.51		6.08				
Total Miscellaneous Processes		**44.15**	**12.80**	**34.62**	**55.91**	**6.61**	**204.74**	**107.24**	**31.08**	**35.05**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	27.92	26.09	18.09	218.58	0.71	11.73	11.49	4.85	5.78
722	Light Duty Trucks 1 (T1)	7.68	7.27	3.99	44.63	0.07	0.96	0.94	0.41	0.56
723	Light Duty Trucks 2 (T2)	13.14	12.28	10.26	99.68	0.35	4.24	4.16	1.75	3.10
724	Medium Duty Trucks (T3)	14.51	13.40	12.85	116.89	0.29	2.62	2.56	1.09	2.88
732	Light Heavy Duty Gas Trucks 1 (T4)	3.63	3.44	4.28	13.67	0.03	0.29	0.29	0.12	0.20
733	Light Heavy Duty Gas Trucks 2 (T5)	0.44	0.41	0.68	1.79	0.01	0.08	0.08	0.03	0.04
734	Medium Heavy Duty Gas Trucks (T6)	0.62	0.56	1.13	6.57	0.01	0.13	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.08	0.06	0.34	3.26	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.35	0.30	8.81	2.02	0.01	0.35	0.35	0.18	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.12	0.10	2.49	0.63	0.01	0.17	0.17	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.65	0.57	16.01	2.20	0.08	1.38	1.36	0.76	0.19
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.71	1.50	55.51	8.66	0.18	1.38	1.36	0.63	0.31
750	Motorcycles (MCY)	10.47	9.21	2.57	47.42	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.82	0.54	8.04	7.87	0.00	0.60	0.59	0.31	0.02
762	Gas Urban Buses (UB)	0.35	0.25	0.48	2.31	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.06	0.54	0.00	0.07	0.07	0.03	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.80	0.09	0.00	0.18	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.16	0.14	0.32	1.69	0.00	0.06	0.06	0.02	0.02
778	Motor Coaches	0.03	0.03	0.87	0.10	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.02	0.02	0.95	0.08	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.09	0.07	0.59	1.38	0.00	0.07	0.07	0.04	0.01
Total On-Road Motor Vehicles		**85.88**	**76.31**	**150.12**	**580.06**	**1.75**	**24.48**	**24.01**	**10.50**	**13.21**
	Other Mobile Sources									
810	Aircraft	3.82	3.78	16.16	39.21	1.88	0.77	0.75	0.68	0.00
820	Trains	0.89	0.75	16.52	4.07	0.01	0.29	0.29	0.26	0.01
833	Ocean Going Vessels	2.55	2.28	24.80	4.26	3.20	0.93	0.93	0.89	0.04
835	Commercial Harbor Crafts	1.26	1.06	10.92	6.66	0.00	0.45	0.45	0.42	0.00
840	Recreational Boats	23.38	20.21	4.67	84.14	0.01	1.39	1.25	0.95	0.01
850	Off-Road Recreation Vehicles	2.58	2.49	0.08	3.87	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	46.54	40.89	45.30	555.80	0.09	3.46	3.28	2.76	0.11
870	Farm Equipment	0.50	0.43	1.89	4.89	0.00	0.13	0.13	0.11	0.00
890	Fuel Storage and Handling	5.09	5.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**86.61**	**76.96**	**120.34**	**702.90**	**5.19**	**7.43**	**7.09**	**6.08**	**0.17**
Total Stationary and Area Sources		1096.29	216.32	59.19	111.11	9.73	233.34	128.81	47.28	59.87
Total On-Road Vehicles		85.88	76.31	150.12	580.06	1.75	24.48	24.01	10.50	13.21
Total Other Mobile		86.61	76.96	120.34	702.90	5.19	7.43	7.09	6.08	0.17
Total		**1268.78**	**369.59**	**329.65**	**1394.07**	**16.67**	**265.25**	**159.91**	**63.86**	**73.25**

Attachment A

2021 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.58	0.88	0.12	6.82	0.26	1.01	1.00	1.00	1.65
20	Cogeneration	0.96	0.11	0.01	0.63	0.01	0.16	0.16	0.15	0.30
30	Oil and Gas Production (Combustion)	0.92	0.11	0.71	0.79	0.01	0.11	0.11	0.10	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	25.39	4.27	9.76	16.38	0.29	1.19	1.18	1.18	2.34
52	Food and Agricultural Processing	0.09	0.04	0.13	0.32	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.09	4.55	8.91	16.23	1.34	1.42	1.42	1.41	3.03
99	Other (Fuel Combustion)	1.44	0.24	2.23	2.61	0.15	0.32	0.24	0.17	0.02
Total Fuel Combustion		**51.83**	**11.21**	**21.87**	**48.73**	**2.06**	**5.81**	**5.66**	**5.54**	**8.53**
Waste Disposal										
110	Sewage Treatment	0.74	0.42	0.01	0.01	0.04	0.01	0.00	0.00	0.25
120	Landfills	636.10	8.95	0.67	0.54	0.36	0.16	0.15	0.15	3.99
130	Incineration	0.44	0.08	1.61	0.60	0.15	0.21	0.10	0.09	0.37
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	63.31	5.07	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Total Waste Disposal		**700.59**	**14.52**	**2.29**	**1.15**	**0.55**	**0.38**	**0.25**	**0.24**	**5.73**
Cleaning and Surface Coatings										
210	Laundering	3.55	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	73.57	13.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	23.61	22.80	0.02	0.01	0.00	1.79	1.72	1.65	0.15
240	Printing	1.86	1.86	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.30	4.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.91	0.91	0.03	0.06	0.00	0.05	0.05	0.05	0.28
Total Cleaning and Surface Coatings		**108.80**	**43.95**	**0.05**	**0.07**	**0.00**	**1.84**	**1.77**	**1.70**	**0.48**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.36	2.47	0.03	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	6.99	4.55	0.25	5.20	0.36	2.66	1.73	1.52	0.24
330	Petroleum Marketing	52.78	13.22	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.12	0.11	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**65.25**	**20.35**	**0.29**	**5.23**	**0.42**	**2.68**	**1.74**	**1.52**	**0.24**
Industrial Processes										
410	Chemical	7.90	6.33	0.01	0.03	0.01	0.86	0.67	0.54	0.03
420	Food and Agriculture	1.36	1.33	0.00	0.00	0.01	0.45	0.25	0.12	0.02
430	Mineral Processes	0.95	0.79	0.01	0.17	0.00	7.82	5.14	2.81	0.14
440	Metal Processes	0.19	0.15	0.04	0.19	0.10	0.57	0.37	0.24	0.01
450	Wood and Paper	0.28	0.28	0.00	0.00	0.00	7.06	4.94	3.00	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.15	0.14	0.12	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.73	3.34	0.03	0.14	0.00	1.31	0.88	0.52	8.58
Total Industrial Processes		**14.44**	**12.25**	**0.09**	**0.53**	**0.12**	**18.25**	**12.41**	**7.36**	**8.78**
Solvent Evaporation										
510	Consumer Products	107.10	89.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.56	11.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.36	1.36	0.00	0.00	0.00	0.00	0.00	0.00	1.15
540	Asphalt Paving/Roofing	1.17	1.08	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**122.19**	**103.35**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.15**

(Continued)

2021 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.22	8.40	13.52	46.51	0.48	7.10	6.75	6.55	0.11
620	Farming Operations	20.15	1.66	0.00	0.00	0.00	1.87	0.91	0.17	8.25
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	50.70	24.79	2.48	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	120.98	55.29	8.35	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.86	5.86	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.99	1.53	0.22	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.81	0.47	0.19	6.31	0.05	0.72	0.70	0.63	0.03
690	Cooking	2.84	1.98	0.00	0.00	0.00	11.88	11.88	11.88	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.48
	RECLAIM			18.51		6.08				
Total Miscellaneous Processes		**43.36**	**12.74**	**32.30**	**55.84**	**6.61**	**206.55**	**108.15**	**31.27**	**34.87**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	26.05	24.39	16.41	203.73	0.69	11.83	11.58	4.89	5.66
722	Light Duty Trucks 1 (T1)	7.12	6.76	3.59	40.42	0.07	0.95	0.93	0.41	0.54
723	Light Duty Trucks 2 (T2)	12.42	11.63	9.22	92.80	0.34	4.29	4.20	1.77	3.06
724	Medium Duty Trucks (T3)	13.44	12.46	11.25	103.39	0.28	2.59	2.53	1.07	2.77
732	Light Heavy Duty Gas Trucks 1 (T4)	3.39	3.22	3.94	12.17	0.02	0.27	0.27	0.11	0.18
733	Light Heavy Duty Gas Trucks 2 (T5)	0.39	0.37	0.62	1.60	0.01	0.08	0.08	0.03	0.04
734	Medium Heavy Duty Gas Trucks (T6)	0.57	0.52	1.01	5.90	0.01	0.13	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.08	0.06	0.34	3.25	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.33	0.29	7.96	1.89	0.01	0.35	0.35	0.18	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.11	0.10	2.19	0.59	0.01	0.17	0.17	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.30	0.26	11.51	1.15	0.08	1.09	1.07	0.47	0.19
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.75	1.49	52.62	9.01	0.19	1.41	1.39	0.63	0.33
750	Motorcycles (MCY)	10.50	9.22	2.59	47.08	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.57	0.48	7.22	7.30	0.00	0.56	0.55	0.29	0.01
762	Gas Urban Buses (UB)	0.33	0.24	0.46	2.18	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.06	0.53	0.00	0.07	0.07	0.03	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.70	0.09	0.00	0.18	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.15	0.14	0.30	1.60	0.00	0.06	0.06	0.03	0.02
778	Motor Coaches	0.03	0.02	0.79	0.10	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.02	0.02	0.82	0.08	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.07	0.06	0.54	1.10	0.00	0.07	0.07	0.03	0.01
Total On-Road Motor Vehicles		**80.71**	**71.80**	**135.14**	**535.96**	**1.71**	**24.27**	**23.78**	**10.22**	**12.91**
	Other Mobile Sources									
810	Aircraft	3.90	3.85	16.57	39.82	1.93	0.78	0.76	0.69	0.00
820	Trains	0.89	0.74	16.25	4.12	0.01	0.28	0.28	0.26	0.01
833	Ocean Going Vessels	2.66	2.38	24.21	4.44	3.28	0.96	0.96	0.92	0.04
835	Commercial Harbor Crafts	1.26	1.06	10.70	6.72	0.00	0.44	0.44	0.41	0.00
840	Recreational Boats	22.11	19.13	4.58	83.02	0.01	1.32	1.19	0.90	0.01
850	Off-Road Recreation Vehicles	2.54	2.45	0.08	3.95	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	45.91	40.30	42.88	562.82	0.09	3.34	3.16	2.64	0.11
870	Farm Equipment	0.48	0.41	1.79	4.93	0.00	0.12	0.12	0.11	0.00
890	Fuel Storage and Handling	4.92	4.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**84.67**	**75.22**	**117.06**	**709.82**	**5.32**	**7.25**	**6.92**	**5.94**	**0.17**
	Total Stationary and Area Sources	1106.46	218.37	56.89	111.55	9.76	235.54	130.01	47.66	59.78
	Total On-Road Vehicles	80.71	71.80	135.14	535.96	1.71	24.27	23.78	10.22	12.91
	Total Other Mobile	84.67	75.22	117.06	709.82	5.32	7.25	6.92	5.94	0.17
Total		**1271.84**	**365.39**	**309.09**	**1357.33**	**16.79**	**267.06**	**160.71**	**63.82**	**72.86**

Attachment A

2022 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.72	0.90	0.13	7.00	0.27	1.03	1.03	1.03	1.70
20	Cogeneration	0.97	0.11	0.01	0.65	0.01	0.17	0.16	0.15	0.31
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	25.28	4.30	9.78	16.55	0.30	1.20	1.19	1.18	2.33
52	Food and Agricultural Processing	0.09	0.04	0.13	0.33	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.16	4.55	8.91	16.28	1.36	1.43	1.42	1.42	3.03
99	Other (Fuel Combustion)	1.45	0.24	2.23	2.63	0.15	0.32	0.24	0.17	0.02
Total Fuel Combustion		**51.96**	**11.26**	**21.91**	**49.19**	**2.10**	**5.86**	**5.70**	**5.59**	**8.58**
Waste Disposal										
110	Sewage Treatment	0.76	0.43	0.01	0.01	0.04	0.01	0.00	0.00	0.25
120	Landfills	640.59	9.01	0.68	0.54	0.37	0.16	0.15	0.15	4.01
130	Incineration	0.45	0.08	1.63	0.61	0.15	0.21	0.10	0.09	0.38
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	66.25	5.30	0.00	0.00	0.00	0.00	0.00	0.00	1.16
Total Waste Disposal		**708.05**	**14.82**	**2.32**	**1.16**	**0.56**	**0.38**	**0.25**	**0.24**	**5.80**
Cleaning and Surface Coatings										
210	Laundering	3.58	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	75.94	14.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	24.06	23.24	0.02	0.01	0.00	1.82	1.75	1.68	0.15
240	Printing	1.90	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.47	4.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.93	0.93	0.03	0.07	0.00	0.05	0.05	0.05	0.28
Total Cleaning and Surface Coatings		**111.88**	**45.03**	**0.05**	**0.08**	**0.00**	**1.87**	**1.80**	**1.73**	**0.48**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.40	2.49	0.03	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	7.01	4.56	0.25	5.22	0.36	2.66	1.74	1.53	0.24
330	Petroleum Marketing	52.24	13.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.12	0.11	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**64.77**	**20.16**	**0.29**	**5.25**	**0.42**	**2.68**	**1.75**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	8.11	6.49	0.01	0.04	0.01	0.88	0.69	0.55	0.03
420	Food and Agriculture	1.38	1.35	0.00	0.00	0.01	0.46	0.26	0.12	0.02
430	Mineral Processes	0.97	0.80	0.01	0.17	0.00	7.87	5.16	2.82	0.14
440	Metal Processes	0.20	0.15	0.05	0.20	0.10	0.58	0.38	0.25	0.01
450	Wood and Paper	0.29	0.29	0.00	0.00	0.00	7.24	5.07	3.08	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.15	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.77	3.38	0.03	0.14	0.00	1.34	0.90	0.53	8.58
Total Industrial Processes		**14.75**	**12.49**	**0.10**	**0.55**	**0.12**	**18.55**	**12.62**	**7.49**	**8.78**
Solvent Evaporation										
510	Consumer Products	107.71	89.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.66	11.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.36	1.36	0.00	0.00	0.00	0.00	0.00	0.00	1.14
540	Asphalt Paving/Roofing	1.19	1.10	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**122.92**	**103.98**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.14**

(Continued)

2022 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.21	8.39	13.22	46.46	0.48	7.09	6.74	6.54	0.11
620	Farming Operations	19.41	1.60	0.00	0.00	0.00	1.83	0.89	0.17	7.93
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	51.43	25.15	2.52	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	122.15	55.82	8.43	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.85	5.85	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.93	1.50	0.21	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.81	0.47	0.19	6.31	0.05	0.72	0.70	0.63	0.03
690	Cooking	2.86	2.00	0.00	0.00	0.00	11.98	11.98	11.98	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.65
	RECLAIM			14.51		6.08				
Total Miscellaneous Processes		**42.63**	**12.69**	**28.00**	**55.79**	**6.61**	**208.43**	**109.07**	**31.47**	**34.72**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	24.50	23.00	14.95	191.02	0.66	11.92	11.67	4.92	5.56
722	Light Duty Trucks 1 (T1)	6.64	6.32	3.23	36.71	0.06	0.95	0.93	0.40	0.52
723	Light Duty Trucks 2 (T2)	11.88	11.15	8.38	87.56	0.34	4.34	4.25	1.79	3.04
724	Medium Duty Trucks (T3)	12.38	11.51	9.74	89.43	0.27	2.56	2.51	1.06	2.68
732	Light Heavy Duty Gas Trucks 1 (T4)	3.15	3.01	3.60	10.81	0.02	0.26	0.25	0.11	0.17
733	Light Heavy Duty Gas Trucks 2 (T5)	0.35	0.33	0.57	1.45	0.01	0.08	0.08	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.53	0.48	0.90	5.29	0.01	0.13	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.06	0.34	3.28	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.31	0.27	7.17	1.77	0.01	0.35	0.35	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.10	0.09	1.91	0.55	0.01	0.18	0.17	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.30	0.26	11.26	1.18	0.08	1.12	1.10	0.48	0.20
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.76	1.47	49.33	9.27	0.19	1.43	1.41	0.63	0.34
750	Motorcycles (MCY)	10.61	9.29	2.62	47.15	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.36	0.43	6.56	6.82	0.00	0.54	0.53	0.27	0.01
762	Gas Urban Buses (UB)	0.31	0.23	0.43	2.03	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.06	0.52	0.00	0.08	0.07	0.03	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.60	0.09	0.00	0.17	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.15	0.13	0.28	1.51	0.01	0.06	0.06	0.03	0.02
778	Motor Coaches	0.03	0.02	0.70	0.10	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.02	0.02	0.80	0.08	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.06	0.05	0.49	0.89	0.00	0.07	0.07	0.03	0.01
Total On-Road Motor Vehicles		**76.60**	**68.19**	**124.92**	**497.51**	**1.68**	**24.41**	**23.91**	**10.23**	**12.68**
	Other Mobile Sources									
810	Aircraft	3.97	3.92	16.91	40.54	1.99	0.79	0.77	0.70	0.00
820	Trains	0.86	0.72	15.74	4.16	0.01	0.28	0.28	0.25	0.01
833	Ocean Going Vessels	2.78	2.48	23.60	4.61	3.37	1.00	1.00	0.95	0.04
835	Commercial Harbor Crafts	1.25	1.05	10.49	6.78	0.00	0.43	0.43	0.40	0.00
840	Recreational Boats	20.91	18.10	4.49	81.98	0.01	1.25	1.13	0.85	0.01
850	Off-Road Recreation Vehicles	2.50	2.41	0.08	4.04	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	45.47	39.88	39.87	568.17	0.09	3.18	3.00	2.49	0.11
870	Farm Equipment	0.46	0.39	1.69	4.93	0.00	0.11	0.11	0.10	0.00
890	Fuel Storage and Handling	4.76	4.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**82.96**	**73.69**	**112.87**	**715.21**	**5.47**	**7.05**	**6.73**	**5.75**	**0.17**
Total Stationary and Area Sources		1116.96	220.43	52.67	112.02	9.81	237.80	131.22	48.08	59.74
Total On-Road Vehicles		76.60	68.19	124.92	497.51	1.68	24.41	23.91	10.23	12.68
Total Other Mobile		82.96	73.69	112.87	715.21	5.47	7.05	6.73	5.75	0.17
Total		**1276.52**	**362.31**	**290.46**	**1324.74**	**16.96**	**269.26**	**161.86**	**64.06**	**72.59**

Attachment A

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

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.82	0.92	0.13	7.12	0.27	1.05	1.05	1.04	1.73
20	Cogeneration	0.97	0.11	0.01	0.66	0.01	0.17	0.16	0.16	0.31
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	25.02	4.29	9.73	16.56	0.30	1.19	1.18	1.18	2.32
52	Food and Agricultural Processing	0.10	0.04	0.14	0.33	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.17	4.54	8.89	16.28	1.38	1.43	1.43	1.42	3.01
99	Other (Fuel Combustion)	1.46	0.24	2.23	2.64	0.15	0.32	0.24	0.17	0.02
Total Fuel Combustion		**51.83**	**11.26**	**21.85**	**49.34**	**2.12**	**5.87**	**5.72**	**5.61**	**8.58**
Waste Disposal										
110	Sewage Treatment	0.76	0.43	0.01	0.01	0.04	0.01	0.00	0.00	0.25
120	Landfills	645.17	9.08	0.69	0.55	0.37	0.16	0.16	0.15	4.04
130	Incineration	0.45	0.09	1.64	0.61	0.15	0.21	0.10	0.09	0.38
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	69.20	5.54	0.00	0.00	0.00	0.00	0.00	0.00	1.19
Total Waste Disposal		**715.58**	**15.14**	**2.34**	**1.17**	**0.56**	**0.38**	**0.26**	**0.24**	**5.86**
Cleaning and Surface Coatings										
210	Laundering	3.61	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	77.00	14.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	24.29	23.46	0.02	0.01	0.00	1.83	1.76	1.70	0.15
240	Printing	1.91	1.91	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.55	4.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.95	0.95	0.03	0.07	0.00	0.05	0.05	0.05	0.29
Total Cleaning and Surface Coatings		**113.31**	**45.53**	**0.05**	**0.08**	**0.00**	**1.88**	**1.81**	**1.75**	**0.49**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.42	2.50	0.03	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	7.02	4.56	0.25	5.22	0.36	2.66	1.74	1.53	0.24
330	Petroleum Marketing	51.64	12.76	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.12	0.11	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**64.20**	**19.93**	**0.29**	**5.25**	**0.42**	**2.68**	**1.75**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	8.18	6.55	0.01	0.04	0.01	0.89	0.70	0.56	0.03
420	Food and Agriculture	1.39	1.35	0.00	0.00	0.01	0.46	0.26	0.12	0.02
430	Mineral Processes	0.98	0.81	0.01	0.17	0.00	7.89	5.18	2.83	0.14
440	Metal Processes	0.20	0.15	0.05	0.20	0.10	0.59	0.38	0.25	0.01
450	Wood and Paper	0.29	0.29	0.00	0.00	0.00	7.30	5.11	3.11	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.15	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.79	3.40	0.03	0.14	0.00	1.36	0.91	0.53	8.58
Total Industrial Processes		**14.86**	**12.58**	**0.10**	**0.55**	**0.12**	**18.67**	**12.70**	**7.54**	**8.78**
Solvent Evaporation										
510	Consumer Products	108.33	90.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.75	12.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.37	1.37	0.00	0.00	0.00	0.00	0.00	0.00	1.13
540	Asphalt Paving/Roofing	1.21	1.11	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**123.66**	**104.61**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.13**

(Continued)

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

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.19	8.38	12.91	46.40	0.48	7.08	6.72	6.53	0.11
620	Farming Operations	18.69	1.54	0.00	0.00	0.00	1.79	0.87	0.16	7.61
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	52.06	25.46	2.55	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	123.29	56.34	8.51	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.85	5.85	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.87	1.47	0.21	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.81	0.47	0.19	6.31	0.05	0.72	0.70	0.63	0.03
690	Cooking	2.88	2.01	0.00	0.00	0.00	12.07	12.07	12.07	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.82
	RECLAIM			14.51		6.08				
Total Miscellaneous Processes		**41.91**	**12.63**	**27.69**	**55.73**	**6.61**	**210.18**	**109.92**	**31.65**	**34.57**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	23.10	21.74	13.69	179.12	0.64	12.00	11.75	4.95	5.48
722	Light Duty Trucks 1 (T1)	6.20	5.90	2.91	33.11	0.06	0.95	0.92	0.40	0.51
723	Light Duty Trucks 2 (T2)	11.43	10.75	7.65	83.06	0.33	4.39	4.29	1.81	3.03
724	Medium Duty Trucks (T3)	11.64	10.87	8.63	80.68	0.26	2.54	2.49	1.05	2.60
732	Light Heavy Duty Gas Trucks 1 (T4)	2.95	2.82	3.30	9.67	0.02	0.24	0.24	0.10	0.15
733	Light Heavy Duty Gas Trucks 2 (T5)	0.31	0.30	0.52	1.34	0.01	0.08	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.49	0.45	0.81	4.81	0.01	0.13	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.34	3.33	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.29	0.26	6.43	1.66	0.01	0.35	0.34	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.10	0.09	1.65	0.51	0.01	0.18	0.18	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.24	0.21	8.52	1.10	0.08	1.14	1.12	0.47	0.21
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.22	0.96	27.85	8.49	0.19	1.36	1.34	0.53	0.35
750	Motorcycles (MCY)	10.67	9.33	2.65	47.17	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.15	0.39	5.97	6.37	0.00	0.52	0.51	0.26	0.01
762	Gas Urban Buses (UB)	0.29	0.21	0.41	1.90	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.05	0.52	0.00	0.08	0.08	0.03	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.50	0.09	0.00	0.17	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.14	0.13	0.27	1.44	0.01	0.06	0.06	0.03	0.02
778	Motor Coaches	0.02	0.01	0.33	0.08	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.01	0.01	0.43	0.06	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.05	0.04	0.44	0.71	0.00	0.07	0.06	0.03	0.01
Total On-Road Motor Vehicles		**72.46**	**64.59**	**94.35**	**465.22**	**1.64**	**24.43**	**23.91**	**10.14**	**12.50**
	Other Mobile Sources									
810	Aircraft	4.05	4.01	17.31	41.33	2.04	0.80	0.78	0.71	0.00
820	Trains	0.84	0.70	15.27	4.20	0.01	0.27	0.27	0.25	0.01
833	Ocean Going Vessels	2.90	2.59	22.97	4.79	3.45	1.03	1.03	0.99	0.04
835	Commercial Harbor Crafts	1.25	1.05	10.33	6.85	0.00	0.42	0.42	0.39	0.00
840	Recreational Boats	19.75	17.12	4.41	81.02	0.01	1.19	1.07	0.81	0.01
850	Off-Road Recreation Vehicles	2.46	2.37	0.09	4.12	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	45.30	39.71	38.03	573.47	0.09	3.08	2.89	2.40	0.12
870	Farm Equipment	0.44	0.38	1.60	4.94	0.00	0.11	0.11	0.10	0.00
890	Fuel Storage and Handling	4.62	4.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**81.61**	**72.53**	**110.01**	**720.72**	**5.60**	**6.91**	**6.58**	**5.66**	**0.18**
	Total Stationary and Area Sources	1125.35	221.68	52.32	112.12	9.83	239.69	132.19	48.35	59.65
	Total On-Road Vehicles	72.46	64.59	94.35	465.22	1.64	24.43	23.91	10.14	12.50
	Total Other Mobile	81.61	72.53	110.01	720.72	5.60	6.91	6.58	5.66	0.18
Total		**1279.42**	**358.80**	**256.68**	**1298.06**	**17.07**	**271.03**	**162.68**	**64.15**	**72.33**

Attachment A

2024 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.88	0.93	0.13	7.20	0.28	1.06	1.06	1.05	1.75
20	Cogeneration	0.97	0.11	0.01	0.66	0.01	0.17	0.16	0.16	0.31
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.88	4.30	9.71	16.61	0.31	1.19	1.18	1.18	2.31
52	Food and Agricultural Processing	0.10	0.04	0.14	0.33	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.19	4.52	8.88	16.28	1.39	1.44	1.43	1.43	3.01
99	Other (Fuel Combustion)	1.48	0.24	2.24	2.66	0.16	0.32	0.24	0.17	0.02
Total Fuel Combustion		**51.79**	**11.26**	**21.83**	**49.49**	**2.16**	**5.89**	**5.73**	**5.63**	**8.59**
Waste Disposal										
110	Sewage Treatment	0.77	0.44	0.01	0.01	0.04	0.01	0.01	0.00	0.25
120	Landfills	649.92	9.14	0.69	0.55	0.37	0.16	0.16	0.15	4.06
130	Incineration	0.45	0.09	1.65	0.62	0.16	0.21	0.10	0.09	0.39
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	72.25	5.78	0.00	0.00	0.00	0.00	0.00	0.00	1.23
Total Waste Disposal		**723.39**	**15.45**	**2.35**	**1.18**	**0.57**	**0.38**	**0.27**	**0.24**	**5.93**
Cleaning and Surface Coatings										
210	Laundering	3.64	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	78.09	14.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	24.55	23.71	0.02	0.01	0.00	1.85	1.77	1.71	0.16
240	Printing	1.93	1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.63	4.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.96	0.96	0.03	0.07	0.00	0.05	0.05	0.05	0.29
Total Cleaning and Surface Coatings		**114.80**	**46.09**	**0.05**	**0.08**	**0.00**	**1.90**	**1.82**	**1.76**	**0.50**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.42	2.50	0.03	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.03	4.56	0.25	5.23	0.36	2.66	1.74	1.53	0.24
330	Petroleum Marketing	51.14	12.53	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.13	0.11	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**63.72**	**19.70**	**0.29**	**5.26**	**0.42**	**2.68**	**1.76**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	8.27	6.62	0.01	0.04	0.01	0.90	0.71	0.56	0.03
420	Food and Agriculture	1.40	1.36	0.00	0.00	0.01	0.47	0.26	0.12	0.02
430	Mineral Processes	0.99	0.82	0.01	0.17	0.00	7.91	5.19	2.83	0.14
440	Metal Processes	0.20	0.15	0.05	0.20	0.10	0.60	0.39	0.25	0.01
450	Wood and Paper	0.29	0.29	0.00	0.00	0.00	7.36	5.16	3.13	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.15	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.82	3.42	0.03	0.14	0.00	1.37	0.93	0.54	8.58
Total Industrial Processes		**15.00**	**12.69**	**0.10**	**0.55**	**0.12**	**18.79**	**12.80**	**7.57**	**8.78**
Solvent Evaporation										
510	Consumer Products	108.97	90.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.84	12.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.37	1.37	0.00	0.00	0.00	0.00	0.00	0.00	1.12
540	Asphalt Paving/Roofing	1.23	1.13	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**124.41**	**105.26**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.12**

(Continued)

2024 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.18	8.38	12.61	46.36	0.48	7.07	6.72	6.52	0.11
620	Farming Operations	18.69	1.55	0.00	0.00	0.00	1.78	0.87	0.16	7.62
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	52.79	25.82	2.59	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	123.78	56.57	8.54	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.85	5.85	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.81	1.44	0.20	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.81	0.47	0.19	6.31	0.05	0.72	0.70	0.63	0.03
690	Cooking	2.90	2.03	0.00	0.00	0.00	12.17	12.17	12.17	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00
	RECLAIM			14.51		6.08				
Total Miscellaneous Processes		**41.92**	**12.66**	**27.39**	**55.69**	**6.61**	**211.42**	**110.58**	**31.80**	**34.76**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	21.74	20.51	12.49	165.99	0.61	11.93	11.68	4.91	5.34
722	Light Duty Trucks 1 (T1)	5.76	5.50	2.62	30.03	0.06	0.93	0.91	0.39	0.49
723	Light Duty Trucks 2 (T2)	10.94	10.32	6.99	78.42	0.32	4.38	4.28	1.81	3.00
724	Medium Duty Trucks (T3)	10.90	10.22	7.66	72.80	0.24	2.50	2.44	1.03	2.53
732	Light Heavy Duty Gas Trucks 1 (T4)	2.78	2.67	3.05	8.77	0.02	0.23	0.23	0.10	0.14
733	Light Heavy Duty Gas Trucks 2 (T5)	0.29	0.28	0.48	1.27	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.47	0.43	0.75	4.47	0.01	0.13	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.35	3.40	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.28	0.24	5.82	1.56	0.01	0.35	0.34	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.09	0.08	1.44	0.48	0.01	0.18	0.18	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.24	0.21	8.70	1.12	0.08	1.17	1.14	0.49	0.21
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.29	0.98	28.07	8.85	0.20	1.40	1.39	0.55	0.36
750	Motorcycles (MCY)	10.56	9.23	2.63	46.62	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.97	0.35	5.26	5.92	0.00	0.49	0.48	0.24	0.01
762	Gas Urban Buses (UB)	0.26	0.19	0.38	1.72	0.01	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.05	0.51	0.00	0.08	0.08	0.03	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.40	0.09	0.00	0.17	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.14	0.13	0.26	1.38	0.01	0.06	0.06	0.03	0.02
778	Motor Coaches	0.02	0.01	0.34	0.08	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.01	0.01	0.45	0.07	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.05	0.04	0.41	0.61	0.00	0.06	0.06	0.03	0.01
Total On-Road Motor Vehicles		**68.95**	**61.52**	**89.60**	**434.16**	**1.60**	**24.30**	**23.80**	**10.09**	**12.24**
	Other Mobile Sources									
810	Aircraft	4.13	4.09	17.68	42.08	2.10	0.81	0.79	0.72	0.00
820	Trains	0.81	0.68	14.59	4.24	0.02	0.26	0.26	0.24	0.01
833	Ocean Going Vessels	3.02	2.69	22.10	4.97	3.54	1.07	1.07	1.02	0.04
835	Commercial Harbor Crafts	1.26	1.05	10.21	6.91	0.00	0.42	0.42	0.38	0.00
840	Recreational Boats	18.63	16.17	4.34	80.11	0.01	1.12	1.01	0.76	0.01
850	Off-Road Recreation Vehicles	2.42	2.33	0.09	4.19	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	45.28	39.68	36.74	578.77	0.10	3.01	2.82	2.33	0.12
870	Farm Equipment	0.42	0.36	1.51	4.95	0.00	0.10	0.10	0.09	0.00
890	Fuel Storage and Handling	4.49	4.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**80.46**	**71.52**	**107.26**	**726.22**	**5.77**	**6.80**	**6.48**	**5.55**	**0.18**
Total Stationary and Area Sources		1135.03	223.11	52.01	112.25	9.88	241.09	132.99	48.56	59.92
Total On-Road Vehicles		68.95	61.52	89.60	434.16	1.60	24.30	23.80	10.09	12.24
Total Other Mobile		80.46	71.52	107.26	726.22	5.77	6.80	6.48	5.55	0.18
Total		**1284.44**	**356.15**	**248.87**	**1272.63**	**17.25**	**272.19**	**163.27**	**64.20**	**72.34**

Attachment A

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

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.93	0.94	0.13	7.26	0.28	1.07	1.07	1.06	1.76
20	Cogeneration	0.97	0.11	0.01	0.67	0.01	0.17	0.16	0.16	0.32
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.70	4.30	9.69	16.64	0.31	1.19	1.18	1.18	2.30
52	Food and Agricultural Processing	0.10	0.04	0.14	0.33	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.22	4.52	8.88	16.30	1.41	1.44	1.44	1.43	3.00
99	Other (Fuel Combustion)	1.49	0.24	2.24	2.68	0.16	0.32	0.24	0.17	0.02
Total Fuel Combustion		**51.70**	**11.27**	**21.81**	**49.63**	**2.18**	**5.90**	**5.75**	**5.64**	**8.59**
Waste Disposal										
110	Sewage Treatment	0.78	0.44	0.01	0.01	0.04	0.01	0.01	0.00	0.25
120	Landfills	654.40	9.21	0.70	0.56	0.37	0.17	0.16	0.15	4.08
130	Incineration	0.46	0.09	1.67	0.62	0.16	0.21	0.11	0.09	0.39
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	75.27	6.02	0.00	0.00	0.00	0.00	0.00	0.00	1.27
Total Waste Disposal		**730.91**	**15.76**	**2.38**	**1.19**	**0.57**	**0.39**	**0.28**	**0.24**	**5.99**
Cleaning and Surface Coatings										
210	Laundering	3.67	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	79.14	14.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	24.79	23.94	0.02	0.01	0.00	1.86	1.78	1.72	0.16
240	Printing	1.95	1.95	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.70	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.97	0.97	0.03	0.07	0.00	0.05	0.05	0.05	0.29
Total Cleaning and Surface Coatings		**116.22**	**46.61**	**0.05**	**0.08**	**0.00**	**1.91**	**1.83**	**1.77**	**0.50**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.41	2.49	0.03	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.04	4.56	0.25	5.24	0.36	2.66	1.74	1.53	0.24
330	Petroleum Marketing	50.64	12.31	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.13	0.11	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**63.22**	**19.47**	**0.29**	**5.27**	**0.42**	**2.68**	**1.76**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	8.34	6.68	0.01	0.04	0.01	0.91	0.71	0.57	0.03
420	Food and Agriculture	1.41	1.37	0.00	0.00	0.01	0.47	0.26	0.12	0.02
430	Mineral Processes	1.00	0.83	0.01	0.18	0.00	7.94	5.21	2.84	0.15
440	Metal Processes	0.20	0.15	0.05	0.20	0.11	0.60	0.39	0.26	0.01
450	Wood and Paper	0.29	0.29	0.00	0.00	0.00	7.42	5.20	3.16	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.15	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.85	3.45	0.03	0.14	0.00	1.39	0.93	0.54	8.58
Total Industrial Processes		**15.12**	**12.80**	**0.10**	**0.56**	**0.13**	**18.91**	**12.86**	**7.63**	**8.79**
Solvent Evaporation										
510	Consumer Products	109.58	91.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.93	12.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.38	1.38	0.00	0.00	0.00	0.00	0.00	0.00	1.12
540	Asphalt Paving/Roofing	1.25	1.15	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**125.14**	**105.88**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.12**

(Continued)

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

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.17	8.38	12.33	46.32	0.48	7.07	6.71	6.52	0.11
620	Farming Operations	18.69	1.55	0.00	0.00	0.00	1.77	0.86	0.16	7.62
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	53.49	26.16	2.62	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	124.30	56.80	8.58	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.85	5.85	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.75	1.42	0.20	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.81	0.47	0.19	6.31	0.05	0.72	0.70	0.63	0.03
690	Cooking	2.93	2.05	0.00	0.00	0.00	12.26	12.26	12.26	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.17
	RECLAIM			14.51		6.08				
Total Miscellaneous Processes		**41.94**	**12.68**	**27.11**	**55.65**	**6.61**	**212.66**	**111.20**	**31.96**	**34.93**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	20.38	19.28	11.30	152.86	0.58	11.85	11.61	4.88	5.20
722	Light Duty Trucks 1 (T1)	5.33	5.10	2.33	26.95	0.06	0.92	0.90	0.39	0.47
723	Light Duty Trucks 2 (T2)	10.45	9.88	6.33	73.78	0.30	4.37	4.28	1.80	2.96
724	Medium Duty Trucks (T3)	10.15	9.56	6.70	64.92	0.23	2.45	2.40	1.01	2.45
732	Light Heavy Duty Gas Trucks 1 (T4)	2.61	2.51	2.81	7.88	0.02	0.22	0.21	0.09	0.13
733	Light Heavy Duty Gas Trucks 2 (T5)	0.27	0.25	0.45	1.20	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.44	0.41	0.69	4.14	0.01	0.13	0.13	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.35	3.47	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.26	0.23	5.21	1.47	0.01	0.35	0.35	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.09	0.08	1.22	0.45	0.01	0.18	0.18	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.24	0.22	8.89	1.13	0.08	1.19	1.17	0.50	0.22
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.36	1.00	28.28	9.22	0.20	1.45	1.43	0.57	0.37
750	Motorcycles (MCY)	10.46	9.13	2.62	46.07	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.80	0.30	4.55	5.47	0.00	0.46	0.45	0.22	0.01
762	Gas Urban Buses (UB)	0.22	0.17	0.36	1.53	0.01	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.05	0.05	0.50	0.00	0.08	0.08	0.04	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.30	0.09	0.00	0.17	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.14	0.12	0.24	1.33	0.01	0.06	0.06	0.03	0.02
778	Motor Coaches	0.02	0.02	0.36	0.09	0.00	0.03	0.03	0.01	0.01
779	Diesel Other Buses (OB)	0.02	0.01	0.47	0.07	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.04	0.03	0.38	0.50	0.00	0.06	0.06	0.03	0.01
Total On-Road Motor Vehicles		**65.44**	**58.43**	**84.89**	**403.12**	**1.54**	**24.18**	**23.72**	**10.04**	**11.98**
	Other Mobile Sources									
810	Aircraft	4.19	4.15	18.17	42.75	2.16	0.83	0.80	0.73	0.00
820	Trains	0.78	0.65	13.93	4.28	0.02	0.25	0.25	0.23	0.01
833	Ocean Going Vessels	3.13	2.80	21.37	5.15	3.63	1.10	1.10	1.05	0.04
835	Commercial Harbor Crafts	1.26	1.05	10.08	6.96	0.00	0.41	0.41	0.38	0.00
840	Recreational Boats	17.58	15.27	4.26	79.31	0.01	1.06	0.96	0.72	0.01
850	Off-Road Recreation Vehicles	2.38	2.30	0.09	4.25	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	45.22	39.62	34.65	583.67	0.10	2.90	2.71	2.22	0.12
870	Farm Equipment	0.41	0.35	1.44	4.96	0.00	0.10	0.10	0.09	0.00
890	Fuel Storage and Handling	4.37	4.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**79.32**	**70.55**	**103.99**	**731.33**	**5.92**	**6.66**	**6.34**	**5.43**	**0.18**
Total Stationary and Area Sources		1144.25	224.47	51.74	112.38	9.91	242.48	133.71	48.80	60.16
Total On-Road Vehicles		65.44	58.43	84.89	403.12	1.54	24.18	23.72	10.04	11.98
Total Other Mobile		79.32	70.55	103.99	731.33	5.92	6.66	6.34	5.43	0.18
Total		**1289.01**	**353.45**	**240.62**	**1246.83**	**17.37**	**273.32**	**163.77**	**64.27**	**72.32**

Attachment A

2026 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.93	0.94	0.13	7.26	0.28	1.07	1.07	1.06	1.76
20	Cogeneration	0.98	0.11	0.01	0.68	0.01	0.17	0.16	0.16	0.32
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.54	4.30	9.66	16.68	0.31	1.19	1.18	1.18	2.29
52	Food and Agricultural Processing	0.10	0.04	0.14	0.33	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.26	4.52	8.88	16.33	1.42	1.45	1.44	1.44	3.00
99	Other (Fuel Combustion)	1.50	0.24	2.24	2.69	0.16	0.32	0.24	0.17	0.02
Total Fuel Combustion		**51.60**	**11.27**	**21.78**	**49.72**	**2.19**	**5.91**	**5.75**	**5.65**	**8.58**
Waste Disposal										
110	Sewage Treatment	0.79	0.45	0.01	0.01	0.04	0.01	0.01	0.00	0.26
120	Landfills	658.59	9.27	0.70	0.56	0.38	0.17	0.16	0.16	4.11
130	Incineration	0.46	0.09	1.68	0.63	0.16	0.22	0.11	0.09	0.39
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	75.89	6.07	0.00	0.00	0.00	0.00	0.00	0.00	1.27
Total Waste Disposal		**735.73**	**15.88**	**2.39**	**1.20**	**0.58**	**0.40**	**0.28**	**0.25**	**6.03**
Cleaning and Surface Coatings										
210	Laundering	3.70	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	80.17	14.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	25.03	24.17	0.02	0.01	0.00	1.87	1.80	1.73	0.16
240	Printing	1.96	1.96	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.78	5.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.98	0.98	0.03	0.07	0.00	0.05	0.05	0.05	0.29
Total Cleaning and Surface Coatings		**117.62**	**47.11**	**0.05**	**0.08**	**0.00**	**1.92**	**1.85**	**1.78**	**0.50**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.41	2.50	0.03	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.05	4.57	0.25	5.24	0.36	2.67	1.74	1.53	0.24
330	Petroleum Marketing	50.23	12.08	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.13	0.12	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**62.82**	**19.27**	**0.29**	**5.27**	**0.42**	**2.69**	**1.76**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	8.42	6.74	0.01	0.04	0.01	0.92	0.72	0.57	0.03
420	Food and Agriculture	1.41	1.38	0.00	0.00	0.01	0.47	0.26	0.13	0.02
430	Mineral Processes	1.01	0.84	0.01	0.18	0.00	7.96	5.22	2.85	0.15
440	Metal Processes	0.20	0.15	0.05	0.20	0.11	0.61	0.39	0.26	0.01
450	Wood and Paper	0.30	0.30	0.00	0.00	0.00	7.49	5.24	3.19	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.15	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.87	3.47	0.03	0.15	0.00	1.40	0.94	0.55	8.58
Total Industrial Processes		**15.24**	**12.91**	**0.10**	**0.57**	**0.13**	**19.03**	**12.93**	**7.69**	**8.79**
Solvent Evaporation										
510	Consumer Products	110.16	91.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	13.02	12.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.38	1.38	0.00	0.00	0.00	0.00	0.00	0.00	1.11
540	Asphalt Paving/Roofing	1.27	1.16	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**125.83**	**106.47**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.11**

(Continued)

2026 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.16	8.37	12.06	46.29	0.48	7.06	6.70	6.51	0.11
620	Farming Operations	18.69	1.55	0.00	0.00	0.00	1.76	0.86	0.16	7.62
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	54.13	26.47	2.65	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	124.79	57.03	8.61	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.84	5.85	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.70	1.39	0.20	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.81	0.47	0.19	6.31	0.05	0.72	0.70	0.63	0.03
690	Cooking	2.95	2.06	0.00	0.00	0.00	12.35	12.35	12.35	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.34
	RECLAIM			14.51		6.08				
Total Miscellaneous Processes		**41.95**	**12.68**	**26.84**	**55.62**	**6.61**	**213.80**	**111.79**	**32.10**	**35.10**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	19.56	18.54	10.47	144.18	0.56	11.86	11.62	4.87	5.11
722	Light Duty Trucks 1 (T1)	5.02	4.81	2.13	24.71	0.05	0.91	0.89	0.38	0.46
723	Light Duty Trucks 2 (T2)	10.14	9.61	5.88	70.62	0.29	4.39	4.29	1.81	2.95
724	Medium Duty Trucks (T3)	9.66	9.13	6.04	60.07	0.22	2.43	2.38	1.00	2.41
732	Light Heavy Duty Gas Trucks 1 (T4)	2.46	2.37	2.58	7.14	0.02	0.21	0.21	0.09	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.25	0.23	0.41	1.15	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.43	0.39	0.64	3.90	0.01	0.13	0.13	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.36	3.57	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.25	0.22	4.65	1.37	0.01	0.35	0.35	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.09	0.08	1.04	0.42	0.01	0.19	0.18	0.08	0.01
744	Medium Heavy Duty Diesels Truck (T6)	0.25	0.22	9.06	1.16	0.09	1.22	1.20	0.51	0.22
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.43	1.02	28.46	9.58	0.21	1.49	1.47	0.58	0.38
750	Motorcycles (MCY)	10.47	9.14	2.63	46.01	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.64	0.26	3.80	5.03	0.00	0.43	0.42	0.21	0.01
762	Gas Urban Buses (UB)	0.13	0.10	0.31	1.17	0.01	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.05	0.05	0.50	0.00	0.09	0.09	0.04	0.01
772	Diesel School Buses (SB)	0.03	0.02	1.20	0.09	0.00	0.17	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.14	0.12	0.23	1.29	0.01	0.06	0.06	0.03	0.02
778	Motor Coaches	0.02	0.02	0.37	0.09	0.00	0.03	0.03	0.01	0.01
779	Diesel Other Buses (OB)	0.02	0.01	0.49	0.07	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.04	0.03	0.35	0.43	0.00	0.06	0.06	0.03	0.01
Total On-Road Motor Vehicles		**63.16**	**56.42**	**81.15**	**382.55**	**1.51**	**24.23**	**23.76**	**10.03**	**11.85**
	Other Mobile Sources									
810	Aircraft	4.26	4.22	18.60	43.46	2.22	0.84	0.81	0.74	0.00
820	Trains	0.75	0.63	13.30	4.33	0.02	0.24	0.24	0.22	0.01
833	Ocean Going Vessels	3.26	2.92	20.74	5.35	3.71	1.14	1.14	1.09	0.05
835	Commercial Harbor Crafts	1.25	1.05	9.96	6.97	0.00	0.41	0.41	0.37	0.00
840	Recreational Boats	16.61	14.44	4.19	78.61	0.01	1.01	0.91	0.68	0.01
850	Off-Road Recreation Vehicles	2.34	2.26	0.09	4.32	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	45.29	39.67	33.37	588.80	0.10	2.83	2.64	2.16	0.12
870	Farm Equipment	0.39	0.34	1.36	4.98	0.00	0.09	0.09	0.08	0.00
890	Fuel Storage and Handling	4.27	4.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**78.42**	**69.78**	**101.61**	**736.82**	**6.06**	**6.57**	**6.25**	**5.35**	**0.19**
Total Stationary and Area Sources		1150.79	225.59	51.45	112.46	9.93	243.78	134.39	49.03	60.35
Total On-Road Vehicles		63.16	56.42	81.15	382.55	1.51	24.23	23.76	10.03	11.85
Total Other Mobile		78.42	69.78	101.61	736.82	6.06	6.57	6.25	5.35	0.19
Total		**1292.37**	**351.79**	**234.21**	**1231.83**	**17.50**	**274.58**	**164.40**	**64.41**	**72.39**

Attachment A

2027 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.93	0.94	0.13	7.26	0.28	1.07	1.07	1.06	1.76
20	Cogeneration	0.98	0.11	0.01	0.69	0.01	0.17	0.16	0.16	0.32
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.38	4.30	9.65	16.73	0.31	1.19	1.18	1.17	2.28
52	Food and Agricultural Processing	0.10	0.04	0.14	0.34	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.30	4.52	8.89	16.37	1.44	1.45	1.45	1.44	3.00
99	Other (Fuel Combustion)	1.51	0.25	2.24	2.71	0.16	0.32	0.24	0.17	0.02
Total Fuel Combustion		**51.49**	**11.28**	**21.78**	**49.85**	**2.21**	**5.91**	**5.76**	**5.64**	**8.57**
Waste Disposal										
110	Sewage Treatment	0.80	0.45	0.01	0.01	0.04	0.01	0.01	0.00	0.26
120	Landfills	662.68	9.32	0.71	0.57	0.38	0.17	0.16	0.16	4.13
130	Incineration	0.47	0.09	1.70	0.64	0.16	0.22	0.11	0.09	0.40
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	76.52	6.12	0.00	0.00	0.00	0.00	0.00	0.00	1.28
Total Waste Disposal		**740.47**	**15.98**	**2.42**	**1.22**	**0.58**	**0.40**	**0.28**	**0.25**	**6.07**
Cleaning and Surface Coatings										
210	Laundering	3.73	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	81.24	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	25.26	24.40	0.02	0.01	0.00	1.88	1.81	1.74	0.16
240	Printing	1.98	1.98	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.86	5.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.99	0.99	0.03	0.07	0.00	0.05	0.05	0.05	0.29
Total Cleaning and Surface Coatings		**119.06**	**47.64**	**0.05**	**0.08**	**0.00**	**1.93**	**1.86**	**1.79**	**0.50**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.43	2.50	0.03	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.06	4.57	0.25	5.25	0.36	2.67	1.74	1.53	0.24
330	Petroleum Marketing	49.79	11.86	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.13	0.12	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**62.41**	**19.05**	**0.29**	**5.28**	**0.42**	**2.69**	**1.76**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	8.50	6.80	0.01	0.04	0.01	0.93	0.73	0.58	0.03
420	Food and Agriculture	1.42	1.39	0.00	0.00	0.01	0.47	0.26	0.13	0.02
430	Mineral Processes	1.02	0.85	0.01	0.18	0.00	7.97	5.23	2.85	0.15
440	Metal Processes	0.21	0.16	0.05	0.21	0.11	0.62	0.40	0.26	0.01
450	Wood and Paper	0.30	0.30	0.00	0.00	0.00	7.55	5.29	3.21	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.16	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.90	3.49	0.03	0.15	0.00	1.41	0.95	0.55	8.58
Total Industrial Processes		**15.38**	**13.02**	**0.10**	**0.58**	**0.13**	**19.14**	**13.02**	**7.72**	**8.79**
Solvent Evaporation										
510	Consumer Products	110.74	92.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	13.10	12.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	1.10
540	Asphalt Paving/Roofing	1.29	1.18	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**126.52**	**107.06**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.10**

(Continued)

2027 Annual Average Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.15	8.37	11.80	46.26	0.48	7.06	6.70	6.51	0.11
620	Farming Operations	18.69	1.55	0.00	0.00	0.00	1.75	0.85	0.16	7.62
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	54.79	26.79	2.68	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	125.30	57.26	8.65	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.84	5.85	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.65	1.37	0.19	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.82	0.47	0.19	6.31	0.05	0.72	0.70	0.64	0.03
690	Cooking	2.97	2.08	0.00	0.00	0.00	12.45	12.45	12.45	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.50
	RECLAIM			14.51		6.08				
	Total Miscellaneous Processes	**41.97**	**12.70**	**26.58**	**55.59**	**6.61**	**215.01**	**112.41**	**32.27**	**35.26**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	18.82	17.86	9.87	137.64	0.55	11.85	11.61	4.85	5.07
722	Light Duty Trucks 1 (T1)	4.67	4.48	1.95	22.90	0.05	0.91	0.89	0.38	0.45
723	Light Duty Trucks 2 (T2)	9.78	9.28	5.55	68.23	0.29	4.39	4.30	1.80	2.95
724	Medium Duty Trucks (T3)	9.26	8.76	5.62	56.82	0.22	2.42	2.37	1.00	2.39
732	Light Heavy Duty Gas Trucks 1 (T4)	2.31	2.23	2.41	6.62	0.02	0.20	0.20	0.08	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.23	0.22	0.39	1.13	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.42	0.38	0.61	3.76	0.01	0.13	0.13	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.37	3.67	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.24	0.21	4.24	1.31	0.02	0.35	0.35	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.08	0.07	0.92	0.41	0.01	0.19	0.19	0.09	0.01
744	Medium Heavy Duty Diesels Truck (T6)	0.25	0.22	9.20	1.18	0.09	1.25	1.22	0.52	0.23
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.50	1.05	28.62	9.90	0.21	1.53	1.51	0.60	0.39
750	Motorcycles (MCY)	10.47	9.13	2.63	45.93	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.53	0.23	3.43	4.78	0.00	0.42	0.41	0.20	0.01
762	Gas Urban Buses (UB)	0.12	0.10	0.30	1.10	0.01	0.05	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.05	0.04	0.50	0.00	0.09	0.09	0.04	0.01
772	Diesel School Buses (SB)	0.03	0.02	1.12	0.09	0.00	0.17	0.17	0.07	0.01
777	Gas Other Buses (OB)	0.14	0.12	0.23	1.27	0.01	0.07	0.06	0.03	0.02
778	Motor Coaches	0.02	0.02	0.37	0.09	0.00	0.03	0.03	0.01	0.01
779	Diesel Other Buses (OB)	0.02	0.01	0.49	0.07	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.03	0.03	0.33	0.37	0.00	0.06	0.06	0.03	0.01
	Total On-Road Motor Vehicles	**61.05**	**54.52**	**78.69**	**367.77**	**1.51**	**24.28**	**23.80**	**10.01**	**11.81**
	Other Mobile Sources									
810	Aircraft	4.33	4.28	18.99	44.26	2.28	0.85	0.83	0.76	0.00
820	Trains	0.73	0.61	12.74	4.37	0.02	0.23	0.23	0.21	0.01
833	Ocean Going Vessels	3.40	3.04	20.33	5.55	3.80	1.18	1.18	1.13	0.05
835	Commercial Harbor Crafts	1.24	1.04	9.84	6.97	0.00	0.40	0.40	0.37	0.00
840	Recreational Boats	15.70	13.66	4.13	78.02	0.01	0.95	0.86	0.65	0.01
850	Off-Road Recreation Vehicles	2.30	2.22	0.09	4.38	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	45.39	39.76	32.20	593.88	0.10	2.77	2.58	2.10	0.12
870	Farm Equipment	0.38	0.32	1.29	4.99	0.00	0.09	0.09	0.08	0.00
890	Fuel Storage and Handling	4.17	4.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Other Mobile Sources	**77.64**	**69.09**	**99.61**	**742.42**	**6.21**	**6.48**	**6.18**	**5.31**	**0.19**
	Total Stationary and Area Sources	1157.30	226.73	51.22	112.60	9.95	245.11	135.12	49.23	60.53
	Total On-Road Vehicles	61.05	54.52	78.69	367.77	1.51	24.28	23.80	10.01	11.81
	Total Other Mobile	77.64	69.09	99.61	742.42	6.21	6.48	6.18	5.31	0.19
	Total	**1295.99**	**350.34**	**229.52**	**1222.79**	**17.67**	**275.87**	**165.10**	**64.55**	**72.53**

Attachment A

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

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.93	0.94	0.13	7.26	0.28	1.07	1.07	1.06	1.76
20	Cogeneration	0.98	0.11	0.01	0.69	0.01	0.17	0.16	0.16	0.32
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.24	4.31	9.63	16.78	0.32	1.19	1.18	1.17	2.27
52	Food and Agricultural Processing	0.10	0.04	0.14	0.34	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.35	4.52	8.90	16.42	1.45	1.46	1.45	1.45	3.00
99	Other (Fuel Combustion)	1.52	0.25	2.24	2.72	0.16	0.32	0.25	0.17	0.02
Total Fuel Combustion		**51.41**	**11.29**	**21.77**	**49.96**	**2.23**	**5.92**	**5.77**	**5.65**	**8.56**
Waste Disposal										
110	Sewage Treatment	0.81	0.46	0.01	0.01	0.04	0.01	0.01	0.01	0.26
120	Landfills	666.87	9.38	0.71	0.57	0.38	0.17	0.16	0.16	4.15
130	Incineration	0.47	0.09	1.71	0.64	0.16	0.22	0.11	0.09	0.40
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	77.14	6.17	0.00	0.00	0.00	0.00	0.00	0.00	1.29
Total Waste Disposal		**745.29**	**16.10**	**2.43**	**1.22**	**0.58**	**0.40**	**0.28**	**0.26**	**6.10**
Cleaning and Surface Coatings										
210	Laundering	3.76	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	82.33	15.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	25.50	24.63	0.02	0.01	0.00	1.90	1.82	1.75	0.16
240	Printing	1.99	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.94	5.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	1.01	1.01	0.03	0.07	0.00	0.06	0.05	0.05	0.29
Total Cleaning and Surface Coatings		**120.53**	**48.17**	**0.05**	**0.08**	**0.00**	**1.96**	**1.87**	**1.80**	**0.50**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.44	2.51	0.03	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.07	4.57	0.25	5.25	0.36	2.67	1.74	1.53	0.24
330	Petroleum Marketing	49.39	11.64	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.13	0.12	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**62.03**	**18.84**	**0.29**	**5.28**	**0.42**	**2.69**	**1.76**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	8.57	6.86	0.01	0.04	0.01	0.94	0.73	0.59	0.03
420	Food and Agriculture	1.43	1.40	0.00	0.00	0.01	0.48	0.27	0.13	0.02
430	Mineral Processes	1.03	0.85	0.01	0.18	0.00	7.99	5.24	2.86	0.15
440	Metal Processes	0.21	0.16	0.05	0.21	0.11	0.62	0.40	0.26	0.01
450	Wood and Paper	0.30	0.30	0.00	0.00	0.00	7.61	5.33	3.24	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.16	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.92	3.51	0.03	0.15	0.00	1.42	0.96	0.56	8.58
Total Industrial Processes		**15.49**	**13.11**	**0.10**	**0.58**	**0.13**	**19.25**	**13.09**	**7.78**	**8.79**
Solvent Evaporation										
510	Consumer Products	111.32	92.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	13.19	12.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	1.09
540	Asphalt Paving/Roofing	1.30	1.20	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**127.20**	**107.66**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.09**

(Continued)

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

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.14	8.37	11.54	46.23	0.48	7.05	6.69	6.50	0.11
620	Farming Operations	18.70	1.55	0.00	0.00	0.00	1.74	0.85	0.16	7.63
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	55.43	27.11	2.72	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	125.77	57.48	8.68	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.84	5.84	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.60	1.35	0.19	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.82	0.47	0.19	6.31	0.05	0.72	0.70	0.64	0.03
690	Cooking	2.99	2.09	0.00	0.00	0.00	12.54	12.54	12.54	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.66
	RECLAIM			14.51		6.08				
Total Miscellaneous Processes		**41.99**	**12.71**	**26.32**	**55.56**	**6.61**	**216.14**	**113.00**	**32.42**	**35.43**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	18.07	17.18	9.26	131.10	0.53	11.83	11.59	4.84	5.02
722	Light Duty Trucks 1 (T1)	4.33	4.15	1.77	21.09	0.05	0.90	0.88	0.37	0.45
723	Light Duty Trucks 2 (T2)	9.42	8.95	5.23	65.85	0.28	4.39	4.30	1.80	2.94
724	Medium Duty Trucks (T3)	8.86	8.40	5.20	53.58	0.21	2.40	2.35	0.99	2.37
732	Light Heavy Duty Gas Trucks 1 (T4)	2.17	2.10	2.24	6.09	0.02	0.20	0.19	0.08	0.11
733	Light Heavy Duty Gas Trucks 2 (T5)	0.22	0.21	0.37	1.10	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.41	0.37	0.59	3.62	0.01	0.13	0.13	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.38	3.76	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.23	0.20	3.84	1.24	0.02	0.35	0.35	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.08	0.07	0.81	0.39	0.01	0.19	0.19	0.09	0.01
744	Medium Heavy Duty Diesels Truck (T6)	0.26	0.23	9.35	1.20	0.09	1.27	1.25	0.53	0.23
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.56	1.07	28.78	10.23	0.22	1.57	1.55	0.61	0.41
750	Motorcycles (MCY)	10.47	9.13	2.64	45.86	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.43	0.21	3.05	4.53	0.00	0.40	0.40	0.19	0.01
762	Gas Urban Buses (UB)	0.11	0.09	0.29	1.03	0.01	0.05	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.05	0.04	0.49	0.00	0.09	0.09	0.04	0.01
772	Diesel School Buses (SB)	0.03	0.02	1.03	0.08	0.00	0.17	0.17	0.07	0.01
777	Gas Other Buses (OB)	0.14	0.12	0.23	1.25	0.01	0.07	0.06	0.03	0.02
778	Motor Coaches	0.02	0.02	0.37	0.09	0.00	0.03	0.03	0.01	0.01
779	Diesel Other Buses (OB)	0.02	0.01	0.49	0.07	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.03	0.03	0.31	0.32	0.00	0.06	0.06	0.03	0.01
Total On-Road Motor Vehicles		**58.99**	**52.66**	**76.27**	**352.97**	**1.48**	**24.27**	**23.80**	**9.99**	**11.74**
	Other Mobile Sources									
810	Aircraft	4.41	4.36	19.42	45.06	2.34	0.86	0.84	0.77	0.00
820	Trains	0.71	0.60	12.16	4.42	0.02	0.22	0.22	0.20	0.01
833	Ocean Going Vessels	3.53	3.16	20.11	5.75	3.89	1.22	1.22	1.16	0.05
835	Commercial Harbor Crafts	1.22	1.03	9.72	6.96	0.00	0.39	0.39	0.36	0.00
840	Recreational Boats	14.85	12.94	4.06	77.54	0.01	0.90	0.81	0.61	0.01
850	Off-Road Recreation Vehicles	2.27	2.19	0.10	4.44	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	45.56	39.90	31.26	598.96	0.10	2.74	2.54	2.06	0.12
870	Farm Equipment	0.36	0.31	1.23	5.01	0.00	0.08	0.08	0.07	0.00
890	Fuel Storage and Handling	4.09	4.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**77.00**	**68.57**	**98.06**	**748.14**	**6.36**	**6.42**	**6.11**	**5.24**	**0.19**
	Total Stationary and Area Sources	1163.94	227.88	50.96	112.68	9.97	246.39	135.80	49.47	60.71
	Total On-Road Vehicles	58.99	52.66	76.27	352.97	1.48	24.27	23.80	9.99	11.74
	Total Other Mobile	77.00	68.57	98.06	748.14	6.36	6.42	6.11	5.24	0.19
Total		**1299.93**	**349.11**	**225.29**	**1213.79**	**17.81**	**277.08**	**165.71**	**64.70**	**72.64**

Attachment A

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

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.94	0.94	0.13	7.26	0.28	1.07	1.07	1.07	1.76
20	Cogeneration	0.98	0.11	0.01	0.71	0.02	0.17	0.16	0.16	0.32
30	Oil and Gas Production (Combustion)	0.94	0.11	0.73	0.80	0.01	0.11	0.11	0.11	0.24
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.12	4.33	9.66	16.94	0.32	1.20	1.18	1.18	2.27
52	Food and Agricultural Processing	0.10	0.04	0.15	0.34	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.52	4.56	8.99	16.61	1.48	1.48	1.47	1.47	3.02
99	Other (Fuel Combustion)	1.54	0.25	2.24	2.75	0.16	0.32	0.25	0.17	0.02
Total Fuel Combustion		**51.50**	**11.35**	**21.91**	**50.36**	**2.27**	**5.95**	**5.79**	**5.69**	**8.59**
Waste Disposal										
110	Sewage Treatment	0.83	0.47	0.01	0.01	0.04	0.01	0.01	0.01	0.26
120	Landfills	675.01	9.50	0.72	0.58	0.39	0.17	0.17	0.16	4.19
130	Incineration	0.48	0.09	1.74	0.65	0.16	0.22	0.11	0.09	0.41
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	78.42	6.28	0.00	0.00	0.00	0.00	0.00	0.00	1.30
Total Waste Disposal		**754.74**	**16.34**	**2.47**	**1.24**	**0.59**	**0.40**	**0.29**	**0.26**	**6.16**
Cleaning and Surface Coatings										
210	Laundering	3.82	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	84.51	15.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	25.98	25.09	0.02	0.01	0.00	1.92	1.84	1.78	0.16
240	Printing	2.02	2.02	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	6.09	5.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	1.03	1.03	0.03	0.07	0.00	0.06	0.05	0.05	0.29
Total Cleaning and Surface Coatings		**123.45**	**49.22**	**0.05**	**0.08**	**0.00**	**1.98**	**1.89**	**1.83**	**0.51**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.46	2.52	0.04	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.09	4.58	0.25	5.27	0.36	2.67	1.75	1.54	0.24
330	Petroleum Marketing	48.92	11.22	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.14	0.12	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**61.61**	**18.44**	**0.30**	**5.30**	**0.42**	**2.69**	**1.77**	**1.54**	**0.24**
Industrial Processes										
410	Chemical	8.73	6.98	0.01	0.04	0.01	0.96	0.75	0.60	0.03
420	Food and Agriculture	1.45	1.41	0.00	0.00	0.01	0.48	0.27	0.13	0.02
430	Mineral Processes	1.06	0.87	0.01	0.18	0.00	8.03	5.27	2.87	0.15
440	Metal Processes	0.21	0.16	0.05	0.21	0.11	0.63	0.41	0.27	0.01
450	Wood and Paper	0.31	0.31	0.00	0.00	0.00	7.72	5.41	3.29	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.16	0.15	0.13	0.00
470	Electronics	0.04	0.04	0.00	0.00	0.00	0.03	0.02	0.02	0.00
499	Other (Industrial Processes)	3.97	3.56	0.03	0.15	0.00	1.44	0.97	0.56	8.58
Total Industrial Processes		**15.77**	**13.33**	**0.10**	**0.58**	**0.13**	**19.45**	**13.25**	**7.87**	**8.79**
Solvent Evaporation										
510	Consumer Products	112.47	93.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	13.36	12.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.40	1.40	0.00	0.00	0.00	0.00	0.00	0.00	1.07
540	Asphalt Paving/Roofing	1.34	1.23	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**128.57**	**108.83**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.07**

(Continued)

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

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	19.15	8.37	11.09	46.24	0.48	7.05	6.69	6.50	0.11
620	Farming Operations	18.70	1.55	0.00	0.00	0.00	1.72	0.84	0.16	7.63
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	56.74	27.74	2.78	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	126.78	57.94	8.75	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.83	5.84	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.49	1.30	0.18	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.82	0.47	0.19	6.31	0.05	0.72	0.70	0.64	0.03
690	Cooking	3.04	2.12	0.00	0.00	0.00	12.72	12.72	12.72	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.99
	RECLAIM			14.51		6.08				
	Total Miscellaneous Processes	**42.05**	**12.74**	**25.87**	**55.57**	**6.61**	**218.50**	**114.21**	**32.72**	**35.76**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	16.58	15.82	8.06	118.03	0.50	11.80	11.57	4.80	4.93
722	Light Duty Trucks 1 (T1)	3.63	3.50	1.41	17.48	0.05	0.89	0.87	0.37	0.43
723	Light Duty Trucks 2 (T2)	8.70	8.28	4.58	61.09	0.27	4.39	4.30	1.79	2.94
724	Medium Duty Trucks (T3)	8.07	7.68	4.35	47.09	0.20	2.38	2.33	0.97	2.33
732	Light Heavy Duty Gas Trucks 1 (T4)	1.88	1.82	1.90	5.03	0.02	0.19	0.18	0.08	0.10
733	Light Heavy Duty Gas Trucks 2 (T5)	0.19	0.19	0.33	1.06	0.01	0.08	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.39	0.36	0.53	3.34	0.01	0.14	0.13	0.06	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.40	3.95	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.21	0.19	3.03	1.11	0.02	0.36	0.35	0.16	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.08	0.07	0.58	0.36	0.01	0.20	0.19	0.09	0.01
744	Medium Heavy Duty Diesels Truck (T6)	0.27	0.23	9.63	1.24	0.09	1.32	1.30	0.55	0.24
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.68	1.11	29.09	10.87	0.23	1.66	1.64	0.65	0.43
750	Motorcycles (MCY)	10.47	9.11	2.64	45.70	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.23	0.16	2.31	4.04	0.00	0.37	0.37	0.17	0.01
762	Gas Urban Buses (UB)	0.10	0.08	0.27	0.90	0.01	0.05	0.05	0.02	0.01
771	Gas School Buses (SB)	0.07	0.05	0.04	0.49	0.00	0.10	0.09	0.04	0.01
772	Diesel School Buses (SB)	0.02	0.02	0.86	0.08	0.00	0.17	0.17	0.07	0.01
777	Gas Other Buses (OB)	0.14	0.13	0.22	1.21	0.01	0.07	0.07	0.03	0.02
778	Motor Coaches	0.02	0.02	0.37	0.09	0.00	0.03	0.03	0.01	0.01
779	Diesel Other Buses (OB)	0.02	0.01	0.50	0.08	0.00	0.06	0.06	0.02	0.01
780	Motor Homes (MH)	0.02	0.02	0.27	0.20	0.00	0.06	0.06	0.03	0.01
	Total On-Road Motor Vehicles	**54.84**	**48.90**	**71.37**	**323.44**	**1.44**	**24.37**	**23.88**	**9.96**	**11.61**
	Other Mobile Sources									
810	Aircraft	4.55	4.50	20.27	46.62	2.45	0.88	0.86	0.79	0.00
820	Trains	0.68	0.57	11.07	4.51	0.02	0.20	0.20	0.19	0.01
833	Ocean Going Vessels	3.80	3.40	19.78	6.16	4.07	1.30	1.30	1.24	0.05
835	Commercial Harbor Crafts	1.20	1.01	9.48	6.95	0.00	0.38	0.38	0.35	0.00
840	Recreational Boats	13.35	11.66	3.95	76.80	0.01	0.82	0.73	0.55	0.01
850	Off-Road Recreation Vehicles	2.23	2.15	0.10	4.56	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	46.08	40.35	29.91	609.67	0.10	2.69	2.50	2.02	0.12
870	Farm Equipment	0.34	0.29	1.12	5.06	0.00	0.08	0.08	0.07	0.00
890	Fuel Storage and Handling	3.96	3.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Other Mobile Sources	**76.19**	**67.88**	**95.68**	**760.33**	**6.65**	**6.36**	**6.06**	**5.22**	**0.19**
	Total Stationary and Area Sources	1177.69	230.25	50.70	113.13	10.02	249.00	137.23	49.94	61.12
	Total On-Road Vehicles	54.84	48.90	71.37	323.44	1.44	24.37	23.88	9.96	11.61
	Total Other Mobile	76.19	67.88	95.68	760.33	6.65	6.36	6.06	5.22	0.19
	Total	**1308.72**	**347.03**	**217.75**	**1196.90**	**18.11**	**279.73**	**167.17**	**65.12**	**72.92**

Attachment A

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

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.94	0.94	0.13	7.26	0.28	1.07	1.07	1.07	1.76
20	Cogeneration	0.99	0.11	0.01	0.72	0.02	0.17	0.17	0.16	0.32
30	Oil and Gas Production (Combustion)	0.94	0.11	0.73	0.81	0.01	0.11	0.11	0.11	0.24
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.09	4.35	9.68	17.03	0.33	1.20	1.19	1.18	2.27
52	Food and Agricultural Processing	0.10	0.04	0.15	0.34	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.60	4.58	9.03	16.70	1.49	1.49	1.48	1.48	3.03
99	Other (Fuel Combustion)	1.55	0.25	2.25	2.77	0.16	0.32	0.25	0.17	0.02
Total Fuel Combustion		**51.57**	**11.39**	**21.98**	**50.58**	**2.29**	**5.96**	**5.82**	**5.70**	**8.60**
Waste Disposal										
110	Sewage Treatment	0.83	0.47	0.01	0.01	0.04	0.01	0.01	0.01	0.26
120	Landfills	679.10	9.55	0.73	0.58	0.39	0.17	0.17	0.16	4.22
130	Incineration	0.48	0.09	1.76	0.66	0.16	0.23	0.11	0.09	0.41
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	79.05	6.33	0.00	0.00	0.00	0.00	0.00	0.00	1.31
Total Waste Disposal		**759.46**	**16.44**	**2.50**	**1.25**	**0.59**	**0.41**	**0.29**	**0.26**	**6.20**
Cleaning and Surface Coatings										
210	Laundering	3.85	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	85.59	15.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	26.22	25.32	0.02	0.01	0.00	1.93	1.86	1.79	0.16
240	Printing	2.03	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	6.17	5.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	1.04	1.04	0.03	0.07	0.00	0.06	0.05	0.05	0.29
Total Cleaning and Surface Coatings		**124.90**	**49.74**	**0.05**	**0.08**	**0.00**	**1.99**	**1.91**	**1.84**	**0.51**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.47	2.52	0.04	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.10	4.58	0.25	5.27	0.36	2.67	1.75	1.54	0.24
330	Petroleum Marketing	48.67	11.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.14	0.12	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**61.38**	**18.23**	**0.30**	**5.30**	**0.42**	**2.69**	**1.77**	**1.54**	**0.24**
Industrial Processes										
410	Chemical	8.80	7.04	0.01	0.04	0.01	0.97	0.76	0.60	0.03
420	Food and Agriculture	1.46	1.42	0.00	0.00	0.01	0.48	0.27	0.13	0.02
430	Mineral Processes	1.07	0.88	0.01	0.18	0.00	8.05	5.28	2.88	0.15
440	Metal Processes	0.22	0.16	0.05	0.21	0.11	0.64	0.41	0.27	0.01
450	Wood and Paper	0.31	0.31	0.00	0.00	0.00	7.78	5.45	3.31	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.16	0.15	0.13	0.00
470	Electronics	0.04	0.04	0.00	0.00	0.00	0.04	0.02	0.02	0.00
499	Other (Industrial Processes)	3.99	3.58	0.03	0.15	0.00	1.45	0.98	0.57	8.58
Total Industrial Processes		**15.89**	**13.43**	**0.10**	**0.58**	**0.13**	**19.57**	**13.32**	**7.91**	**8.79**
Solvent Evaporation										
510	Consumer Products	113.05	94.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	13.45	12.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.41	1.41	0.00	0.00	0.00	0.00	0.00	0.00	1.07
540	Asphalt Paving/Roofing	1.36	1.25	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**129.27**	**109.44**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.07**

(Continued)

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

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	19.15	8.37	10.87	46.24	0.48	7.05	6.69	6.50	0.11
620	Farming Operations	18.70	1.55	0.00	0.00	0.00	1.71	0.84	0.16	7.63
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	57.40	28.07	2.81	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	127.26	58.16	8.78	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.83	5.84	0.58	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.49	1.30	0.18	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.82	0.47	0.19	6.31	0.05	0.72	0.70	0.64	0.03
690	Cooking	3.06	2.14	0.00	0.00	0.00	12.81	12.81	12.81	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.15
	RECLAIM			14.51		6.08				
Total Miscellaneous Processes		**42.07**	**12.76**	**25.65**	**55.57**	**6.61**	**219.72**	**114.85**	**32.87**	**35.92**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	15.84	15.14	7.46	111.49	0.49	11.79	11.56	4.78	4.88
722	Light Duty Trucks 1 (T1)	3.29	3.17	1.23	15.67	0.05	0.89	0.87	0.36	0.42
723	Light Duty Trucks 2 (T2)	8.34	7.95	4.25	58.71	0.26	4.39	4.30	1.79	2.94
724	Medium Duty Trucks (T3)	7.67	7.32	3.92	43.85	0.19	2.36	2.31	0.96	2.30
732	Light Heavy Duty Gas Trucks 1 (T4)	1.74	1.69	1.73	4.50	0.02	0.18	0.18	0.07	0.09
733	Light Heavy Duty Gas Trucks 2 (T5)	0.18	0.17	0.31	1.04	0.01	0.08	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.38	0.35	0.50	3.20	0.01	0.14	0.13	0.06	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.06	0.41	4.05	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.20	0.18	2.63	1.05	0.02	0.36	0.35	0.16	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.08	0.07	0.46	0.35	0.01	0.20	0.20	0.09	0.01
744	Medium Heavy Duty Diesels Truck (T6)	0.27	0.24	9.78	1.26	0.09	1.35	1.32	0.56	0.25
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.75	1.13	29.25	11.19	0.23	1.70	1.68	0.66	0.44
750	Motorcycles (MCY)	10.46	9.11	2.65	45.62	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.13	0.14	1.93	3.79	0.00	0.36	0.35	0.16	0.01
762	Gas Urban Buses (UB)	0.09	0.07	0.26	0.83	0.01	0.05	0.05	0.02	0.01
771	Gas School Buses (SB)	0.07	0.05	0.03	0.48	0.00	0.10	0.10	0.04	0.01
772	Diesel School Buses (SB)	0.02	0.02	0.78	0.08	0.00	0.17	0.17	0.07	0.01
777	Gas Other Buses (OB)	0.14	0.13	0.21	1.20	0.01	0.07	0.07	0.03	0.02
778	Motor Coaches	0.02	0.02	0.37	0.09	0.00	0.03	0.03	0.01	0.01
779	Diesel Other Buses (OB)	0.02	0.01	0.50	0.08	0.00	0.06	0.06	0.02	0.01
780	Motor Homes (MH)	0.02	0.02	0.25	0.14	0.00	0.06	0.06	0.03	0.01
Total On-Road Motor Vehicles		**52.78**	**47.04**	**68.91**	**308.67**	**1.41**	**24.39**	**23.91**	**9.92**	**11.53**
Other Mobile Sources										
810	Aircraft	4.55	4.50	20.19	46.49	2.44	0.89	0.86	0.79	0.00
820	Trains	0.67	0.56	10.66	4.57	0.02	0.20	0.20	0.18	0.01
833	Ocean Going Vessels	3.91	3.50	19.58	6.34	4.16	1.33	1.33	1.27	0.05
835	Commercial Harbor Crafts	1.19	1.00	9.35	6.94	0.00	0.37	0.37	0.34	0.00
840	Recreational Boats	12.72	11.12	3.90	76.59	0.01	0.78	0.70	0.53	0.01
850	Off-Road Recreation Vehicles	2.21	2.13	0.10	4.62	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	46.44	40.66	29.51	615.15	0.10	2.69	2.49	2.01	0.13
870	Farm Equipment	0.33	0.29	1.06	5.08	0.00	0.07	0.07	0.06	0.00
890	Fuel Storage and Handling	3.91	2.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**75.93**	**66.49**	**94.35**	**765.78**	**6.73**	**6.34**	**6.03**	**5.19**	**0.20**
Total Stationary and Area Sources		1184.54	231.43	50.58	113.36	10.04	250.37	137.99	50.15	61.33
Total On-Road Vehicles		52.78	47.04	68.91	308.67	1.41	24.39	23.91	9.92	11.53
Total Other Mobile		75.93	66.49	94.35	765.78	6.73	6.34	6.03	5.19	0.20
Total		**1313.25**	**344.96**	**213.84**	**1187.81**	**18.18**	**281.10**	**167.93**	**65.26**	**73.06**

Attachment B:

Summer Planning Emissions by Source Category in South Coast Air Basin

2012 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	6.91	1.09	0.48	8.44	0.32	1.24	1.23	1.23	2.02
20	Cogeneration	0.93	0.11	0.01	0.52	0.01	0.16	0.15	0.14	0.32
30	Oil and Gas Production (Combustion)	0.87	0.11	0.68	0.74	0.01	0.10	0.10	0.10	0.22
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	25.14	3.92	11.57	15.05	0.25	1.14	1.14	1.13	2.25
52	Food and Agricultural Processing	0.09	0.03	0.18	0.29	0.00	0.04	0.04	0.04	0.04
60	Service and Commercial	14.24	4.82	11.35	16.62	1.15	1.35	1.35	1.35	3.31
99	Other (Fuel Combustion)	1.39	0.31	3.64	2.78	0.16	0.36	0.28	0.20	0.02
Total Fuel Combustion		**52.93**	**11.40**	**27.91**	**49.39**	**1.90**	**5.95**	**5.80**	**5.68**	**9.09**
Waste Disposal										
110	Sewage Treatment	0.61	0.34	0.01	0.01	0.04	0.01	0.00	0.00	0.23
120	Landfills	596.48	8.39	0.66	0.53	0.35	0.15	0.15	0.14	3.79
130	Incineration	0.39	0.07	1.59	0.54	0.14	0.18	0.09	0.08	0.32
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	65.86	5.27	0.00	0.00	0.00	0.00	0.00	0.00	1.27
Total Waste Disposal		**663.34**	**14.07**	**2.26**	**1.08**	**0.53**	**0.34**	**0.24**	**0.22**	**5.61**
Cleaning and Surface Coatings										
210	Laundering	3.11	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	54.66	10.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	20.01	19.31	0.02	0.01	0.00	1.57	1.51	1.46	0.16
240	Printing	1.64	1.64	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	3.96	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.70	0.70	0.04	0.05	0.00	0.05	0.04	0.04	0.27
Total Cleaning and Surface Coatings		**84.08**	**35.59**	**0.06**	**0.06**	**0.00**	**1.62**	**1.55**	**1.50**	**0.48**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.00	2.31	0.02	0.02	0.06	0.00	0.00	0.00	0.00
320	Petroleum Refining	6.86	4.55	0.25	5.09	0.36	2.63	1.71	1.50	0.23
330	Petroleum Marketing	68.02	22.20	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.10	0.09	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**79.98**	**29.15**	**0.28**	**5.12**	**0.42**	**2.64**	**1.72**	**1.50**	**0.23**
Industrial Processes										
410	Chemical	6.69	5.41	0.01	0.03	0.01	0.71	0.55	0.44	0.02
420	Food and Agriculture	1.22	1.19	0.00	0.00	0.01	0.46	0.26	0.13	0.02
430	Mineral Processes	0.89	0.75	0.02	0.17	0.00	8.22	5.36	2.88	0.14
440	Metal Processes	0.19	0.14	0.05	0.17	0.09	0.55	0.35	0.23	0.01
450	Wood and Paper	0.24	0.24	0.00	0.00	0.00	5.56	3.89	2.37	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.12	0.11	0.10	0.00
470	Electronics	0.02	0.02	0.00	0.00	0.00	0.02	0.01	0.01	0.00
499	Other (Industrial Processes)	3.44	3.08	0.02	0.11	0.00	1.29	0.87	0.51	8.57
Total Industrial Processes		**12.69**	**10.83**	**0.10**	**0.48**	**0.11**	**16.93**	**11.40**	**6.67**	**8.76**
Solvent Evaporation										
510	Consumer Products	103.79	86.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	14.00	13.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.47	1.47	0.00	0.00	0.00	0.00	0.00	0.00	1.34
540	Asphalt Paving/Roofing	0.96	0.88	0.00	0.00	0.00	0.02	0.02	0.02	0.00
Total Solvent Evaporation		**120.22**	**102.18**	**0.00**	**0.00**	**0.00**	**0.02**	**0.02**	**0.02**	**1.34**

(Continued)

2012 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	5.35	2.31	14.39	15.25	0.31	2.63	2.56	2.52	0.02
620	Farming Operations	40.59	3.32	0.00	0.00	0.00	2.66	1.31	0.23	17.13
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	54.09	26.45	2.65	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	119.09	54.42	8.22	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.19	6.06	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	5.43	2.64	0.38	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.30	0.16	0.07	1.72	0.00	0.23	0.23	0.21	0.03
690	Cooking	2.48	1.73	0.00	0.00	0.00	10.39	10.39	10.39	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.03
	RECLAIM			19.58		6.89				
Total Miscellaneous Processes		**49.06**	**7.75**	**34.12**	**19.99**	**7.20**	**205.16**	**104.50**	**25.61**	**42.21**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	73.41	68.21	42.47	551.89	0.86	11.10	10.86	4.71	7.68
722	Light Duty Trucks 1 (T1)	19.55	18.30	10.48	135.34	0.10	1.19	1.15	0.55	0.96
723	Light Duty Trucks 2 (T2)	28.39	26.11	26.60	248.10	0.42	3.97	3.88	1.67	4.12
724	Medium Duty Trucks (T3)	24.05	21.57	27.22	240.58	0.40	3.00	2.94	1.26	4.34
732	Light Heavy Duty Gas Trucks 1 (T4)	5.79	5.36	7.09	33.54	0.04	0.50	0.49	0.21	0.42
733	Light Heavy Duty Gas Trucks 2 (T5)	0.82	0.76	1.10	4.49	0.01	0.10	0.09	0.04	0.07
734	Medium Heavy Duty Gas Trucks (T6)	1.72	1.54	2.36	18.04	0.01	0.13	0.13	0.06	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.36	0.32	0.50	7.16	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.46	0.40	15.29	2.79	0.01	0.33	0.33	0.19	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.16	0.14	5.18	0.95	0.01	0.14	0.13	0.07	0.00
744	Medium Heavy Duty Diesels Truck (T6)	2.30	2.02	35.06	6.34	0.05	2.14	2.12	1.66	0.13
746	Heavy Heavy Duty Diesel Trucks (HHD)	6.78	5.46	91.65	20.09	0.14	3.74	3.71	3.08	0.22
750	Motorcycles (MCY)	10.61	9.70	2.02	50.35	0.00	0.04	0.03	0.02	0.01
760	Diesel Urban Buses (UB)	5.25	1.20	18.57	14.48	0.01	1.03	1.02	0.58	0.02
762	Gas Urban Buses (UB)	0.61	0.45	0.69	4.95	0.00	0.03	0.03	0.01	0.01
771	Gas School Buses (SB)	0.13	0.11	0.11	1.67	0.00	0.05	0.05	0.02	0.00
772	Diesel School Buses (SB)	0.18	0.16	2.15	0.41	0.00	0.21	0.21	0.13	0.00
777	Gas Other Buses (OB)	0.23	0.20	0.53	2.89	0.00	0.05	0.05	0.02	0.02
778	Motor Coaches	0.10	0.09	1.49	0.30	0.00	0.06	0.06	0.04	0.00
779	Diesel Other Buses (OB)	0.11	0.10	1.55	0.28	0.00	0.08	0.08	0.06	0.01
780	Motor Homes (MH)	0.30	0.25	1.05	5.90	0.01	0.09	0.09	0.05	0.02
Total On-Road Motor Vehicles		**181.31**	**162.45**	**293.16**	**1350.54**	**2.07**	**27.99**	**27.46**	**14.43**	**18.08**
	Other Mobile Sources									
810	Aircraft	3.35	3.30	13.78	33.66	1.47	0.69	0.67	0.60	0.00
820	Trains	1.47	1.23	19.72	3.86	0.01	0.43	0.43	0.39	0.01
833	Ocean Going Vessels	1.96	1.75	30.14	3.43	4.57	0.96	0.96	0.92	0.03
835	Commercial Harbor Crafts	1.43	1.20	16.56	5.67	0.00	0.77	0.77	0.71	0.00
840	Recreational Boats	49.60	42.62	7.97	136.09	0.01	2.92	2.63	1.99	0.02
850	Off-Road Recreation Vehicles	4.09	3.96	0.05	3.19	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	67.50	59.92	73.19	603.85	0.08	5.30	5.10	4.42	0.10
870	Farm Equipment	0.99	0.87	3.15	7.46	0.00	0.20	0.20	0.18	0.00
890	Fuel Storage and Handling	11.47	11.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**141.86**	**126.27**	**164.56**	**797.21**	**6.14**	**11.28**	**10.77**	**9.22**	**0.16**
Total Stationary and Area Sources		1062.30	210.97	64.73	76.12	10.16	232.66	125.23	41.20	67.72
Total On-Road Vehicles		181.31	162.45	293.16	1350.54	2.07	27.99	27.46	14.43	18.08
Total Other Mobile		141.86	126.27	164.56	797.21	6.14	11.28	10.77	9.22	0.16
Total		**1385.47**	**499.69**	**522.45**	**2223.87**	**18.37**	**271.93**	**163.46**	**64.85**	**85.96**

2017 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.50	0.86	0.15	6.66	0.26	0.99	0.98	0.98	1.61
20	Cogeneration	0.94	0.10	0.01	0.56	0.01	0.16	0.15	0.15	0.28
30	Oil and Gas Production (Combustion)	0.89	0.11	0.69	0.77	0.01	0.10	0.10	0.10	0.22
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	26.64	4.27	10.19	16.48	0.29	1.23	1.22	1.22	2.39
52	Food and Agricultural Processing	0.09	0.04	0.13	0.32	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	13.84	4.55	8.71	16.13	1.24	1.36	1.35	1.35	3.13
99	Other (Fuel Combustion)	1.47	0.28	2.91	2.74	0.17	0.34	0.26	0.19	0.02
Total Fuel Combustion		**52.73**	**11.22**	**22.79**	**48.61**	**1.98**	**5.78**	**5.61**	**5.52**	**8.61**
Waste Disposal										
110	Sewage Treatment	0.69	0.39	0.01	0.01	0.04	0.01	0.00	0.00	0.24
120	Landfills	619.04	8.71	0.72	0.58	0.38	0.17	0.16	0.16	3.90
130	Incineration	0.44	0.08	1.68	0.61	0.16	0.20	0.10	0.09	0.35
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	75.14	6.01	0.00	0.00	0.00	0.00	0.00	0.00	1.39
Total Waste Disposal		**695.31**	**15.19**	**2.41**	**1.20**	**0.58**	**0.38**	**0.26**	**0.25**	**5.88**
Cleaning and Surface Coatings										
210	Laundering	3.39	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	64.82	12.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	22.81	22.01	0.02	0.01	0.00	1.76	1.69	1.63	0.18
240	Printing	1.85	1.85	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	4.68	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.82	0.82	0.03	0.06	0.00	0.05	0.05	0.05	0.28
Total Cleaning and Surface Coatings		**98.37**	**41.12**	**0.05**	**0.07**	**0.00**	**1.81**	**1.74**	**1.68**	**0.51**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.18	2.39	0.02	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	6.90	4.53	0.25	5.15	0.36	2.64	1.72	1.51	0.23
330	Petroleum Marketing	55.63	14.40	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.11	0.10	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**67.82**	**21.42**	**0.28**	**5.18**	**0.42**	**2.66**	**1.73**	**1.51**	**0.23**
Industrial Processes										
410	Chemical	7.76	6.25	0.01	0.03	0.01	0.83	0.65	0.52	0.03
420	Food and Agriculture	1.33	1.29	0.00	0.00	0.01	0.50	0.28	0.14	0.02
430	Mineral Processes	0.99	0.83	0.02	0.19	0.00	8.42	5.48	2.95	0.15
440	Metal Processes	0.21	0.16	0.06	0.18	0.10	0.62	0.39	0.26	0.02
450	Wood and Paper	0.27	0.27	0.00	0.00	0.00	6.39	4.47	2.73	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.14	0.12	0.11	0.00
470	Electronics	0.02	0.02	0.00	0.00	0.00	0.02	0.02	0.01	0.00
499	Other (Industrial Processes)	3.63	3.25	0.02	0.12	0.00	1.33	0.89	0.51	8.58
Total Industrial Processes		**14.21**	**12.07**	**0.11**	**0.52**	**0.12**	**18.25**	**12.30**	**7.23**	**8.80**
Solvent Evaporation										
510	Consumer Products	104.80	87.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.11	11.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.48	1.48	0.00	0.00	0.00	0.00	0.00	0.00	1.23
540	Asphalt Paving/Roofing	1.25	1.15	0.00	0.00	0.00	0.03	0.03	0.02	0.00
Total Solvent Evaporation		**119.64**	**101.17**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.02**	**1.23**

(Continued)

2017 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.94	2.14	10.25	13.77	0.30	2.30	2.23	2.20	0.02
620	Farming Operations	31.80	2.61	0.00	0.00	0.00	2.21	1.09	0.20	13.23
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	69.15	33.81	3.39	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	124.29	56.80	8.58	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.16	6.04	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	4.72	2.32	0.34	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.51	0.29	0.11	3.78	0.03	0.44	0.43	0.39	0.03
690	Cooking	2.69	1.88	0.00	0.00	0.00	11.28	11.28	11.28	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.84
	RECLAIM			25.18		6.80				
	Total Miscellaneous Processes	**40.28**	**7.15**	**35.62**	**20.57**	**7.13**	**225.00**	**114.44**	**27.39**	**39.12**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	40.97	38.18	23.51	315.81	0.83	11.70	11.46	4.85	6.44
722	Light Duty Trucks 1 (T1)	11.02	10.38	5.30	68.37	0.08	1.03	1.00	0.45	0.68
723	Light Duty Trucks 2 (T2)	18.22	16.92	14.17	147.48	0.40	4.24	4.15	1.75	3.45
724	Medium Duty Trucks (T3)	18.77	17.16	16.78	164.66	0.35	2.80	2.74	1.16	3.40
732	Light Heavy Duty Gas Trucks 1 (T4)	4.32	4.07	5.00	18.85	0.03	0.36	0.35	0.15	0.27
733	Light Heavy Duty Gas Trucks 2 (T5)	0.58	0.55	0.80	2.52	0.01	0.09	0.08	0.04	0.05
734	Medium Heavy Duty Gas Trucks (T6)	0.82	0.72	1.44	9.03	0.01	0.13	0.13	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.11	0.09	0.33	3.51	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.40	0.35	10.95	2.38	0.01	0.35	0.35	0.19	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.14	0.12	3.36	0.76	0.01	0.16	0.16	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	1.20	1.05	22.65	3.60	0.07	1.60	1.58	1.04	0.17
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.85	1.75	59.96	8.28	0.17	1.44	1.42	0.76	0.28
750	Motorcycles (MCY)	10.87	9.72	2.19	46.73	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.72	0.77	11.28	10.25	0.01	0.75	0.74	0.40	0.02
762	Gas Urban Buses (UB)	0.45	0.33	0.52	3.30	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.07	0.56	0.00	0.06	0.06	0.03	0.00
772	Diesel School Buses (SB)	0.05	0.04	2.07	0.12	0.00	0.18	0.18	0.09	0.01
777	Gas Other Buses (OB)	0.18	0.15	0.37	2.02	0.00	0.06	0.06	0.02	0.02
778	Motor Coaches	0.04	0.03	1.05	0.11	0.00	0.03	0.03	0.02	0.00
779	Diesel Other Buses (OB)	0.03	0.03	1.04	0.09	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.16	0.13	0.71	2.67	0.01	0.08	0.08	0.04	0.02
	Total On-Road Motor Vehicles	**114.96**	**102.58**	**183.55**	**811.10**	**1.99**	**25.20**	**24.71**	**11.18**	**14.90**
	Other Mobile Sources									
810	Aircraft	3.58	3.53	15.09	36.77	1.71	0.73	0.71	0.65	0.00
820	Trains	1.09	0.92	18.42	3.94	0.01	0.35	0.35	0.32	0.01
833	Ocean Going Vessels	2.35	2.10	29.38	3.99	3.04	0.88	0.88	0.84	0.03
835	Commercial Harbor Crafts	1.34	1.12	12.28	6.63	0.00	0.52	0.52	0.48	0.00
840	Recreational Boats	38.34	33.06	6.98	122.62	0.01	2.27	2.05	1.55	0.01
850	Off-Road Recreation Vehicles	4.02	3.92	0.06	3.17	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	56.41	49.98	60.78	613.13	0.09	4.52	4.32	3.69	0.11
870	Farm Equipment	0.74	0.65	2.61	7.06	0.00	0.17	0.17	0.16	0.00
890	Fuel Storage and Handling	8.82	8.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Other Mobile Sources	**116.69**	**104.07**	**145.60**	**797.31**	**4.86**	**9.45**	**9.01**	**7.70**	**0.16**
	Total Stationary and Area Sources	1088.36	209.34	61.26	76.15	10.23	253.91	136.11	43.60	64.38
	Total On-Road Vehicles	114.96	102.58	183.55	811.10	1.99	25.20	24.71	11.18	14.90
	Total Other Mobile	116.69	104.07	145.60	797.31	4.86	9.45	9.01	7.70	0.16
	Total	**1320.01**	**415.99**	**390.41**	**1684.56**	**17.08**	**288.56**	**169.83**	**62.48**	**79.44**

Attachment B

2018 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.54	0.87	0.15	6.71	0.26	1.00	0.99	0.99	1.62
20	Cogeneration	0.95	0.10	0.01	0.57	0.01	0.16	0.15	0.15	0.29
30	Oil and Gas Production (Combustion)	0.90	0.11	0.70	0.78	0.01	0.10	0.10	0.10	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	26.64	4.31	10.19	16.68	0.29	1.24	1.23	1.23	2.40
52	Food and Agricultural Processing	0.10	0.04	0.14	0.32	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	13.95	4.57	8.72	16.25	1.26	1.37	1.36	1.36	3.13
99	Other (Fuel Combustion)	1.49	0.28	2.91	2.77	0.18	0.34	0.26	0.19	0.02
Total Fuel Combustion		**52.93**	**11.29**	**22.82**	**49.03**	**2.01**	**5.81**	**5.64**	**5.55**	**8.65**
Waste Disposal										
110	Sewage Treatment	0.70	0.40	0.01	0.01	0.04	0.01	0.00	0.00	0.24
120	Landfills	623.18	8.77	0.73	0.59	0.39	0.17	0.17	0.16	3.92
130	Incineration	0.45	0.09	1.71	0.62	0.16	0.21	0.10	0.09	0.36
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	77.09	6.17	0.00	0.00	0.00	0.00	0.00	0.00	1.41
Total Waste Disposal		**701.42**	**15.43**	**2.45**	**1.22**	**0.59**	**0.39**	**0.27**	**0.25**	**5.93**
Cleaning and Surface Coatings										
210	Laundering	3.44	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	67.02	12.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	23.40	22.58	0.02	0.01	0.00	1.80	1.73	1.67	0.18
240	Printing	1.89	1.89	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	4.84	4.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.85	0.85	0.03	0.06	0.00	0.05	0.05	0.05	0.28
Total Cleaning and Surface Coatings		**101.44**	**42.30**	**0.05**	**0.07**	**0.00**	**1.85**	**1.78**	**1.72**	**0.51**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.22	2.41	0.02	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	6.91	4.53	0.25	5.16	0.36	2.65	1.72	1.51	0.23
330	Petroleum Marketing	55.12	14.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.11	0.10	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**67.36**	**21.07**	**0.28**	**5.19**	**0.42**	**2.67**	**1.73**	**1.51**	**0.23**
Industrial Processes										
410	Chemical	7.99	6.43	0.01	0.03	0.01	0.86	0.67	0.54	0.03
420	Food and Agriculture	1.35	1.31	0.00	0.00	0.01	0.51	0.29	0.14	0.02
430	Mineral Processes	1.01	0.85	0.02	0.19	0.00	8.47	5.51	2.97	0.15
440	Metal Processes	0.22	0.16	0.06	0.19	0.10	0.63	0.40	0.26	0.02
450	Wood and Paper	0.27	0.27	0.00	0.00	0.00	6.56	4.60	2.80	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.14	0.13	0.12	0.00
470	Electronics	0.02	0.02	0.00	0.00	0.00	0.02	0.02	0.01	0.00
499	Other (Industrial Processes)	3.67	3.28	0.02	0.13	0.00	1.35	0.91	0.52	8.58
Total Industrial Processes		**14.53**	**12.32**	**0.11**	**0.54**	**0.12**	**18.54**	**12.53**	**7.36**	**8.80**
Solvent Evaporation										
510	Consumer Products	105.32	87.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.24	11.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.49	1.49	0.00	0.00	0.00	0.00	0.00	0.00	1.20
540	Asphalt Paving/Roofing	1.30	1.20	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**120.35**	**101.79**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.20**

(Continued)

2018 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Miscellaneous Processes										
610	Residential Fuel Combustion	4.94	2.14	10.14	13.75	0.30	2.29	2.23	2.19	0.02
620	Farming Operations	30.49	2.51	0.00	0.00	0.00	2.14	1.06	0.20	12.65
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	72.15	35.28	3.54	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	125.33	57.28	8.65	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.16	6.03	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	4.60	2.27	0.33	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.51	0.29	0.11	3.78	0.03	0.44	0.43	0.39	0.03
690	Cooking	2.73	1.91	0.00	0.00	0.00	11.44	11.44	11.44	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.98
	RECLAIM			24.15		6.80				
Total Miscellaneous Processes		**39.01**	**7.08**	**34.48**	**20.55**	**7.13**	**229.00**	**116.46**	**27.75**	**38.68**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	35.99	33.57	20.49	278.17	0.79	11.67	11.42	4.84	6.16
722	Light Duty Trucks 1 (T1)	9.65	9.11	4.52	58.03	0.08	1.00	0.97	0.43	0.63
723	Light Duty Trucks 2 (T2)	16.32	15.20	12.09	129.19	0.39	4.22	4.13	1.74	3.29
724	Medium Duty Trucks (T3)	17.42	16.00	14.77	148.22	0.33	2.72	2.66	1.13	3.19
732	Light Heavy Duty Gas Trucks 1 (T4)	4.09	3.86	4.68	16.97	0.03	0.34	0.33	0.14	0.25
733	Light Heavy Duty Gas Trucks 2 (T5)	0.53	0.50	0.75	2.23	0.01	0.08	0.08	0.03	0.05
734	Medium Heavy Duty Gas Trucks (T6)	0.74	0.66	1.30	8.01	0.01	0.13	0.13	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.10	0.08	0.32	3.38	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.39	0.34	10.11	2.27	0.01	0.36	0.35	0.19	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.13	0.11	3.02	0.72	0.01	0.17	0.16	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	1.09	0.95	21.27	3.31	0.07	1.57	1.55	0.98	0.17
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.69	1.56	56.85	8.00	0.18	1.35	1.33	0.65	0.29
750	Motorcycles (MCY)	10.82	9.65	2.20	45.90	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.39	0.68	9.68	9.28	0.00	0.68	0.67	0.36	0.02
762	Gas Urban Buses (UB)	0.41	0.30	0.49	2.97	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.06	0.53	0.00	0.06	0.06	0.03	0.00
772	Diesel School Buses (SB)	0.04	0.03	1.92	0.09	0.00	0.18	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.17	0.15	0.34	1.88	0.00	0.06	0.06	0.02	0.02
778	Motor Coaches	0.03	0.03	0.94	0.09	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.02	0.02	0.97	0.07	0.00	0.05	0.04	0.02	0.01
780	Motor Homes (MH)	0.13	0.10	0.65	2.10	0.00	0.08	0.08	0.04	0.02
Total On-Road Motor Vehicles		**104.21**	**92.94**	**167.42**	**721.41**	**1.91**	**24.84**	**24.31**	**10.86**	**14.19**
Other Mobile Sources										
810	Aircraft	3.68	3.63	15.51	37.68	1.77	0.75	0.73	0.66	0.00
820	Trains	1.02	0.85	17.66	3.98	0.01	0.32	0.32	0.30	0.01
833	Ocean Going Vessels	2.42	2.16	27.76	4.08	3.10	0.90	0.90	0.86	0.03
835	Commercial Harbor Crafts	1.33	1.12	11.98	6.76	0.00	0.50	0.50	0.46	0.00
840	Recreational Boats	36.43	31.43	6.83	121.02	0.01	2.16	1.95	1.47	0.01
850	Off-Road Recreation Vehicles	4.01	3.92	0.06	3.24	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	55.13	48.81	56.32	617.85	0.10	4.26	4.06	3.44	0.12
870	Farm Equipment	0.70	0.61	2.52	7.04	0.00	0.17	0.17	0.15	0.00
890	Fuel Storage and Handling	8.48	8.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**113.20**	**100.98**	**138.64**	**801.65**	**4.99**	**9.07**	**8.64**	**7.35**	**0.17**
Total Stationary and Area Sources		1097.04	211.28	60.19	76.60	10.27	258.29	138.44	44.17	64.00
Total On-Road Vehicles		104.21	92.94	167.42	721.41	1.91	24.84	24.31	10.86	14.19
Total Other Mobile		113.20	100.98	138.64	801.65	4.99	9.07	8.64	7.35	0.17
Total		**1314.45**	**405.20**	**366.25**	**1599.66**	**17.17**	**292.20**	**171.39**	**62.38**	**78.36**

2019 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.53	0.87	0.15	6.69	0.26	0.99	0.99	0.99	1.62
20	Cogeneration	0.95	0.10	0.01	0.59	0.01	0.16	0.16	0.15	0.29
30	Oil and Gas Production (Combustion)	0.91	0.11	0.70	0.78	0.01	0.10	0.10	0.10	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	26.47	4.33	10.14	16.83	0.30	1.25	1.24	1.23	2.40
52	Food and Agricultural Processing	0.10	0.04	0.14	0.33	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.03	4.57	8.69	16.32	1.29	1.38	1.37	1.37	3.13
99	Other (Fuel Combustion)	1.51	0.28	2.91	2.80	0.18	0.34	0.26	0.19	0.02
Total Fuel Combustion		**52.86**	**11.31**	**22.74**	**49.29**	**2.05**	**5.82**	**5.67**	**5.56**	**8.65**
Waste Disposal										
110	Sewage Treatment	0.72	0.40	0.01	0.01	0.04	0.01	0.01	0.00	0.24
120	Landfills	627.51	8.83	0.74	0.59	0.39	0.18	0.17	0.16	3.94
130	Incineration	0.47	0.09	1.74	0.64	0.16	0.21	0.10	0.09	0.37
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	79.03	6.32	0.00	0.00	0.00	0.00	0.00	0.00	1.43
Total Waste Disposal		**707.73**	**15.64**	**2.49**	**1.24**	**0.59**	**0.40**	**0.28**	**0.25**	**5.98**
Cleaning and Surface Coatings										
210	Laundering	3.49	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	69.33	13.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	23.98	23.14	0.02	0.01	0.00	1.84	1.77	1.70	0.18
240	Printing	1.94	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.05
250	Adhesives and Sealants	5.00	4.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.87	0.87	0.03	0.06	0.00	0.06	0.05	0.05	0.29
Total Cleaning and Surface Coatings		**104.61**	**43.49**	**0.05**	**0.07**	**0.00**	**1.90**	**1.82**	**1.75**	**0.52**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.25	2.42	0.02	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	6.94	4.53	0.25	5.18	0.36	2.65	1.73	1.52	0.23
330	Petroleum Marketing	54.49	13.75	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.12	0.10	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**66.80**	**20.80**	**0.28**	**5.21**	**0.42**	**2.67**	**1.74**	**1.52**	**0.23**
Industrial Processes										
410	Chemical	8.23	6.62	0.01	0.03	0.01	0.89	0.69	0.55	0.03
420	Food and Agriculture	1.37	1.33	0.00	0.00	0.01	0.52	0.29	0.14	0.02
430	Mineral Processes	1.04	0.86	0.02	0.19	0.00	8.50	5.53	2.98	0.16
440	Metal Processes	0.22	0.17	0.06	0.19	0.10	0.64	0.41	0.27	0.02
450	Wood and Paper	0.28	0.28	0.00	0.00	0.00	6.74	4.72	2.88	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.14	0.13	0.12	0.00
470	Electronics	0.03	0.02	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.71	3.32	0.02	0.13	0.00	1.38	0.92	0.53	8.58
Total Industrial Processes		**14.88**	**12.60**	**0.11**	**0.54**	**0.12**	**18.84**	**12.71**	**7.48**	**8.81**
Solvent Evaporation										
510	Consumer Products	105.90	88.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.35	11.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.49	1.49	0.00	0.00	0.00	0.00	0.00	0.00	1.18
540	Asphalt Paving/Roofing	1.36	1.26	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**121.10**	**102.45**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.18**

(Continued)

2019 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.92	2.13	9.99	13.70	0.30	2.28	2.22	2.18	0.02
620	Farming Operations	29.25	2.41	0.00	0.00	0.00	2.08	1.03	0.19	12.10
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	75.07	36.71	3.68	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	126.36	57.75	8.72	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.15	6.03	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	4.47	2.21	0.32	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.51	0.29	0.11	3.78	0.03	0.44	0.43	0.39	0.03
690	Cooking	2.77	1.94	0.00	0.00	0.00	11.62	11.62	11.62	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.15
	RECLAIM			23.12		6.10				
Total Miscellaneous Processes		**37.79**	**7.00**	**33.30**	**20.50**	**6.43**	**232.92**	**118.44**	**28.11**	**38.30**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	32.50	30.36	18.23	251.53	0.77	11.78	11.53	4.88	6.00
722	Light Duty Trucks 1 (T1)	8.81	8.33	4.01	51.71	0.07	0.98	0.96	0.42	0.60
723	Light Duty Trucks 2 (T2)	14.93	13.92	10.51	115.98	0.38	4.26	4.17	1.76	3.21
724	Medium Duty Trucks (T3)	16.23	14.96	13.09	134.11	0.32	2.68	2.62	1.12	3.04
732	Light Heavy Duty Gas Trucks 1 (T4)	3.83	3.62	4.33	15.04	0.03	0.31	0.31	0.13	0.22
733	Light Heavy Duty Gas Trucks 2 (T5)	0.48	0.45	0.69	1.96	0.01	0.08	0.08	0.03	0.04
734	Medium Heavy Duty Gas Trucks (T6)	0.67	0.59	1.16	7.10	0.01	0.13	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.09	0.07	0.31	3.32	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.37	0.32	9.19	2.14	0.01	0.36	0.35	0.18	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.12	0.11	2.67	0.67	0.01	0.17	0.17	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.96	0.85	19.52	3.01	0.07	1.52	1.50	0.92	0.18
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.75	1.57	55.60	8.40	0.18	1.38	1.36	0.66	0.30
750	Motorcycles (MCY)	10.95	9.74	2.24	45.83	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.09	0.60	8.63	8.56	0.00	0.64	0.63	0.33	0.02
762	Gas Urban Buses (UB)	0.39	0.28	0.45	2.69	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.06	0.51	0.00	0.07	0.07	0.03	0.00
772	Diesel School Buses (SB)	0.04	0.03	1.82	0.09	0.00	0.18	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.16	0.14	0.32	1.75	0.00	0.06	0.06	0.02	0.02
778	Motor Coaches	0.03	0.03	0.89	0.09	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.02	0.02	0.97	0.07	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.11	0.09	0.59	1.74	0.00	0.07	0.07	0.04	0.01
Total On-Road Motor Vehicles		**96.59**	**86.12**	**155.28**	**656.30**	**1.86**	**24.84**	**24.34**	**10.80**	**13.74**
	Other Mobile Sources									
810	Aircraft	3.75	3.70	15.84	38.46	1.83	0.76	0.74	0.67	0.00
820	Trains	0.94	0.79	16.88	4.01	0.01	0.30	0.30	0.27	0.01
833	Ocean Going Vessels	2.49	2.22	26.18	4.17	3.15	0.91	0.91	0.87	0.04
835	Commercial Harbor Crafts	1.33	1.11	11.67	6.90	0.00	0.48	0.48	0.45	0.00
840	Recreational Boats	34.57	29.85	6.68	119.40	0.01	2.06	1.85	1.40	0.01
850	Off-Road Recreation Vehicles	3.98	3.89	0.07	3.29	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	54.32	48.06	53.50	623.67	0.10	4.09	3.88	3.28	0.12
870	Farm Equipment	0.66	0.58	2.43	7.02	0.00	0.16	0.16	0.15	0.00
890	Fuel Storage and Handling	8.17	8.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**110.21**	**98.34**	**133.25**	**806.92**	**5.10**	**8.77**	**8.33**	**7.10**	**0.18**
Total Stationary and Area Sources		1105.77	213.29	58.97	76.85	9.61	262.58	140.69	44.70	63.67
Total On-Road Vehicles		96.59	86.12	155.28	656.30	1.86	24.84	24.34	10.80	13.74
Total Other Mobile		110.21	98.34	133.25	806.92	5.10	8.77	8.33	7.10	0.18
Total		**1312.57**	**397.75**	**347.50**	**1540.07**	**16.57**	**296.19**	**173.36**	**62.60**	**77.59**

2020 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.52	0.87	0.15	6.69	0.26	0.99	0.99	0.98	1.62
20	Cogeneration	0.96	0.10	0.01	0.61	0.01	0.16	0.16	0.15	0.29
30	Oil and Gas Production (Combustion)	0.91	0.11	0.70	0.78	0.01	0.11	0.10	0.10	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	25.77	4.30	9.94	16.81	0.30	1.24	1.23	1.22	2.41
52	Food and Agricultural Processing	0.10	0.04	0.14	0.33	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.05	4.54	8.62	16.31	1.32	1.38	1.38	1.38	3.08
99	Other (Fuel Combustion)	1.50	0.25	2.46	2.71	0.18	0.33	0.25	0.18	0.02
Total Fuel Combustion		**52.17**	**11.22**	**22.02**	**49.19**	**2.08**	**5.81**	**5.66**	**5.54**	**8.61**
Waste Disposal										
110	Sewage Treatment	0.73	0.41	0.01	0.01	0.04	0.01	0.01	0.00	0.25
120	Landfills	631.98	8.90	0.75	0.60	0.40	0.18	0.17	0.16	3.97
130	Incineration	0.48	0.09	1.78	0.65	0.17	0.22	0.11	0.09	0.38
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	81.02	6.48	0.00	0.00	0.00	0.00	0.00	0.00	1.46
Total Waste Disposal		**714.21**	**15.88**	**2.54**	**1.26**	**0.61**	**0.41**	**0.29**	**0.25**	**6.06**
Cleaning and Surface Coatings										
210	Laundering	3.55	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	71.71	13.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	24.56	23.70	0.02	0.01	0.00	1.88	1.80	1.74	0.19
240	Printing	1.98	1.98	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	5.17	4.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.90	0.90	0.03	0.06	0.00	0.06	0.05	0.05	0.29
Total Cleaning and Surface Coatings		**107.87**	**44.72**	**0.05**	**0.07**	**0.00**	**1.94**	**1.85**	**1.79**	**0.54**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.30	2.44	0.03	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	6.96	4.54	0.25	5.19	0.36	2.65	1.73	1.52	0.24
330	Petroleum Marketing	53.48	13.52	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.12	0.11	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**65.86**	**20.61**	**0.29**	**5.22**	**0.42**	**2.67**	**1.74**	**1.52**	**0.24**
Industrial Processes										
410	Chemical	8.46	6.80	0.01	0.03	0.01	0.92	0.71	0.57	0.03
420	Food and Agriculture	1.39	1.35	0.00	0.00	0.01	0.52	0.30	0.15	0.02
430	Mineral Processes	1.06	0.88	0.02	0.20	0.00	8.54	5.56	2.99	0.16
440	Metal Processes	0.23	0.17	0.06	0.19	0.10	0.65	0.42	0.28	0.02
450	Wood and Paper	0.28	0.28	0.00	0.00	0.00	6.92	4.85	2.95	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.14	0.13	0.12	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.75	3.36	0.02	0.13	0.00	1.40	0.94	0.54	8.58
Total Industrial Processes		**15.20**	**12.87**	**0.11**	**0.55**	**0.12**	**19.12**	**12.93**	**7.61**	**8.81**
Solvent Evaporation										
510	Consumer Products	106.49	88.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.48	11.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.50	1.50	0.00	0.00	0.00	0.00	0.00	0.00	1.16
540	Asphalt Paving/Roofing	1.42	1.31	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**121.89**	**103.13**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.16**

(Continued)

2020 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.90	2.12	9.80	13.61	0.30	2.27	2.20	2.17	0.02
620	Farming Operations	28.11	2.32	0.00	0.00	0.00	2.01	1.00	0.19	11.60
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	77.95	38.12	3.82	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	127.38	58.21	8.79	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.14	6.03	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	4.35	2.15	0.31	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.51	0.29	0.11	3.78	0.03	0.44	0.43	0.39	0.03
690	Cooking	2.81	1.97	0.00	0.00	0.00	11.78	11.78	11.78	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.31
	RECLAIM			21.07		6.10				
Total Miscellaneous Processes		**36.67**	**6.93**	**31.06**	**20.41**	**6.43**	**236.77**	**120.36**	**28.46**	**37.96**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	29.61	27.72	16.19	228.27	0.74	11.73	11.49	4.85	5.78
722	Light Duty Trucks 1 (T1)	8.02	7.61	3.54	45.87	0.07	0.96	0.94	0.41	0.56
723	Light Duty Trucks 2 (T2)	13.69	12.81	9.16	104.22	0.37	4.24	4.16	1.75	3.10
724	Medium Duty Trucks (T3)	15.00	13.88	11.49	120.19	0.31	2.62	2.56	1.09	2.88
732	Light Heavy Duty Gas Trucks 1 (T4)	3.58	3.39	4.01	13.37	0.03	0.29	0.29	0.12	0.20
733	Light Heavy Duty Gas Trucks 2 (T5)	0.43	0.41	0.64	1.74	0.01	0.08	0.08	0.03	0.04
734	Medium Heavy Duty Gas Trucks (T6)	0.61	0.55	1.04	6.32	0.01	0.13	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.08	0.06	0.30	3.28	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.35	0.30	8.36	2.02	0.01	0.35	0.35	0.18	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.12	0.10	2.36	0.63	0.01	0.17	0.17	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.65	0.57	15.31	2.18	0.08	1.38	1.36	0.76	0.19
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.70	1.49	53.08	8.50	0.18	1.38	1.36	0.63	0.31
750	Motorcycles (MCY)	10.98	9.75	2.26	45.60	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.82	0.54	7.60	7.87	0.00	0.60	0.59	0.31	0.02
762	Gas Urban Buses (UB)	0.35	0.25	0.42	2.32	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.06	0.50	0.00	0.07	0.07	0.03	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.73	0.09	0.00	0.18	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.15	0.14	0.30	1.63	0.00	0.06	0.06	0.02	0.02
778	Motor Coaches	0.03	0.02	0.83	0.10	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.02	0.02	0.91	0.08	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.09	0.08	0.54	1.41	0.00	0.07	0.07	0.04	0.01
Total On-Road Motor Vehicles		**89.37**	**79.76**	**140.13**	**596.19**	**1.82**	**24.48**	**24.01**	**10.50**	**13.21**
	Other Mobile Sources									
810	Aircraft	3.82	3.78	16.16	39.23	1.88	0.77	0.75	0.68	0.00
820	Trains	0.89	0.75	16.52	4.07	0.01	0.29	0.29	0.26	0.01
833	Ocean Going Vessels	2.55	2.28	24.80	4.26	3.20	0.93	0.93	0.89	0.04
835	Commercial Harbor Crafts	1.32	1.11	11.42	6.96	0.00	0.47	0.47	0.43	0.00
840	Recreational Boats	32.74	28.29	6.54	117.79	0.01	1.95	1.76	1.33	0.01
850	Off-Road Recreation Vehicles	3.94	3.86	0.07	3.34	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	53.69	47.47	51.09	630.49	0.10	3.93	3.73	3.14	0.12
870	Farm Equipment	0.63	0.54	2.30	7.00	0.00	0.15	0.15	0.14	0.00
890	Fuel Storage and Handling	7.89	7.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**107.47**	**95.93**	**128.90**	**813.14**	**5.20**	**8.50**	**8.09**	**6.88**	**0.18**
Total Stationary and Area Sources		1113.87	215.36	56.07	76.70	9.66	266.75	142.86	45.20	63.38
Total On-Road Vehicles		89.37	79.76	140.13	596.19	1.82	24.48	24.01	10.50	13.21
Total Other Mobile		107.47	95.93	128.90	813.14	5.20	8.50	8.09	6.88	0.18
Total		**1310.71**	**391.05**	**325.10**	**1486.03**	**16.68**	**299.73**	**174.96**	**62.58**	**76.77**

2021 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.73	0.90	0.16	6.95	0.27	1.03	1.03	1.02	1.68
20	Cogeneration	0.96	0.11	0.01	0.63	0.01	0.16	0.16	0.15	0.30
30	Oil and Gas Production (Combustion)	0.92	0.11	0.71	0.79	0.01	0.11	0.11	0.10	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	25.53	4.32	9.92	16.94	0.31	1.24	1.23	1.22	2.40
52	Food and Agricultural Processing	0.10	0.04	0.14	0.34	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.11	4.53	8.62	16.35	1.34	1.39	1.39	1.38	3.07
99	Other (Fuel Combustion)	1.51	0.25	2.46	2.73	0.18	0.33	0.25	0.18	0.02
Total Fuel Combustion		**52.22**	**11.27**	**22.02**	**49.68**	**2.12**	**5.86**	**5.72**	**5.58**	**8.66**
Waste Disposal										
110	Sewage Treatment	0.74	0.42	0.01	0.01	0.04	0.01	0.01	0.01	0.25
120	Landfills	636.47	8.96	0.76	0.61	0.40	0.18	0.17	0.17	3.99
130	Incineration	0.48	0.09	1.80	0.66	0.17	0.22	0.11	0.09	0.38
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	84.88	6.79	0.00	0.00	0.00	0.00	0.00	0.00	1.50
Total Waste Disposal		**722.57**	**16.26**	**2.57**	**1.28**	**0.61**	**0.41**	**0.29**	**0.27**	**6.12**
Cleaning and Surface Coatings										
210	Laundering	3.58	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	74.07	13.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	25.02	24.15	0.02	0.01	0.00	1.91	1.84	1.77	0.19
240	Printing	2.02	2.02	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	5.34	4.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.93	0.93	0.03	0.07	0.00	0.06	0.06	0.05	0.29
Total Cleaning and Surface Coatings		**110.96**	**45.83**	**0.05**	**0.08**	**0.00**	**1.97**	**1.90**	**1.82**	**0.54**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.36	2.47	0.03	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	6.99	4.55	0.25	5.20	0.36	2.66	1.73	1.52	0.24
330	Petroleum Marketing	52.85	13.29	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.12	0.11	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**65.32**	**20.42**	**0.29**	**5.23**	**0.42**	**2.68**	**1.74**	**1.52**	**0.24**
Industrial Processes										
410	Chemical	8.69	6.98	0.01	0.03	0.01	0.95	0.74	0.59	0.03
420	Food and Agriculture	1.41	1.37	0.00	0.00	0.01	0.53	0.30	0.15	0.02
430	Mineral Processes	1.08	0.90	0.02	0.20	0.00	8.58	5.58	3.01	0.16
440	Metal Processes	0.23	0.18	0.06	0.19	0.10	0.67	0.43	0.28	0.02
450	Wood and Paper	0.29	0.29	0.00	0.00	0.00	7.10	4.97	3.03	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.15	0.14	0.12	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.79	3.39	0.03	0.14	0.00	1.43	0.96	0.55	8.58
Total Industrial Processes		**15.52**	**13.14**	**0.12**	**0.56**	**0.12**	**19.44**	**13.14**	**7.74**	**8.81**
Solvent Evaporation										
510	Consumer Products	107.10	89.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.57	11.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.51	1.51	0.00	0.00	0.00	0.00	0.00	0.00	1.15
540	Asphalt Paving/Roofing	1.44	1.33	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**122.62**	**103.76**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.15**

(Continued)

2021 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.89	2.12	9.65	13.56	0.30	2.26	2.19	2.16	0.02
620	Farming Operations	27.03	2.23	0.00	0.00	0.00	1.96	0.97	0.19	11.12
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	78.98	38.62	3.87	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	128.62	58.78	8.87	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.14	6.02	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	4.25	2.11	0.30	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.51	0.29	0.11	3.78	0.03	0.44	0.43	0.39	0.03
690	Cooking	2.84	1.98	0.00	0.00	0.00	11.88	11.88	11.88	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.48
	RECLAIM			19.01		6.10				
Total Miscellaneous Processes		**35.61**	**6.85**	**28.85**	**20.36**	**6.43**	**238.98**	**121.44**	**28.67**	**37.65**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	27.62	25.90	14.68	213.17	0.72	11.83	11.58	4.89	5.66
722	Light Duty Trucks 1 (T1)	7.44	7.07	3.18	41.59	0.07	0.95	0.93	0.41	0.54
723	Light Duty Trucks 2 (T2)	12.95	12.14	8.23	97.23	0.36	4.29	4.20	1.77	3.06
724	Medium Duty Trucks (T3)	13.95	12.94	10.06	106.59	0.29	2.59	2.53	1.07	2.77
732	Light Heavy Duty Gas Trucks 1 (T4)	3.34	3.18	3.70	11.90	0.02	0.27	0.27	0.11	0.18
733	Light Heavy Duty Gas Trucks 2 (T5)	0.38	0.36	0.59	1.56	0.01	0.08	0.08	0.03	0.04
734	Medium Heavy Duty Gas Trucks (T6)	0.56	0.50	0.93	5.66	0.01	0.13	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.08	0.06	0.30	3.27	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.33	0.29	7.55	1.89	0.01	0.35	0.35	0.18	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.11	0.10	2.08	0.59	0.01	0.17	0.17	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.30	0.26	11.06	1.14	0.08	1.09	1.07	0.47	0.19
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.74	1.49	50.34	8.85	0.19	1.41	1.39	0.63	0.33
750	Motorcycles (MCY)	11.03	9.78	2.27	45.28	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.57	0.48	6.83	7.30	0.00	0.56	0.55	0.29	0.01
762	Gas Urban Buses (UB)	0.33	0.24	0.40	2.19	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.05	0.50	0.00	0.07	0.07	0.03	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.63	0.09	0.00	0.18	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.15	0.13	0.28	1.54	0.00	0.06	0.06	0.03	0.02
778	Motor Coaches	0.03	0.02	0.76	0.10	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.02	0.02	0.78	0.08	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.08	0.06	0.49	1.13	0.00	0.07	0.07	0.03	0.01
Total On-Road Motor Vehicles		**84.10**	**75.09**	**126.19**	**551.65**	**1.77**	**24.27**	**23.78**	**10.22**	**12.91**
	Other Mobile Sources									
810	Aircraft	3.90	3.85	16.57	39.85	1.93	0.78	0.76	0.69	0.00
820	Trains	0.89	0.74	16.25	4.12	0.01	0.28	0.28	0.26	0.01
833	Ocean Going Vessels	2.66	2.38	24.21	4.44	3.28	0.96	0.96	0.92	0.04
835	Commercial Harbor Crafts	1.32	1.11	11.18	7.03	0.00	0.46	0.46	0.42	0.00
840	Recreational Boats	30.96	26.78	6.41	116.23	0.01	1.85	1.66	1.26	0.01
850	Off-Road Recreation Vehicles	3.88	3.79	0.07	3.39	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	53.00	46.82	48.26	638.75	0.10	3.79	3.59	3.00	0.12
870	Farm Equipment	0.59	0.51	2.17	7.06	0.00	0.15	0.14	0.13	0.00
890	Fuel Storage and Handling	7.62	7.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**104.82**	**93.57**	**125.12**	**820.87**	**5.33**	**8.28**	**7.86**	**6.69**	**0.18**
Total Stationary and Area Sources		1124.82	217.53	53.90	77.19	9.70	269.37	144.26	45.63	63.17
Total On-Road Vehicles		84.10	75.09	126.19	551.65	1.77	24.27	23.78	10.22	12.91
Total Other Mobile		104.82	93.57	125.12	820.87	5.33	8.28	7.86	6.69	0.18
Total		**1313.74**	**386.19**	**305.21**	**1449.71**	**16.80**	**301.92**	**175.90**	**62.54**	**76.26**

2022 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.88	0.92	0.16	7.12	0.27	1.06	1.05	1.05	1.72
20	Cogeneration	0.97	0.11	0.01	0.65	0.01	0.17	0.16	0.15	0.31
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	25.42	4.35	9.95	17.12	0.32	1.25	1.24	1.23	2.40
52	Food and Agricultural Processing	0.10	0.04	0.14	0.34	0.00	0.05	0.04	0.04	0.05
60	Service and Commercial	14.20	4.53	8.62	16.41	1.36	1.40	1.39	1.39	3.06
99	Other (Fuel Combustion)	1.53	0.26	2.46	2.75	0.19	0.33	0.25	0.18	0.02
Total Fuel Combustion		**52.39**	**11.33**	**22.06**	**50.14**	**2.16**	**5.93**	**5.75**	**5.64**	**8.70**
Waste Disposal										
110	Sewage Treatment	0.76	0.43	0.01	0.01	0.04	0.01	0.01	0.01	0.25
120	Landfills	640.95	9.02	0.77	0.62	0.41	0.18	0.17	0.17	4.01
130	Incineration	0.49	0.09	1.82	0.67	0.17	0.22	0.11	0.09	0.39
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	88.82	7.11	0.00	0.00	0.00	0.00	0.00	0.00	1.55
Total Waste Disposal		**731.02**	**16.65**	**2.60**	**1.30**	**0.62**	**0.41**	**0.29**	**0.27**	**6.20**
Cleaning and Surface Coatings										
210	Laundering	3.61	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	76.47	14.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	25.51	24.62	0.02	0.01	0.00	1.95	1.87	1.80	0.20
240	Printing	2.06	2.06	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	5.51	4.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.95	0.95	0.03	0.07	0.00	0.06	0.06	0.06	0.29
Total Cleaning and Surface Coatings		**114.11**	**46.95**	**0.05**	**0.08**	**0.00**	**2.01**	**1.93**	**1.86**	**0.55**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.40	2.49	0.03	0.02	0.06	0.01	0.00	0.00	0.00
320	Petroleum Refining	7.01	4.56	0.25	5.22	0.36	2.66	1.74	1.53	0.24
330	Petroleum Marketing	52.31	13.07	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.13	0.11	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**64.85**	**20.23**	**0.29**	**5.25**	**0.42**	**2.68**	**1.75**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	8.92	7.16	0.01	0.04	0.01	0.97	0.76	0.61	0.03
420	Food and Agriculture	1.43	1.39	0.00	0.00	0.01	0.54	0.31	0.15	0.02
430	Mineral Processes	1.10	0.92	0.02	0.20	0.00	8.64	5.62	3.02	0.16
440	Metal Processes	0.24	0.18	0.06	0.20	0.10	0.68	0.44	0.29	0.02
450	Wood and Paper	0.29	0.29	0.00	0.00	0.00	7.28	5.10	3.10	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.15	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.83	3.43	0.03	0.14	0.00	1.46	0.98	0.57	8.58
Total Industrial Processes		**15.84**	**13.40**	**0.12**	**0.58**	**0.12**	**19.75**	**13.37**	**7.88**	**8.81**
Solvent Evaporation										
510	Consumer Products	107.71	89.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.66	11.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.51	1.51	0.00	0.00	0.00	0.00	0.00	0.00	1.14
540	Asphalt Paving/Roofing	1.46	1.35	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**123.34**	**104.39**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.14**

(Continued)

2022 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.87	2.11	9.52	13.52	0.30	2.25	2.18	2.15	0.02
620	Farming Operations	26.04	2.16	0.00	0.00	0.00	1.92	0.95	0.19	10.69
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	80.12	39.18	3.93	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	129.86	59.35	8.96	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.14	6.02	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	4.15	2.06	0.30	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.51	0.29	0.11	3.78	0.03	0.44	0.43	0.39	0.03
690	Cooking	2.86	2.00	0.00	0.00	0.00	11.98	11.98	11.98	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.65
	RECLAIM			14.90		6.10				
Total Miscellaneous Processes		**34.62**	**6.79**	**24.61**	**20.32**	**6.43**	**241.31**	**122.59**	**28.91**	**37.39**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	25.96	24.41	13.38	200.19	0.70	11.92	11.67	4.92	5.56
722	Light Duty Trucks 1 (T1)	6.94	6.61	2.87	37.81	0.07	0.95	0.93	0.40	0.52
723	Light Duty Trucks 2 (T2)	12.40	11.64	7.48	91.90	0.35	4.34	4.25	1.79	3.04
724	Medium Duty Trucks (T3)	12.89	12.00	8.71	92.59	0.28	2.56	2.51	1.06	2.68
732	Light Heavy Duty Gas Trucks 1 (T4)	3.11	2.97	3.38	10.56	0.02	0.26	0.25	0.11	0.17
733	Light Heavy Duty Gas Trucks 2 (T5)	0.34	0.33	0.54	1.41	0.01	0.08	0.08	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.51	0.46	0.83	5.06	0.01	0.13	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.06	0.30	3.30	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.31	0.27	6.80	1.77	0.01	0.35	0.35	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.10	0.09	1.81	0.55	0.01	0.18	0.17	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.30	0.26	10.83	1.17	0.08	1.12	1.10	0.48	0.20
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.75	1.46	47.23	9.12	0.19	1.43	1.41	0.63	0.34
750	Motorcycles (MCY)	11.16	9.88	2.30	45.35	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.36	0.43	6.21	6.82	0.00	0.54	0.53	0.27	0.01
762	Gas Urban Buses (UB)	0.32	0.23	0.38	2.03	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.05	0.49	0.00	0.08	0.07	0.03	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.54	0.09	0.00	0.17	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.14	0.13	0.26	1.45	0.01	0.06	0.06	0.03	0.02
778	Motor Coaches	0.03	0.02	0.67	0.10	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.02	0.02	0.76	0.08	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.07	0.05	0.45	0.92	0.00	0.07	0.07	0.03	0.01
Total On-Road Motor Vehicles		**79.87**	**71.39**	**116.78**	**512.76**	**1.75**	**24.41**	**23.91**	**10.23**	**12.68**
	Other Mobile Sources									
810	Aircraft	3.97	3.92	16.91	40.56	1.99	0.79	0.77	0.70	0.00
820	Trains	0.86	0.72	15.74	4.16	0.01	0.28	0.28	0.25	0.01
833	Ocean Going Vessels	2.78	2.48	23.60	4.61	3.37	1.00	1.00	0.95	0.04
835	Commercial Harbor Crafts	1.31	1.10	10.95	7.09	0.00	0.45	0.45	0.41	0.00
840	Recreational Boats	29.27	25.34	6.29	114.78	0.01	1.75	1.58	1.19	0.01
850	Off-Road Recreation Vehicles	3.81	3.73	0.07	3.45	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	52.54	46.38	44.71	644.86	0.10	3.61	3.40	2.83	0.13
870	Farm Equipment	0.57	0.49	2.05	7.07	0.00	0.14	0.14	0.12	0.00
890	Fuel Storage and Handling	7.38	7.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**102.49**	**91.51**	**120.32**	**826.58**	**5.48**	**8.03**	**7.63**	**6.46**	**0.19**
Total Stationary and Area Sources		1136.17	219.74	49.73	77.67	9.75	272.12	145.71	46.12	63.03
Total On-Road Vehicles		79.87	71.39	116.78	512.76	1.75	24.41	23.91	10.23	12.68
Total Other Mobile		102.49	91.51	120.32	826.58	5.48	8.03	7.63	6.46	0.19
Total		**1318.53**	**382.64**	**286.83**	**1417.01**	**16.98**	**304.56**	**177.25**	**62.81**	**75.90**

2023 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	5.98	0.94	0.17	7.25	0.28	1.07	1.07	1.07	1.75
20	Cogeneration	0.97	0.11	0.01	0.66	0.01	0.17	0.16	0.16	0.31
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	25.17	4.34	9.89	17.14	0.32	1.24	1.23	1.23	2.38
52	Food and Agricultural Processing	0.10	0.04	0.14	0.35	0.00	0.05	0.04	0.04	0.05
60	Service and Commercial	14.21	4.51	8.60	16.41	1.38	1.40	1.40	1.40	3.05
99	Other (Fuel Combustion)	1.54	0.26	2.47	2.77	0.19	0.33	0.25	0.18	0.02
Total Fuel Combustion		**52.26**	**11.32**	**22.00**	**50.33**	**2.19**	**5.93**	**5.77**	**5.68**	**8.70**
Waste Disposal										
110	Sewage Treatment	0.76	0.43	0.01	0.01	0.04	0.01	0.01	0.01	0.25
120	Landfills	645.54	9.09	0.77	0.62	0.41	0.18	0.18	0.17	4.04
130	Incineration	0.50	0.09	1.83	0.68	0.17	0.22	0.11	0.10	0.39
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	92.77	7.42	0.00	0.00	0.00	0.00	0.00	0.00	1.60
Total Waste Disposal		**739.57**	**17.03**	**2.61**	**1.31**	**0.62**	**0.41**	**0.30**	**0.28**	**6.28**
Cleaning and Surface Coatings										
210	Laundering	3.64	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	77.53	14.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	25.75	24.85	0.02	0.01	0.00	1.96	1.88	1.81	0.20
240	Printing	2.08	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	5.59	4.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.96	0.96	0.03	0.07	0.00	0.06	0.06	0.06	0.30
Total Cleaning and Surface Coatings		**115.55**	**47.47**	**0.05**	**0.08**	**0.00**	**2.02**	**1.94**	**1.87**	**0.56**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.42	2.50	0.03	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.02	4.56	0.25	5.22	0.36	2.66	1.74	1.53	0.24
330	Petroleum Marketing	51.71	12.83	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.13	0.11	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**64.28**	**20.00**	**0.29**	**5.25**	**0.42**	**2.68**	**1.76**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	9.00	7.23	0.01	0.04	0.01	0.99	0.77	0.61	0.03
420	Food and Agriculture	1.44	1.40	0.00	0.00	0.01	0.54	0.31	0.15	0.02
430	Mineral Processes	1.11	0.92	0.02	0.20	0.00	8.66	5.63	3.03	0.17
440	Metal Processes	0.24	0.18	0.06	0.20	0.10	0.69	0.44	0.29	0.02
450	Wood and Paper	0.30	0.30	0.00	0.00	0.00	7.34	5.14	3.13	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.15	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.86	3.45	0.03	0.14	0.00	1.48	0.99	0.57	8.58
Total Industrial Processes		**15.98**	**13.51**	**0.12**	**0.58**	**0.12**	**19.88**	**13.44**	**7.92**	**8.82**
Solvent Evaporation										
510	Consumer Products	108.33	90.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.76	12.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.52	1.52	0.00	0.00	0.00	0.00	0.00	0.00	1.13
540	Asphalt Paving/Roofing	1.48	1.37	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**124.09**	**105.02**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.13**

(Continued)

2023 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.86	2.11	9.38	13.47	0.30	2.24	2.18	2.14	0.02
620	Farming Operations	25.07	2.08	0.00	0.00	0.00	1.87	0.93	0.18	10.26
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	81.10	39.66	3.97	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	131.07	59.90	9.04	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.14	6.02	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	4.04	2.01	0.29	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.51	0.29	0.11	3.78	0.03	0.44	0.43	0.39	0.03
690	Cooking	2.88	2.01	0.00	0.00	0.00	12.07	12.07	12.07	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.82
	RECLAIM			14.90		6.10				
Total Miscellaneous Processes		**33.66**	**6.72**	**24.47**	**20.27**	**6.43**	**243.42**	**123.64**	**29.09**	**37.13**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	24.47	23.06	12.25	188.00	0.67	12.00	11.75	4.95	5.48
722	Light Duty Trucks 1 (T1)	6.47	6.18	2.58	34.16	0.07	0.95	0.92	0.40	0.51
723	Light Duty Trucks 2 (T2)	11.92	11.22	6.83	87.32	0.34	4.39	4.29	1.81	3.03
724	Medium Duty Trucks (T3)	12.14	11.35	7.72	83.66	0.27	2.54	2.49	1.05	2.60
732	Light Heavy Duty Gas Trucks 1 (T4)	2.91	2.78	3.11	9.43	0.02	0.24	0.24	0.10	0.15
733	Light Heavy Duty Gas Trucks 2 (T5)	0.31	0.29	0.49	1.30	0.01	0.08	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.48	0.43	0.75	4.59	0.01	0.13	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.30	3.36	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.29	0.26	6.10	1.66	0.01	0.35	0.34	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.10	0.09	1.57	0.51	0.01	0.18	0.18	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.24	0.21	8.26	1.10	0.08	1.14	1.12	0.47	0.21
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.21	0.95	26.84	8.38	0.19	1.36	1.34	0.53	0.35
750	Motorcycles (MCY)	11.23	9.94	2.33	45.37	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.15	0.39	5.65	6.37	0.00	0.52	0.51	0.26	0.01
762	Gas Urban Buses (UB)	0.30	0.22	0.36	1.91	0.00	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.05	0.48	0.00	0.08	0.08	0.03	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.44	0.09	0.00	0.17	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.14	0.13	0.25	1.39	0.01	0.06	0.06	0.03	0.02
778	Motor Coaches	0.02	0.01	0.31	0.08	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.01	0.01	0.41	0.06	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.06	0.05	0.41	0.73	0.00	0.07	0.06	0.03	0.01
Total On-Road Motor Vehicles		**75.61**	**67.69**	**88.01**	**479.95**	**1.70**	**24.43**	**23.91**	**10.14**	**12.50**
	Other Mobile Sources									
810	Aircraft	4.06	4.01	17.31	41.35	2.04	0.80	0.78	0.71	0.00
820	Trains	0.84	0.70	15.27	4.20	0.01	0.27	0.27	0.25	0.01
833	Ocean Going Vessels	2.90	2.59	22.97	4.79	3.45	1.03	1.03	0.99	0.04
835	Commercial Harbor Crafts	1.31	1.10	10.78	7.16	0.00	0.44	0.44	0.40	0.00
840	Recreational Boats	27.65	23.96	6.18	113.43	0.01	1.66	1.50	1.13	0.01
850	Off-Road Recreation Vehicles	3.75	3.67	0.08	3.50	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	52.38	46.22	42.57	651.02	0.11	3.49	3.28	2.71	0.13
870	Farm Equipment	0.55	0.47	1.94	7.08	0.00	0.13	0.13	0.12	0.00
890	Fuel Storage and Handling	7.17	7.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**100.61**	**89.86**	**117.10**	**832.53**	**5.62**	**7.83**	**7.44**	**6.32**	**0.19**
Total Stationary and Area Sources		1145.39	221.07	49.54	77.82	9.78	274.37	146.88	46.40	62.86
Total On-Road Vehicles		75.61	67.69	88.01	479.95	1.70	24.43	23.91	10.14	12.50
Total Other Mobile		100.61	89.86	117.10	832.53	5.62	7.83	7.44	6.32	0.19
Total		**1321.61**	**378.62**	**254.65**	**1390.30**	**17.10**	**306.63**	**178.23**	**62.86**	**75.55**

2024 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	6.05	0.95	0.17	7.33	0.28	1.09	1.08	1.08	1.77
20	Cogeneration	0.97	0.11	0.01	0.66	0.01	0.17	0.16	0.16	0.31
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	25.03	4.35	9.88	17.20	0.32	1.24	1.23	1.23	2.38
52	Food and Agricultural Processing	0.10	0.04	0.15	0.35	0.00	0.05	0.05	0.05	0.05
60	Service and Commercial	14.23	4.50	8.60	16.42	1.39	1.41	1.40	1.40	3.04
99	Other (Fuel Combustion)	1.55	0.26	2.47	2.79	0.19	0.33	0.25	0.18	0.02
Total Fuel Combustion		**52.22**	**11.33**	**22.00**	**50.50**	**2.20**	**5.96**	**5.79**	**5.70**	**8.71**
Waste Disposal										
110	Sewage Treatment	0.77	0.44	0.01	0.01	0.04	0.01	0.01	0.01	0.25
120	Landfills	650.29	9.15	0.78	0.63	0.41	0.19	0.18	0.17	4.06
130	Incineration	0.50	0.09	1.85	0.69	0.17	0.23	0.11	0.10	0.39
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	96.86	7.75	0.00	0.00	0.00	0.00	0.00	0.00	1.65
Total Waste Disposal		**748.42**	**17.43**	**2.64**	**1.33**	**0.62**	**0.43**	**0.30**	**0.28**	**6.35**
Cleaning and Surface Coatings										
210	Laundering	3.67	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	78.63	14.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	26.03	25.11	0.02	0.01	0.00	1.97	1.90	1.83	0.20
240	Printing	2.10	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	5.67	4.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.98	0.98	0.03	0.07	0.00	0.06	0.06	0.06	0.30
Total Cleaning and Surface Coatings		**117.08**	**48.05**	**0.05**	**0.08**	**0.00**	**2.03**	**1.96**	**1.89**	**0.56**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.42	2.50	0.03	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.03	4.56	0.25	5.23	0.36	2.66	1.74	1.53	0.24
330	Petroleum Marketing	51.21	12.60	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.13	0.12	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**63.79**	**19.78**	**0.29**	**5.26**	**0.42**	**2.68**	**1.76**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	9.10	7.31	0.01	0.04	0.01	1.00	0.78	0.62	0.03
420	Food and Agriculture	1.45	1.41	0.00	0.00	0.01	0.55	0.31	0.15	0.02
430	Mineral Processes	1.12	0.93	0.02	0.20	0.00	8.69	5.65	3.04	0.17
440	Metal Processes	0.24	0.18	0.06	0.20	0.11	0.70	0.45	0.30	0.02
450	Wood and Paper	0.30	0.30	0.00	0.00	0.00	7.41	5.19	3.16	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.15	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.89	3.48	0.03	0.14	0.00	1.50	1.00	0.58	8.58
Total Industrial Processes		**16.13**	**13.64**	**0.12**	**0.58**	**0.13**	**20.03**	**13.54**	**7.99**	**8.82**
Solvent Evaporation										
510	Consumer Products	108.97	90.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.85	12.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.53	1.53	0.00	0.00	0.00	0.00	0.00	0.00	1.12
540	Asphalt Paving/Roofing	1.51	1.39	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**124.86**	**105.68**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.12**

(Continued)

2024 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.85	2.10	9.26	13.44	0.30	2.23	2.17	2.13	0.02
620	Farming Operations	25.07	2.08	0.00	0.00	0.00	1.87	0.93	0.18	10.26
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	82.23	40.21	4.03	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	131.59	60.14	9.08	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.13	6.02	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.94	1.97	0.28	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.51	0.29	0.11	3.78	0.03	0.44	0.43	0.39	0.03
690	Cooking	2.90	2.03	0.00	0.00	0.00	12.17	12.17	12.17	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.00
	RECLAIM			14.90		6.10				
Total Miscellaneous Processes		**33.67**	**6.73**	**24.35**	**20.24**	**6.43**	**245.05**	**124.48**	**29.27**	**37.31**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	23.02	21.74	11.18	174.32	0.64	11.93	11.68	4.91	5.34
722	Light Duty Trucks 1 (T1)	6.02	5.75	2.33	31.00	0.06	0.93	0.91	0.39	0.49
723	Light Duty Trucks 2 (T2)	11.41	10.77	6.24	82.52	0.33	4.38	4.28	1.81	3.00
724	Medium Duty Trucks (T3)	11.38	10.68	6.86	75.58	0.26	2.50	2.44	1.03	2.53
732	Light Heavy Duty Gas Trucks 1 (T4)	2.74	2.63	2.87	8.55	0.02	0.23	0.23	0.10	0.14
733	Light Heavy Duty Gas Trucks 2 (T5)	0.29	0.27	0.46	1.23	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.46	0.41	0.70	4.26	0.01	0.13	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.31	3.42	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.28	0.24	5.52	1.56	0.01	0.35	0.34	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.09	0.08	1.36	0.48	0.01	0.18	0.18	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.24	0.21	8.45	1.11	0.08	1.17	1.14	0.49	0.21
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.28	0.97	27.05	8.75	0.20	1.40	1.39	0.55	0.36
750	Motorcycles (MCY)	11.14	9.84	2.31	44.85	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.97	0.35	4.97	5.92	0.00	0.49	0.48	0.24	0.01
762	Gas Urban Buses (UB)	0.26	0.19	0.34	1.72	0.01	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.05	0.48	0.00	0.08	0.08	0.03	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.35	0.09	0.00	0.17	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.14	0.12	0.24	1.33	0.01	0.06	0.06	0.03	0.02
778	Motor Coaches	0.02	0.01	0.33	0.08	0.00	0.03	0.03	0.01	0.00
779	Diesel Other Buses (OB)	0.01	0.01	0.43	0.07	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.05	0.04	0.38	0.62	0.00	0.06	0.06	0.03	0.01
Total On-Road Motor Vehicles		**71.96**	**64.43**	**83.73**	**447.94**	**1.66**	**24.30**	**23.80**	**10.09**	**12.24**
	Other Mobile Sources									
810	Aircraft	4.13	4.09	17.68	42.10	2.10	0.81	0.79	0.72	0.00
820	Trains	0.81	0.68	14.59	4.24	0.02	0.26	0.26	0.24	0.01
833	Ocean Going Vessels	3.02	2.69	22.10	4.97	3.54	1.07	1.07	1.02	0.04
835	Commercial Harbor Crafts	1.31	1.10	10.65	7.23	0.00	0.43	0.43	0.40	0.00
840	Recreational Boats	26.09	22.63	6.07	112.15	0.01	1.57	1.42	1.07	0.01
850	Off-Road Recreation Vehicles	3.69	3.61	0.08	3.54	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	52.39	46.22	41.07	657.23	0.11	3.41	3.19	2.64	0.13
870	Farm Equipment	0.52	0.45	1.84	7.10	0.00	0.13	0.12	0.11	0.00
890	Fuel Storage and Handling	6.97	6.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**98.93**	**88.41**	**114.08**	**838.56**	**5.78**	**7.69**	**7.29**	**6.21**	**0.19**
	Total Stationary and Area Sources	1156.17	222.64	49.45	77.99	9.80	276.21	147.86	46.69	63.11
	Total On-Road Vehicles	71.96	64.43	83.73	447.94	1.66	24.30	23.80	10.09	12.24
	Total Other Mobile	98.93	88.41	114.08	838.56	5.78	7.69	7.29	6.21	0.19
Total		**1327.06**	**375.48**	**247.26**	**1364.49**	**17.24**	**308.20**	**178.95**	**62.99**	**75.54**

2025 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	6.09	0.96	0.17	7.39	0.29	1.10	1.09	1.09	1.79
20	Cogeneration	0.97	0.11	0.01	0.67	0.01	0.17	0.16	0.16	0.32
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.84	4.35	9.85	17.23	0.33	1.24	1.23	1.23	2.37
52	Food and Agricultural Processing	0.10	0.04	0.15	0.35	0.00	0.05	0.05	0.05	0.05
60	Service and Commercial	14.26	4.50	8.60	16.45	1.41	1.41	1.41	1.41	3.04
99	Other (Fuel Combustion)	1.57	0.26	2.47	2.81	0.19	0.33	0.25	0.18	0.02
Total Fuel Combustion		**52.12**	**11.34**	**21.97**	**50.65**	**2.24**	**5.97**	**5.81**	**5.72**	**8.73**
Waste Disposal										
110	Sewage Treatment	0.78	0.44	0.01	0.01	0.04	0.01	0.01	0.01	0.25
120	Landfills	654.77	9.22	0.79	0.63	0.42	0.19	0.18	0.17	4.08
130	Incineration	0.51	0.10	1.86	0.69	0.17	0.23	0.11	0.10	0.40
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	100.91	8.07	0.00	0.00	0.00	0.00	0.00	0.00	1.70
Total Waste Disposal		**756.97**	**17.83**	**2.66**	**1.33**	**0.63**	**0.43**	**0.30**	**0.28**	**6.43**
Cleaning and Surface Coatings										
210	Laundering	3.70	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	79.68	14.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	26.29	25.36	0.02	0.01	0.00	1.99	1.91	1.84	0.20
240	Printing	2.11	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	5.74	5.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.99	0.99	0.03	0.07	0.00	0.06	0.06	0.06	0.30
Total Cleaning and Surface Coatings		**118.51**	**48.58**	**0.05**	**0.08**	**0.00**	**2.05**	**1.97**	**1.90**	**0.56**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.41	2.49	0.03	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.04	4.56	0.25	5.24	0.36	2.66	1.74	1.53	0.24
330	Petroleum Marketing	50.71	12.37	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.13	0.12	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**63.29**	**19.54**	**0.29**	**5.27**	**0.42**	**2.68**	**1.76**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	9.18	7.37	0.01	0.04	0.01	1.01	0.78	0.63	0.03
420	Food and Agriculture	1.46	1.42	0.00	0.00	0.01	0.55	0.31	0.15	0.02
430	Mineral Processes	1.13	0.94	0.02	0.21	0.00	8.72	5.67	3.05	0.17
440	Metal Processes	0.24	0.19	0.06	0.20	0.11	0.70	0.45	0.30	0.02
450	Wood and Paper	0.30	0.30	0.00	0.00	0.00	7.47	5.23	3.19	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.15	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.91	3.50	0.03	0.14	0.00	1.51	1.01	0.58	8.58
Total Industrial Processes		**16.25**	**13.75**	**0.12**	**0.59**	**0.13**	**20.14**	**13.61**	**8.04**	**8.82**
Solvent Evaporation										
510	Consumer Products	109.58	91.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	12.94	12.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.53	1.53	0.00	0.00	0.00	0.00	0.00	0.00	1.12
540	Asphalt Paving/Roofing	1.53	1.42	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**125.58**	**106.31**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.12**

(Continued)

2025 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.84	2.10	9.14	13.41	0.30	2.23	2.16	2.13	0.02
620	Farming Operations	25.08	2.09	0.00	0.00	0.00	1.86	0.93	0.18	10.27
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	83.33	40.75	4.08	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	132.14	60.39	9.12	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.13	6.02	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.84	1.92	0.27	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.51	0.29	0.11	3.79	0.03	0.44	0.43	0.39	0.03
690	Cooking	2.93	2.05	0.00	0.00	0.00	12.26	12.26	12.26	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.17
	RECLAIM			14.90		6.10				
Total Miscellaneous Processes		**33.70**	**6.76**	**24.23**	**20.22**	**6.43**	**246.68**	**125.30**	**29.44**	**37.49**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	21.57	20.43	10.11	160.63	0.61	11.85	11.61	4.88	5.20
722	Light Duty Trucks 1 (T1)	5.57	5.33	2.07	27.84	0.06	0.92	0.90	0.39	0.47
723	Light Duty Trucks 2 (T2)	10.91	10.32	5.65	77.71	0.32	4.37	4.28	1.80	2.96
724	Medium Duty Trucks (T3)	10.63	10.01	5.99	67.49	0.24	2.45	2.40	1.01	2.45
732	Light Heavy Duty Gas Trucks 1 (T4)	2.57	2.47	2.64	7.67	0.02	0.22	0.21	0.09	0.13
733	Light Heavy Duty Gas Trucks 2 (T5)	0.26	0.25	0.43	1.17	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.43	0.39	0.64	3.93	0.01	0.13	0.13	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.31	3.49	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.26	0.23	4.95	1.47	0.01	0.35	0.35	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.09	0.08	1.16	0.45	0.01	0.18	0.18	0.08	0.00
744	Medium Heavy Duty Diesels Truck (T6)	0.24	0.21	8.64	1.13	0.08	1.19	1.17	0.50	0.22
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.36	0.99	27.27	9.11	0.20	1.45	1.43	0.57	0.37
750	Motorcycles (MCY)	11.04	9.75	2.30	44.32	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.80	0.30	4.30	5.47	0.00	0.46	0.45	0.22	0.01
762	Gas Urban Buses (UB)	0.23	0.17	0.32	1.53	0.01	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.04	0.47	0.00	0.08	0.08	0.04	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.25	0.09	0.00	0.17	0.17	0.08	0.01
777	Gas Other Buses (OB)	0.13	0.12	0.23	1.27	0.01	0.06	0.06	0.03	0.02
778	Motor Coaches	0.02	0.02	0.35	0.09	0.00	0.03	0.03	0.01	0.01
779	Diesel Other Buses (OB)	0.02	0.01	0.45	0.07	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.05	0.04	0.35	0.52	0.00	0.06	0.06	0.03	0.01
Total On-Road Motor Vehicles		**68.34**	**61.24**	**79.45**	**415.92**	**1.60**	**24.18**	**23.72**	**10.04**	**11.98**
	Other Mobile Sources									
810	Aircraft	4.19	4.15	18.17	42.78	2.16	0.83	0.80	0.73	0.00
820	Trains	0.78	0.65	13.93	4.28	0.02	0.25	0.25	0.23	0.01
833	Ocean Going Vessels	3.13	2.80	21.37	5.15	3.63	1.10	1.10	1.05	0.04
835	Commercial Harbor Crafts	1.31	1.10	10.51	7.28	0.00	0.43	0.43	0.39	0.00
840	Recreational Boats	24.62	21.38	5.97	111.03	0.01	1.49	1.34	1.01	0.01
850	Off-Road Recreation Vehicles	3.63	3.55	0.08	3.59	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	52.35	46.18	38.59	662.98	0.11	3.28	3.06	2.51	0.13
870	Farm Equipment	0.50	0.43	1.74	7.12	0.00	0.12	0.12	0.11	0.00
890	Fuel Storage and Handling	6.80	6.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**97.31**	**87.01**	**110.36**	**844.21**	**5.93**	**7.51**	**7.11**	**6.04**	**0.19**
Total Stationary and Area Sources		1166.42	224.11	49.32	78.14	9.85	277.98	148.78	46.94	63.39
Total On-Road Vehicles		68.34	61.24	79.45	415.92	1.60	24.18	23.72	10.04	11.98
Total Other Mobile		97.31	87.01	110.36	844.21	5.93	7.51	7.11	6.04	0.19
Total		**1332.07**	**372.36**	**239.13**	**1338.27**	**17.38**	**309.67**	**179.61**	**63.02**	**75.56**

2026 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	6.10	0.96	0.17	7.39	0.29	1.10	1.09	1.09	1.79
20	Cogeneration	0.98	0.11	0.01	0.68	0.01	0.17	0.16	0.16	0.32
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.68	4.35	9.83	17.28	0.33	1.24	1.23	1.22	2.36
52	Food and Agricultural Processing	0.10	0.04	0.15	0.35	0.00	0.05	0.05	0.05	0.05
60	Service and Commercial	14.30	4.50	8.61	16.48	1.42	1.42	1.41	1.41	3.03
99	Other (Fuel Combustion)	1.58	0.26	2.47	2.82	0.19	0.33	0.25	0.18	0.02
Total Fuel Combustion		**52.03**	**11.34**	**21.96**	**50.75**	**2.25**	**5.98**	**5.81**	**5.71**	**8.71**
Waste Disposal										
110	Sewage Treatment	0.79	0.45	0.01	0.01	0.04	0.01	0.01	0.01	0.26
120	Landfills	658.97	9.28	0.79	0.64	0.42	0.19	0.18	0.17	4.11
130	Incineration	0.51	0.10	1.88	0.70	0.17	0.23	0.11	0.10	0.40
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	101.74	8.14	0.00	0.00	0.00	0.00	0.00	0.00	1.71
Total Waste Disposal		**762.01**	**17.97**	**2.68**	**1.35**	**0.63**	**0.43**	**0.30**	**0.28**	**6.48**
Cleaning and Surface Coatings										
210	Laundering	3.73	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	80.72	15.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	26.53	25.60	0.02	0.01	0.00	2.00	1.92	1.85	0.20
240	Printing	2.13	2.13	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	5.82	5.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	1.00	1.00	0.03	0.07	0.00	0.06	0.06	0.06	0.30
Total Cleaning and Surface Coatings		**119.93**	**49.12**	**0.05**	**0.08**	**0.00**	**2.06**	**1.98**	**1.91**	**0.56**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.41	2.50	0.03	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.05	4.57	0.25	5.24	0.36	2.67	1.74	1.53	0.24
330	Petroleum Marketing	50.29	12.14	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.13	0.12	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**62.88**	**19.33**	**0.29**	**5.27**	**0.42**	**2.69**	**1.76**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	9.27	7.44	0.01	0.04	0.01	1.02	0.79	0.63	0.03
420	Food and Agriculture	1.47	1.43	0.00	0.00	0.01	0.55	0.32	0.15	0.02
430	Mineral Processes	1.14	0.95	0.02	0.21	0.00	8.74	5.68	3.06	0.17
440	Metal Processes	0.25	0.19	0.06	0.20	0.11	0.71	0.46	0.30	0.02
450	Wood and Paper	0.30	0.30	0.00	0.00	0.00	7.53	5.27	3.21	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.15	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.94	3.52	0.03	0.15	0.00	1.53	1.02	0.59	8.58
Total Industrial Processes		**16.40**	**13.86**	**0.12**	**0.60**	**0.13**	**20.26**	**13.70**	**8.08**	**8.82**
Solvent Evaporation										
510	Consumer Products	110.16	91.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	13.02	12.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.54	1.54	0.00	0.00	0.00	0.00	0.00	0.00	1.11
540	Asphalt Paving/Roofing	1.55	1.44	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**126.27**	**106.92**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.11**

(Continued)

2026 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.84	2.10	9.03	13.39	0.30	2.22	2.16	2.12	0.02
620	Farming Operations	25.08	2.09	0.00	0.00	0.00	1.85	0.92	0.18	10.27
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	84.32	41.23	4.13	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	132.66	60.63	9.15	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.13	6.02	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.75	1.88	0.27	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.51	0.29	0.11	3.79	0.03	0.44	0.43	0.40	0.03
690	Cooking	2.95	2.06	0.00	0.00	0.00	12.35	12.35	12.35	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.34
	RECLAIM			14.90		6.10				
Total Miscellaneous Processes		**33.72**	**6.77**	**24.12**	**20.20**	**6.43**	**248.17**	**126.06**	**29.61**	**37.66**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	20.69	19.64	9.37	151.57	0.59	11.86	11.62	4.87	5.11
722	Light Duty Trucks 1 (T1)	5.24	5.03	1.89	25.54	0.06	0.91	0.89	0.38	0.46
723	Light Duty Trucks 2 (T2)	10.58	10.03	5.25	74.43	0.31	4.39	4.29	1.81	2.95
724	Medium Duty Trucks (T3)	10.13	9.58	5.41	62.49	0.23	2.43	2.38	1.00	2.41
732	Light Heavy Duty Gas Trucks 1 (T4)	2.42	2.33	2.43	6.95	0.02	0.21	0.21	0.09	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.24	0.23	0.40	1.11	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.41	0.38	0.60	3.70	0.01	0.13	0.13	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.32	3.59	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.25	0.22	4.41	1.37	0.01	0.35	0.35	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.09	0.08	0.99	0.42	0.01	0.19	0.18	0.08	0.01
744	Medium Heavy Duty Diesels Truck (T6)	0.25	0.22	8.81	1.15	0.09	1.22	1.20	0.51	0.22
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.43	1.02	27.45	9.47	0.21	1.49	1.47	0.58	0.38
750	Motorcycles (MCY)	11.08	9.77	2.31	44.26	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.64	0.26	3.59	5.03	0.00	0.43	0.42	0.21	0.01
762	Gas Urban Buses (UB)	0.13	0.10	0.27	1.16	0.01	0.04	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.04	0.04	0.47	0.00	0.09	0.09	0.04	0.01
772	Diesel School Buses (SB)	0.03	0.02	1.15	0.08	0.00	0.17	0.17	0.07	0.01
777	Gas Other Buses (OB)	0.13	0.12	0.22	1.24	0.01	0.06	0.06	0.03	0.02
778	Motor Coaches	0.02	0.02	0.36	0.09	0.00	0.03	0.03	0.01	0.01
779	Diesel Other Buses (OB)	0.02	0.01	0.47	0.07	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.04	0.03	0.32	0.44	0.00	0.06	0.06	0.03	0.01
Total On-Road Motor Vehicles		**65.95**	**59.18**	**76.06**	**394.63**	**1.58**	**24.23**	**23.76**	**10.02**	**11.85**
	Other Mobile Sources									
810	Aircraft	4.26	4.22	18.60	43.49	2.22	0.84	0.81	0.74	0.00
820	Trains	0.75	0.63	13.30	4.33	0.02	0.24	0.24	0.22	0.01
833	Ocean Going Vessels	3.26	2.92	20.74	5.35	3.71	1.14	1.14	1.09	0.05
835	Commercial Harbor Crafts	1.31	1.10	10.38	7.29	0.00	0.42	0.42	0.39	0.00
840	Recreational Boats	23.25	20.21	5.87	110.06	0.01	1.41	1.27	0.96	0.01
850	Off-Road Recreation Vehicles	3.56	3.48	0.08	3.63	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	52.47	46.28	37.10	669.04	0.11	3.20	2.98	2.44	0.13
870	Farm Equipment	0.49	0.42	1.65	7.15	0.00	0.11	0.11	0.10	0.00
890	Fuel Storage and Handling	6.64	6.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**95.99**	**85.87**	**107.72**	**850.34**	**6.07**	**7.37**	**6.98**	**5.95**	**0.20**
Total Stationary and Area Sources		1173.24	225.31	49.22	78.25	9.86	279.62	149.64	47.15	63.58
Total On-Road Vehicles		65.95	59.18	76.06	394.63	1.58	24.23	23.76	10.02	11.85
Total Other Mobile		95.99	85.87	107.72	850.34	6.07	7.37	6.98	5.95	0.20
Total		**1335.18**	**370.36**	**233.00**	**1323.22**	**17.51**	**311.22**	**180.38**	**63.12**	**75.63**

2027 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	6.10	0.96	0.17	7.39	0.29	1.10	1.09	1.09	1.79
20	Cogeneration	0.98	0.11	0.01	0.69	0.01	0.17	0.16	0.16	0.32
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.52	4.35	9.82	17.32	0.33	1.24	1.23	1.22	2.35
52	Food and Agricultural Processing	0.11	0.04	0.15	0.35	0.00	0.05	0.05	0.05	0.05
60	Service and Commercial	14.34	4.50	8.62	16.52	1.43	1.43	1.42	1.42	3.03
99	Other (Fuel Combustion)	1.59	0.26	2.47	2.84	0.19	0.33	0.25	0.18	0.02
Total Fuel Combustion		**51.93**	**11.34**	**21.96**	**50.86**	**2.26**	**5.99**	**5.82**	**5.72**	**8.70**
Waste Disposal										
110	Sewage Treatment	0.80	0.45	0.01	0.01	0.04	0.01	0.01	0.01	0.26
120	Landfills	663.06	9.33	0.80	0.64	0.42	0.19	0.18	0.18	4.13
130	Incineration	0.51	0.10	1.89	0.70	0.17	0.23	0.11	0.10	0.40
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	102.59	8.21	0.00	0.00	0.00	0.00	0.00	0.00	1.72
Total Waste Disposal		**766.96**	**18.09**	**2.70**	**1.35**	**0.63**	**0.43**	**0.30**	**0.29**	**6.51**
Cleaning and Surface Coatings										
210	Laundering	3.76	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	81.80	15.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	26.78	25.84	0.02	0.01	0.00	2.02	1.94	1.87	0.20
240	Printing	2.15	2.15	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	5.90	5.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	1.01	1.01	0.03	0.07	0.00	0.06	0.06	0.06	0.30
Total Cleaning and Surface Coatings		**121.40**	**49.66**	**0.05**	**0.08**	**0.00**	**2.08**	**2.00**	**1.93**	**0.56**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.43	2.50	0.03	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.06	4.57	0.25	5.25	0.36	2.67	1.74	1.53	0.24
330	Petroleum Marketing	49.85	11.92	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.13	0.12	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**62.47**	**19.11**	**0.29**	**5.28**	**0.42**	**2.69**	**1.76**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	9.35	7.51	0.01	0.04	0.01	1.03	0.80	0.64	0.03
420	Food and Agriculture	1.48	1.43	0.00	0.00	0.01	0.56	0.32	0.15	0.02
430	Mineral Processes	1.16	0.96	0.02	0.21	0.00	8.76	5.70	3.06	0.17
440	Metal Processes	0.25	0.19	0.06	0.21	0.11	0.72	0.46	0.30	0.02
450	Wood and Paper	0.31	0.31	0.00	0.00	0.00	7.59	5.32	3.24	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.16	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.96	3.55	0.03	0.15	0.00	1.54	1.03	0.59	8.58
Total Industrial Processes		**16.54**	**13.98**	**0.12**	**0.61**	**0.13**	**20.39**	**13.79**	**8.12**	**8.82**
Solvent Evaporation										
510	Consumer Products	110.74	92.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	13.11	12.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.54	1.54	0.00	0.00	0.00	0.00	0.00	0.00	1.10
540	Asphalt Paving/Roofing	1.57	1.46	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**126.96**	**107.50**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.10**

(Continued)

2027 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.83	2.10	8.93	13.37	0.30	2.22	2.15	2.12	0.02
620	Farming Operations	25.08	2.09	0.00	0.00	0.00	1.84	0.92	0.18	10.27
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	85.36	41.74	4.18	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	133.19	60.87	9.19	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.12	6.01	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.67	1.85	0.26	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.51	0.29	0.11	3.79	0.03	0.44	0.43	0.40	0.03
690	Cooking	2.97	2.08	0.00	0.00	0.00	12.45	12.45	12.45	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.50
	RECLAIM			14.90		6.10				
Total Miscellaneous Processes		**33.73**	**6.79**	**24.02**	**20.18**	**6.43**	**249.74**	**126.86**	**29.79**	**37.82**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	19.90	18.90	8.83	144.76	0.57	11.85	11.61	4.85	5.07
722	Light Duty Trucks 1 (T1)	4.88	4.68	1.73	23.69	0.06	0.91	0.89	0.38	0.45
723	Light Duty Trucks 2 (T2)	10.21	9.69	4.96	71.98	0.30	4.39	4.30	1.80	2.95
724	Medium Duty Trucks (T3)	9.73	9.22	5.03	59.17	0.23	2.42	2.37	1.00	2.39
732	Light Heavy Duty Gas Trucks 1 (T4)	2.28	2.20	2.27	6.43	0.02	0.20	0.20	0.08	0.12
733	Light Heavy Duty Gas Trucks 2 (T5)	0.23	0.22	0.38	1.09	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.40	0.37	0.57	3.56	0.01	0.13	0.13	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.33	3.69	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.24	0.21	4.03	1.31	0.02	0.35	0.35	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.08	0.07	0.88	0.41	0.01	0.19	0.19	0.09	0.01
744	Medium Heavy Duty Diesels Truck (T6)	0.25	0.22	8.96	1.17	0.09	1.25	1.22	0.52	0.23
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.49	1.04	27.61	9.79	0.21	1.53	1.51	0.60	0.39
750	Motorcycles (MCY)	11.09	9.78	2.32	44.19	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.53	0.23	3.24	4.78	0.00	0.42	0.41	0.20	0.01
762	Gas Urban Buses (UB)	0.12	0.09	0.27	1.09	0.01	0.05	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.05	0.04	0.46	0.00	0.09	0.09	0.04	0.01
772	Diesel School Buses (SB)	0.03	0.02	1.07	0.08	0.00	0.17	0.17	0.07	0.01
777	Gas Other Buses (OB)	0.13	0.12	0.22	1.22	0.01	0.07	0.06	0.03	0.02
778	Motor Coaches	0.02	0.02	0.36	0.09	0.00	0.03	0.03	0.01	0.01
779	Diesel Other Buses (OB)	0.02	0.01	0.47	0.07	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.04	0.03	0.31	0.38	0.00	0.06	0.06	0.03	0.01
Total On-Road Motor Vehicles		**63.80**	**57.22**	**73.88**	**379.41**	**1.56**	**24.28**	**23.80**	**10.01**	**11.81**
	Other Mobile Sources									
810	Aircraft	4.33	4.28	18.99	44.28	2.28	0.85	0.83	0.76	0.00
820	Trains	0.73	0.61	12.74	4.37	0.02	0.23	0.23	0.21	0.01
833	Ocean Going Vessels	3.40	3.04	20.33	5.55	3.80	1.18	1.18	1.13	0.05
835	Commercial Harbor Crafts	1.29	1.09	10.26	7.29	0.00	0.41	0.41	0.38	0.00
840	Recreational Boats	21.97	19.13	5.78	109.23	0.01	1.34	1.20	0.91	0.01
850	Off-Road Recreation Vehicles	3.49	3.42	0.08	3.67	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	52.62	46.41	35.73	675.08	0.11	3.13	2.91	2.37	0.13
870	Farm Equipment	0.47	0.40	1.57	7.18	0.00	0.11	0.11	0.10	0.00
890	Fuel Storage and Handling	6.50	6.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**94.80**	**84.85**	**105.48**	**856.65**	**6.22**	**7.26**	**6.88**	**5.87**	**0.20**
Total Stationary and Area Sources		1179.99	226.47	49.14	78.36	9.87	281.35	150.56	47.41	63.75
Total On-Road Vehicles		63.80	57.22	73.88	379.41	1.56	24.28	23.80	10.01	11.81
Total Other Mobile		94.80	84.85	105.48	856.65	6.22	7.26	6.88	5.87	0.20
Total		**1338.59**	**368.54**	**228.50**	**1314.42**	**17.65**	**312.89**	**181.24**	**63.29**	**75.76**

2028 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	6.10	0.96	0.17	7.39	0.29	1.10	1.09	1.09	1.79
20	Cogeneration	0.98	0.11	0.01	0.69	0.01	0.17	0.16	0.16	0.32
30	Oil and Gas Production (Combustion)	0.93	0.11	0.72	0.80	0.01	0.11	0.11	0.11	0.23
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.39	4.36	9.81	17.38	0.33	1.24	1.23	1.22	2.34
52	Food and Agricultural Processing	0.11	0.04	0.15	0.36	0.00	0.05	0.05	0.05	0.05
60	Service and Commercial	14.39	4.50	8.63	16.57	1.45	1.43	1.43	1.42	3.04
99	Other (Fuel Combustion)	1.60	0.26	2.48	2.85	0.19	0.33	0.25	0.18	0.02
Total Fuel Combustion		**51.86**	**11.35**	**21.97**	**50.99**	**2.28**	**5.99**	**5.83**	**5.72**	**8.70**
Waste Disposal										
110	Sewage Treatment	0.81	0.46	0.01	0.01	0.04	0.01	0.01	0.01	0.26
120	Landfills	667.25	9.39	0.80	0.65	0.42	0.19	0.18	0.18	4.15
130	Incineration	0.52	0.10	1.91	0.71	0.18	0.23	0.12	0.10	0.41
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	103.42	8.28	0.00	0.00	0.00	0.00	0.00	0.00	1.73
Total Waste Disposal		**772.00**	**18.23**	**2.72**	**1.37**	**0.64**	**0.43**	**0.31**	**0.29**	**6.55**
Cleaning and Surface Coatings										
210	Laundering	3.79	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	82.90	15.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	27.04	26.09	0.02	0.01	0.00	2.03	1.95	1.88	0.21
240	Printing	2.16	2.16	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	5.97	5.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	1.03	1.03	0.03	0.07	0.00	0.06	0.06	0.06	0.30
Total Cleaning and Surface Coatings		**122.89**	**50.22**	**0.05**	**0.08**	**0.00**	**2.09**	**2.01**	**1.94**	**0.57**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.44	2.51	0.03	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.07	4.57	0.25	5.25	0.36	2.67	1.74	1.53	0.24
330	Petroleum Marketing	49.45	11.70	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.14	0.12	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**62.10**	**18.90**	**0.29**	**5.28**	**0.42**	**2.69**	**1.76**	**1.53**	**0.24**
Industrial Processes										
410	Chemical	9.44	7.58	0.01	0.04	0.01	1.04	0.81	0.64	0.03
420	Food and Agriculture	1.49	1.44	0.00	0.00	0.01	0.56	0.32	0.16	0.02
430	Mineral Processes	1.17	0.97	0.02	0.21	0.00	8.79	5.71	3.07	0.17
440	Metal Processes	0.25	0.19	0.06	0.21	0.11	0.73	0.47	0.31	0.02
450	Wood and Paper	0.31	0.31	0.00	0.00	0.00	7.65	5.36	3.26	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.16	0.14	0.13	0.00
470	Electronics	0.03	0.03	0.00	0.00	0.00	0.03	0.02	0.01	0.00
499	Other (Industrial Processes)	3.99	3.57	0.03	0.15	0.00	1.55	1.04	0.60	8.58
Total Industrial Processes		**16.68**	**14.09**	**0.12**	**0.61**	**0.13**	**20.51**	**13.87**	**8.18**	**8.82**
Solvent Evaporation										
510	Consumer Products	111.32	92.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	13.20	12.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.55	1.55	0.00	0.00	0.00	0.00	0.00	0.00	1.09
540	Asphalt Paving/Roofing	1.60	1.48	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**127.67**	**108.11**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.09**

(Continued)

2028 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.83	2.09	8.83	13.35	0.30	2.22	2.15	2.12	0.02
620	Farming Operations	25.08	2.09	0.00	0.00	0.00	1.84	0.92	0.18	10.28
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	86.35	42.22	4.23	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	133.69	61.10	9.22	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.12	6.01	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.59	1.81	0.26	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.51	0.29	0.11	3.79	0.03	0.44	0.43	0.40	0.03
690	Cooking	2.99	2.09	0.00	0.00	0.00	12.54	12.54	12.54	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.66
	RECLAIM			14.90		6.10				
	Total Miscellaneous Processes	**33.75**	**6.79**	**23.92**	**20.16**	**6.43**	**251.24**	**127.62**	**29.96**	**37.99**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	19.10	18.17	8.29	137.96	0.56	11.83	11.59	4.84	5.02
722	Light Duty Trucks 1 (T1)	4.52	4.34	1.57	21.84	0.05	0.90	0.88	0.37	0.45
723	Light Duty Trucks 2 (T2)	9.84	9.35	4.67	69.53	0.29	4.39	4.30	1.80	2.94
724	Medium Duty Trucks (T3)	9.33	8.86	4.65	55.85	0.22	2.40	2.35	0.99	2.37
732	Light Heavy Duty Gas Trucks 1 (T4)	2.14	2.07	2.11	5.91	0.02	0.20	0.19	0.08	0.11
733	Light Heavy Duty Gas Trucks 2 (T5)	0.22	0.21	0.36	1.07	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.39	0.36	0.55	3.42	0.01	0.13	0.13	0.05	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.34	3.78	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.23	0.20	3.65	1.24	0.02	0.35	0.35	0.17	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.08	0.07	0.77	0.39	0.01	0.19	0.19	0.09	0.01
744	Medium Heavy Duty Diesels Truck (T6)	0.26	0.23	9.10	1.19	0.09	1.27	1.25	0.53	0.23
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.55	1.06	27.77	10.11	0.22	1.57	1.55	0.61	0.41
750	Motorcycles (MCY)	11.10	9.79	2.32	44.11	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.43	0.21	2.89	4.53	0.00	0.40	0.40	0.19	0.01
762	Gas Urban Buses (UB)	0.11	0.09	0.26	1.02	0.01	0.05	0.04	0.02	0.01
771	Gas School Buses (SB)	0.06	0.05	0.04	0.46	0.00	0.09	0.09	0.04	0.01
772	Diesel School Buses (SB)	0.03	0.02	0.99	0.08	0.00	0.17	0.17	0.07	0.01
777	Gas Other Buses (OB)	0.13	0.12	0.21	1.20	0.01	0.07	0.06	0.03	0.02
778	Motor Coaches	0.02	0.02	0.36	0.09	0.00	0.03	0.03	0.01	0.01
779	Diesel Other Buses (OB)	0.02	0.01	0.48	0.07	0.00	0.05	0.05	0.02	0.01
780	Motor Homes (MH)	0.03	0.03	0.29	0.32	0.00	0.06	0.06	0.03	0.01
	Total On-Road Motor Vehicles	**61.66**	**55.31**	**71.67**	**364.17**	**1.53**	**24.27**	**23.80**	**9.99**	**11.74**
	Other Mobile Sources									
810	Aircraft	4.41	4.36	19.42	45.08	2.34	0.86	0.84	0.77	0.00
820	Trains	0.71	0.60	12.16	4.42	0.02	0.22	0.22	0.20	0.01
833	Ocean Going Vessels	3.53	3.16	20.11	5.75	3.89	1.22	1.22	1.16	0.05
835	Commercial Harbor Crafts	1.28	1.08	10.14	7.28	0.00	0.41	0.41	0.37	0.00
840	Recreational Boats	20.80	18.12	5.69	108.55	0.01	1.27	1.14	0.86	0.01
850	Off-Road Recreation Vehicles	3.44	3.37	0.08	3.71	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	52.84	46.61	34.64	681.15	0.11	3.08	2.86	2.33	0.13
870	Farm Equipment	0.45	0.39	1.49	7.21	0.00	0.10	0.10	0.09	0.00
890	Fuel Storage and Handling	6.38	6.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Other Mobile Sources	**93.84**	**84.04**	**103.73**	**863.15**	**6.37**	**7.17**	**6.80**	**5.79**	**0.20**
	Total Stationary and Area Sources	1186.95	227.69	49.07	78.49	9.90	282.98	151.43	47.65	63.96
	Total On-Road Vehicles	61.66	55.31	71.67	364.17	1.53	24.27	23.80	9.99	11.74
	Total Other Mobile	93.84	84.04	103.73	863.15	6.37	7.17	6.80	5.79	0.20
	Total	**1342.45**	**367.04**	**224.47**	**1305.81**	**17.80**	**314.42**	**182.03**	**63.43**	**75.90**

2030 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	6.10	0.96	0.17	7.39	0.29	1.10	1.09	1.09	1.79
20	Cogeneration	0.98	0.11	0.01	0.71	0.02	0.17	0.16	0.16	0.32
30	Oil and Gas Production (Combustion)	0.94	0.11	0.73	0.80	0.01	0.11	0.11	0.11	0.24
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.27	4.39	9.83	17.55	0.34	1.25	1.24	1.23	2.34
52	Food and Agricultural Processing	0.11	0.04	0.16	0.36	0.00	0.05	0.05	0.05	0.05
60	Service and Commercial	14.57	4.54	8.72	16.77	1.48	1.45	1.45	1.44	3.06
99	Other (Fuel Combustion)	1.63	0.27	2.48	2.88	0.20	0.33	0.25	0.18	0.02
Total Fuel Combustion		**51.96**	**11.43**	**22.10**	**51.41**	**2.34**	**6.02**	**5.86**	**5.75**	**8.73**
Waste Disposal										
110	Sewage Treatment	0.83	0.47	0.01	0.01	0.04	0.01	0.01	0.01	0.26
120	Landfills	675.39	9.51	0.81	0.65	0.43	0.20	0.19	0.18	4.19
130	Incineration	0.53	0.10	1.94	0.72	0.18	0.24	0.12	0.10	0.41
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	105.14	8.41	0.00	0.00	0.00	0.00	0.00	0.00	1.75
Total Waste Disposal		**781.89**	**18.49**	**2.76**	**1.38**	**0.65**	**0.45**	**0.32**	**0.29**	**6.61**
Cleaning and Surface Coatings										
210	Laundering	3.85	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	85.10	15.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	27.54	26.57	0.02	0.01	0.00	2.06	1.97	1.90	0.21
240	Printing	2.19	2.19	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	6.13	5.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	1.05	1.05	0.03	0.07	0.00	0.07	0.06	0.06	0.30
Total Cleaning and Surface Coatings		**125.86**	**51.30**	**0.05**	**0.08**	**0.00**	**2.13**	**2.03**	**1.96**	**0.57**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.46	2.52	0.04	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.09	4.58	0.25	5.27	0.36	2.67	1.75	1.54	0.24
330	Petroleum Marketing	48.97	11.27	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.14	0.12	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**61.66**	**18.49**	**0.30**	**5.30**	**0.42**	**2.69**	**1.77**	**1.54**	**0.24**
Industrial Processes										
410	Chemical	9.61	7.71	0.01	0.04	0.01	1.06	0.82	0.66	0.03
420	Food and Agriculture	1.50	1.46	0.00	0.00	0.01	0.57	0.32	0.16	0.02
430	Mineral Processes	1.19	0.99	0.02	0.21	0.00	8.83	5.74	3.08	0.18
440	Metal Processes	0.26	0.20	0.06	0.21	0.11	0.74	0.48	0.32	0.02
450	Wood and Paper	0.31	0.31	0.00	0.00	0.00	7.77	5.44	3.31	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.16	0.15	0.13	0.00
470	Electronics	0.04	0.04	0.00	0.00	0.00	0.04	0.02	0.02	0.00
499	Other (Industrial Processes)	4.04	3.61	0.03	0.15	0.00	1.58	1.05	0.61	8.58
Total Industrial Processes		**16.95**	**14.32**	**0.12**	**0.61**	**0.13**	**20.75**	**14.02**	**8.29**	**8.83**
Solvent Evaporation										
510	Consumer Products	112.47	93.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	13.37	12.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.56	1.56	0.00	0.00	0.00	0.00	0.00	0.00	1.07
540	Asphalt Paving/Roofing	1.64	1.52	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**129.04**	**109.29**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.07**

(Continued)

2030 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.83	2.09	8.68	13.35	0.31	2.22	2.15	2.12	0.02
620	Farming Operations	25.09	2.09	0.00	0.00	0.00	1.82	0.91	0.18	10.28
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	88.38	43.22	4.33	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	134.76	61.59	9.30	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.12	6.01	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.42	1.73	0.25	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.52	0.29	0.12	3.79	0.03	0.44	0.43	0.40	0.03
690	Cooking	3.04	2.12	0.00	0.00	0.00	12.72	12.72	12.72	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.99
	RECLAIM			14.90		6.10				
	Total Miscellaneous Processes	**33.82**	**6.82**	**23.78**	**20.16**	**6.44**	**254.33**	**129.20**	**30.31**	**38.32**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	17.50	16.71	7.21	124.36	0.53	11.80	11.57	4.80	4.93
722	Light Duty Trucks 1 (T1)	3.80	3.65	1.25	18.14	0.05	0.89	0.87	0.37	0.43
723	Light Duty Trucks 2 (T2)	9.10	8.67	4.09	64.63	0.28	4.39	4.30	1.79	2.94
724	Medium Duty Trucks (T3)	8.53	8.14	3.89	49.20	0.21	2.38	2.33	0.97	2.33
732	Light Heavy Duty Gas Trucks 1 (T4)	1.85	1.80	1.79	4.87	0.02	0.19	0.18	0.08	0.10
733	Light Heavy Duty Gas Trucks 2 (T5)	0.19	0.18	0.31	1.02	0.01	0.08	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.38	0.35	0.50	3.14	0.01	0.14	0.13	0.06	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.05	0.36	3.98	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.21	0.19	2.88	1.11	0.02	0.36	0.35	0.16	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.08	0.07	0.55	0.36	0.01	0.20	0.19	0.09	0.01
744	Medium Heavy Duty Diesels Truck (T6)	0.27	0.23	9.39	1.23	0.09	1.32	1.30	0.55	0.24
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.68	1.11	28.08	10.76	0.23	1.66	1.64	0.65	0.43
750	Motorcycles (MCY)	11.12	9.80	2.33	43.95	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.23	0.16	2.18	4.04	0.00	0.37	0.37	0.17	0.01
762	Gas Urban Buses (UB)	0.09	0.07	0.24	0.88	0.01	0.05	0.05	0.02	0.01
771	Gas School Buses (SB)	0.06	0.05	0.03	0.45	0.00	0.10	0.09	0.04	0.01
772	Diesel School Buses (SB)	0.02	0.02	0.83	0.08	0.00	0.17	0.17	0.07	0.01
777	Gas Other Buses (OB)	0.13	0.12	0.20	1.16	0.01	0.07	0.07	0.03	0.02
778	Motor Coaches	0.02	0.02	0.36	0.09	0.00	0.03	0.03	0.01	0.01
779	Diesel Other Buses (OB)	0.02	0.01	0.48	0.08	0.00	0.06	0.06	0.02	0.01
780	Motor Homes (MH)	0.03	0.02	0.25	0.20	0.00	0.06	0.06	0.03	0.01
	Total On-Road Motor Vehicles	**57.38**	**51.42**	**67.20**	**333.73**	**1.49**	**24.37**	**23.88**	**9.96**	**11.61**
	Other Mobile Sources									
810	Aircraft	4.55	4.50	20.27	46.64	2.45	0.88	0.86	0.79	0.00
820	Trains	0.68	0.57	11.07	4.51	0.02	0.20	0.20	0.19	0.01
833	Ocean Going Vessels	3.80	3.40	19.78	6.16	4.07	1.30	1.30	1.24	0.05
835	Commercial Harbor Crafts	1.26	1.06	9.87	7.26	0.00	0.39	0.39	0.36	0.00
840	Recreational Boats	18.69	16.33	5.53	107.53	0.01	1.14	1.03	0.78	0.01
850	Off-Road Recreation Vehicles	3.37	3.29	0.09	3.80	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	53.51	47.19	33.06	693.90	0.11	3.03	2.81	2.27	0.14
870	Farm Equipment	0.43	0.37	1.36	7.28	0.00	0.09	0.09	0.08	0.00
890	Fuel Storage and Handling	6.19	6.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Other Mobile Sources	**92.48**	**82.87**	**101.03**	**877.08**	**6.66**	**7.04**	**6.69**	**5.72**	**0.21**
	Total Stationary and Area Sources	1201.18	230.14	49.11	78.94	9.98	286.40	153.23	48.17	64.37
	Total On-Road Vehicles	57.38	51.42	67.20	333.73	1.49	24.37	23.88	9.96	11.61
	Total Other Mobile	92.48	82.87	101.03	877.08	6.66	7.04	6.69	5.72	0.21
	Total	**1351.04**	**364.43**	**217.34**	**1289.75**	**18.13**	**317.81**	**183.80**	**63.85**	**76.19**

2031 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

MSC	Source Category (tmf0316)	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
Fuel Combustion										
10	Electric Utilities	6.10	0.96	0.17	7.39	0.29	1.10	1.09	1.09	1.79
20	Cogeneration	0.99	0.11	0.01	0.72	0.02	0.17	0.17	0.16	0.32
30	Oil and Gas Production (Combustion)	0.94	0.11	0.73	0.81	0.01	0.11	0.11	0.11	0.24
40	Petroleum Refining (Combustion)	3.36	1.01	0.00	4.95	0.00	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	24.24	4.41	9.85	17.64	0.34	1.25	1.24	1.23	2.34
52	Food and Agricultural Processing	0.11	0.04	0.16	0.36	0.00	0.05	0.05	0.05	0.05
60	Service and Commercial	14.65	4.56	8.76	16.86	1.49	1.46	1.46	1.45	3.07
99	Other (Fuel Combustion)	1.64	0.27	2.48	2.90	0.20	0.33	0.26	0.18	0.02
Total Fuel Combustion		**52.03**	**11.47**	**22.16**	**51.63**	**2.35**	**6.03**	**5.89**	**5.76**	**8.74**
Waste Disposal										
110	Sewage Treatment	0.84	0.47	0.01	0.01	0.05	0.01	0.01	0.01	0.26
120	Landfills	679.48	9.57	0.82	0.66	0.43	0.20	0.19	0.18	4.22
130	Incineration	0.53	0.10	1.96	0.73	0.18	0.24	0.12	0.10	0.42
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Water Disposal)	105.98	8.48	0.00	0.00	0.00	0.00	0.00	0.00	1.76
Total Waste Disposal		**786.83**	**18.62**	**2.79**	**1.40**	**0.66**	**0.45**	**0.32**	**0.29**	**6.66**
Cleaning and Surface Coatings										
210	Laundering	3.88	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	86.18	16.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	27.79	26.81	0.02	0.01	0.00	2.07	1.99	1.92	0.21
240	Printing	2.21	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	6.21	5.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	1.06	1.06	0.03	0.07	0.00	0.07	0.06	0.06	0.30
Total Cleaning and Surface Coatings		**127.33**	**51.84**	**0.05**	**0.08**	**0.00**	**2.14**	**2.05**	**1.98**	**0.57**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.47	2.52	0.04	0.02	0.06	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.10	4.58	0.25	5.27	0.36	2.67	1.75	1.54	0.24
330	Petroleum Marketing	48.73	11.06	0.01	0.01	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.14	0.13	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Total Petroleum Production and Marketing		**61.44**	**18.29**	**0.30**	**5.30**	**0.42**	**2.69**	**1.77**	**1.54**	**0.24**
Industrial Processes										
410	Chemical	9.70	7.78	0.01	0.04	0.01	1.07	0.83	0.66	0.03
420	Food and Agriculture	1.51	1.47	0.00	0.00	0.01	0.57	0.32	0.16	0.02
430	Mineral Processes	1.20	1.00	0.02	0.21	0.00	8.86	5.75	3.09	0.18
440	Metal Processes	0.26	0.20	0.06	0.22	0.11	0.75	0.48	0.32	0.02
450	Wood and Paper	0.32	0.32	0.00	0.00	0.00	7.83	5.48	3.34	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.16	0.15	0.13	0.00
470	Electronics	0.04	0.04	0.00	0.00	0.00	0.04	0.02	0.02	0.00
499	Other (Industrial Processes)	4.06	3.64	0.03	0.15	0.00	1.59	1.06	0.61	8.58
Total Industrial Processes		**17.09**	**14.45**	**0.12**	**0.62**	**0.13**	**20.87**	**14.09**	**8.33**	**8.83**
Solvent Evaporation										
510	Consumer Products	113.05	94.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	13.45	12.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.57	1.57	0.00	0.00	0.00	0.00	0.00	0.00	1.07
540	Asphalt Paving/Roofing	1.66	1.54	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**129.73**	**109.89**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.07**

(Continued)

2031 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day)

CODE	Source Category	TOG	VOC	NOx	CO	SOx	TSP	PM10	PM2.5	NH3
	Miscellaneous Processes									
610	Residential Fuel Combustion	4.83	2.09	8.61	13.35	0.31	2.22	2.15	2.12	0.02
620	Farming Operations	25.09	2.10	0.00	0.00	0.00	1.82	0.91	0.18	10.28
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	89.42	43.73	4.38	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	135.26	61.81	9.33	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	10.12	6.01	0.60	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.42	1.73	0.25	0.00
660	Fires	0.34	0.23	0.08	3.02	0.00	0.45	0.44	0.41	0.00
670	Waste Burning and Disposal	0.52	0.29	0.12	3.79	0.03	0.44	0.43	0.40	0.03
690	Cooking	3.06	2.14	0.00	0.00	0.00	12.81	12.81	12.81	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.15
	RECLAIM			14.90		6.10				
	Total Miscellaneous Processes	**33.84**	**6.85**	**23.71**	**20.16**	**6.44**	**255.96**	**130.02**	**30.48**	**38.48**
	On-Road Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	16.70	15.98	6.67	117.55	0.51	11.79	11.56	4.78	4.88
722	Light Duty Trucks 1 (T1)	3.43	3.31	1.09	16.29	0.05	0.89	0.87	0.36	0.42
723	Light Duty Trucks 2 (T2)	8.73	8.33	3.80	62.18	0.27	4.39	4.30	1.79	2.94
724	Medium Duty Trucks (T3)	8.13	7.77	3.51	45.88	0.20	2.36	2.31	0.96	2.30
732	Light Heavy Duty Gas Trucks 1 (T4)	1.71	1.66	1.63	4.35	0.02	0.18	0.18	0.07	0.09
733	Light Heavy Duty Gas Trucks 2 (T5)	0.18	0.17	0.29	1.00	0.01	0.08	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.37	0.34	0.47	3.00	0.01	0.14	0.13	0.06	0.04
736	Heavy Heavy Duty Gas Trucks (HHD)	0.07	0.06	0.37	4.07	0.00	0.01	0.01	0.00	0.01
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.20	0.18	2.50	1.05	0.02	0.36	0.35	0.16	0.01
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.08	0.07	0.44	0.35	0.01	0.20	0.20	0.09	0.01
744	Medium Heavy Duty Diesels Truck (T6)	0.27	0.24	9.53	1.25	0.09	1.35	1.32	0.56	0.25
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.74	1.13	28.23	11.08	0.23	1.70	1.68	0.66	0.44
750	Motorcycles (MCY)	11.13	9.81	2.33	43.87	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	1.13	0.14	1.83	3.79	0.00	0.36	0.35	0.16	0.01
762	Gas Urban Buses (UB)	0.08	0.07	0.23	0.81	0.01	0.05	0.05	0.02	0.01
771	Gas School Buses (SB)	0.06	0.05	0.03	0.45	0.00	0.10	0.10	0.04	0.01
772	Diesel School Buses (SB)	0.02	0.02	0.75	0.08	0.00	0.17	0.17	0.07	0.01
777	Gas Other Buses (OB)	0.13	0.12	0.20	1.14	0.01	0.07	0.07	0.03	0.02
778	Motor Coaches	0.02	0.02	0.36	0.09	0.00	0.03	0.03	0.01	0.01
779	Diesel Other Buses (OB)	0.02	0.01	0.49	0.08	0.00	0.06	0.06	0.02	0.01
780	Motor Homes (MH)	0.02	0.02	0.24	0.14	0.00	0.06	0.06	0.03	0.01
	Total On-Road Motor Vehicles	**55.22**	**49.50**	**64.99**	**318.50**	**1.45**	**24.39**	**23.91**	**9.92**	**11.53**
	Other Mobile Sources									
810	Aircraft	4.55	4.50	20.19	46.51	2.44	0.89	0.86	0.79	0.00
820	Trains	0.67	0.56	10.66	4.57	0.02	0.20	0.20	0.18	0.01
833	Ocean Going Vessels	3.91	3.50	19.58	6.34	4.16	1.33	1.33	1.27	0.05
835	Commercial Harbor Crafts	1.24	1.04	9.74	7.25	0.00	0.39	0.39	0.36	0.00
840	Recreational Boats	17.80	15.57	5.46	107.23	0.01	1.09	0.98	0.74	0.01
850	Off-Road Recreation Vehicles	3.34	3.26	0.09	3.84	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	53.95	47.58	32.58	700.47	0.11	3.02	2.80	2.26	0.14
870	Farm Equipment	0.41	0.36	1.29	7.32	0.00	0.09	0.09	0.08	0.00
890	Fuel Storage and Handling	6.12	4.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total Other Mobile Sources	**91.99**	**80.65**	**99.59**	**883.53**	**6.74**	**7.02**	**6.66**	**5.69**	**0.21**
	Total Stationary and Area Sources	1208.29	231.41	49.13	79.19	10.00	288.17	154.17	48.41	64.59
	Total On-Road Vehicles	55.22	49.50	64.99	318.50	1.45	24.39	23.91	9.92	11.53
	Total Other Mobile	91.99	80.65	99.59	883.53	6.74	7.02	6.66	5.69	0.21
	Total	**1355.50**	**361.56**	**213.71**	**1281.22**	**18.19**	**319.58**	**184.74**	**64.02**	**76.33**

Attachment C:

VOC and NOx Stationary Sources in 2012

Emitting 10 Tons/Year and Higher

Attachment C

VOC and NOX Stationary Sources in 2012 Emitting 10 Tons/Year and Higher

(D12r082114)

SCAB VOC EMISSION PRODUCERS

	AB	FACID	FNAME	FCITY	ROG
1	SC	800089	EXXONMOBIL OIL CORPORATION	TORRANCE	562
2	SC	800030	CHEVRON PRODUCTS CO.	EL SEGUNDO	505
3	SC	131003	BP WEST COAST PROD.LLC BP CARSON REF.	CARSON	500
4	SC	171107	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	WILMINGTON	242
5	SC	800436	TESORO REFINING AND MARKETING CO, LLC	WILMINGTON	200
6	SC	16642	ANHEUSER-BUSCH LLC., (LA BREWERY)	VAN NUYS	178
7	SC	800026	ULTRAMAR INC	WILMINGTON	163
8	SC	3721	DART CONTAINER CORP OF CALIFORNIA	CORONA	131
9	SC	800372	EQUILON ENTER. LLC, SHELL OIL PROD. US	CARSON	113
10	SC	69081	BAXTER HEALTHCARE CORP., HYLAND DIV	LOS ANGELES	107
11	SC	171109	PHILLIPS 66 COMPANY/LOS ANGELES REFINERY	CARSON	103
12	SC	155877	MILLERCOORS, LLC	IRWINDALE	102
13	SC	70021	XERXES CORP (A DELAWARE CORP)	ANAHEIM	94
14	SC	800129	SFPP, L.P.	BLOOMINGTON	91
15	SC	94872	METAL CONTAINER CORP	MIRA LOMA	89
16	SC	800183	PARAMOUNT PETR CORP	PARAMOUNT	85
17	SC	5973	SO CAL GAS CO	VALENCIA	84
18	SC	800057	KINDER MORGAN LIQUIDS TERMINALS, LLC	CARSON	80
19	SC	82657	QUEST DIAGNOSTICS INC	SAN JUAN CAPISTRANO	70
20	SC	119907	BERRY PETROLEUM COMPANY	SANTA CLARITA	66
21	SC	151843	INSULFOAM	CHINO	66
22	SC	800128	SO CAL GAS CO	NORTHRIDGE	65
23	SC	800074	LA CITY, DWP HAYNES GENERATING STATION	LONG BEACH	63
24	SC	52517	REXAM BEVERAGE CAN COMPANY	CHATSWORTH	62
25	SC	160437	SOUTHERN CALIFORNIA EDISON	REDLANDS	58
26	SC	143723	LOVIN OVEN, LLC	AZUSA	55
27	SC	4477	SO CAL EDISON CO	AVALON	52
28	SC	800240	TIN INC. TEMPLE INLAND, DBA	ONTARIO	50
29	SC	12155	ARMSTRONG WORLD INDUSTRIES INC	SOUTH GATE	50
30	SC	800075	LA CITY, DWP SCATTERGOOD GENERATING STN	PLAYA DEL REY	44
31	SC	7949	CUSTOM FIBREGLASS MFG CO.,DBA,SNUGTOP	LONG BEACH	42
32	SC	800330	THUMS LONG BEACH	LONG BEACH	40
33	SC	115130	VERTIS, INC	RIVERSIDE	39
34	SS	125355	PLAZA MOTORS INC, JESSUP AUTO PLAZA, DBA	CATHEDRAL CITY	36
35	SC	37881	VERTIS, INC.	POMONA	36
36	SC	167066	ARLON GRAPHICS L.L.C.	SANTA ANA	31
37	SC	800278	SFPP, L.P. (NSR USE)	CARSON	31
38	SC	14871	SONOCO PRODUCTS CO	CITY OF INDUSTRY	31
39	SC	29110	ORANGE COUNTY SANITATION DISTRICT	HUNTINGTON BEACH	31
40	SC	49805	LA CITY, BUREAU OF SANIT(LOPEZ CANYON)	LAKE VIEW TERRACE	31
41	SC	132368	QG PRINTING CORP	RIVERSIDE	29
42	SC	800171	EXXONMOBIL OIL CORPORATION	VERNON	29
43	SC	151798	TESORO REFINING AND MARKETING CO, LLC	CARSON	29
44	SC	144455	LIFOAM INDUSTRIES, LLC	VERNON	28
45	SC	101656	AIR PRODUCTS AND CHEMICALS, INC.	WILMINGTON	27
46	SC	18294	NORTHROP GRUMMAN CORP, AIRCRAFT DIV	EL SEGUNDO	27
47	SC	53729	TREND OFFSET PRINTING SERVICES, INC	LOS ALAMITOS	26
48	SC	126964	EDWARDS LIFESCIENCES LLC	IRVINE	26
49	SC	139808	INLAND EMPIRE REGIONAL COMPOSTING AUTHOR	RANCHO CUCAMONGA	25
50	SC	171326	PHILLIPS 66 PIPELINE LLC	LOS ANGELES	25

SCAB NOX EMISSION PRODUCERS

	AB	FACID	FNAME	FCITY	NOX
1	SC	800089	EXXONMOBIL OIL CORPORATION	TORRANCE	781
2	SC	800030	CHEVRON PRODUCTS CO.	EL SEGUNDO	735
3	SC	131003	BP WEST COAST PROD.LLC BP CARSON REF.	CARSON	650
4	SC	800436	TESORO REFINING AND MARKETING CO, LLC	WILMINGTON	576
5	SC	171107	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	WILMINGTON	498
6	SC	171109	PHILLIPS 66 COMPANY/LOS ANGELES REFINERY	CARSON	329
7	SC	44577	LONG BEACH CITY, SERRF PROJECT	LONG BEACH	305
8	SC	800026	ULTRAMAR INC	WILMINGTON	257
9	SC	131249	BP WEST COAST PRODUCTS LLC,BP WILMINGTON	WILMINGTON	223
10	SC	166073	BETA OFFSHORE	HUNTINGTON BEACH	220
11	SC	100154	DESERT VIEW POWER	MECCA	194
12	SC	800128	SO CAL GAS CO	NORTHRIDGE	174
13	SC	800240	TIN INC. TEMPLE INLAND, DBA	ONTARIO	165
14	SC	800263	U.S. GOVT, DEPT OF NAVY	SAN CLEMENTE	150
15	SC	46268	CALIFORNIA STEEL INDUSTRIES INC	FONTANA	139
16	SC	160437	SOUTHERN CALIFORNIA EDISON	REDLANDS	132
17	SC	37336	COMMERCE REFUSE TO ENERGY FACILITY	COMMERCE	119
18	SC	4242	SAN DIEGO GAS & ELECTRIC	MORENO VALLEY	111
19	SC	25070	LA CNTY SANITATION DISTRICT-PUENTE HILLS	CITY OF INDUSTRY	104
20	SC	18931	TAMCO	RANCHO CUCAMONGA	102
21	SC	800193	LA CITY, DWP VALLEY GENERATING STATION	SUN VALLEY	92
22	SC	800236	LA CO. SANITATION DIST	CARSON	91
23	SC	800074	LA CITY, DWP HAYNES GENERATING STATION	LONG BEACH	80
24	SC	7427	OWENS-BROCKWAY GLASS CONTAINER INC	VERNON	70
25	SC	119907	BERRY PETROLEUM COMPANY	SANTA CLARITA	67
26	SC	800183	PARAMOUNT PETR CORP	PARAMOUNT	61
27	SC	4477	SO CAL EDISON CO	AVALON	58
28	SC	115389	AES HUNTINGTON BEACH, LLC	HUNTINGTON BEACH	56
29	SC	129816	INLAND EMPIRE ENERGY CENTER, LLC	MENIFEE	51
30	SC	115394	AES ALAMITOS, LLC	LONG BEACH	49
31	SC	49111	SUNSHINE CANYON LANDFILL	SYLMAR	49
32	SC	800335	LA CITY, DEPT OF AIRPORTS	LOS ANGELES	49
33	SC	69646	OC WASTE & RECYCLING, FRB	IRVINE	47
34	SC	5973	SO CAL GAS CO	VALENCIA	46
35	SC	151798	TESORO REFINING AND MARKETING CO, LLC	CARSON	44
36	SC	50418	O C WASTE & RECYCLING, OLINDA ALPHA	BREA	39
37	SC	51620	WHEELABRATOR NORWALK ENERGY CO INC	NORWALK	39
38	SC	800234	LOMA LINDA UNIV	LOMA LINDA	38
39	SC	11435	PQ CORPORATION	SOUTH GATE	37
40	SC	18452	UNIVERSITY OF CALIFORNIA, LOS ANGELES	LOS ANGELES	37
41	SC	800327	GLENDALE CITY, GLENDALE WATER & POWER	GLENDALE	37
42	SC	800075	LA CITY, DWP SCATTERGOOD GENERATING STN	PLAYA DEL REY	36
43	SC	29110	ORANGE COUNTY SANITATION DISTRICT	HUNTINGTON BEACH	34
44	SC	117297	MM PRIMA DESHECHA ENERGY, LLC	SAN JUAN CAPISTRANO	33
45	SC	50310	WASTE MGMT DISP &RECY SERVS INC (BRADLEY	SUN VALLEY	32
46	SC	124838	EXIDE TECHNOLOGIES	VERNON	32
47	SC	13854	EAST LOS ANGELES COLLEGE	MONTEREY PARK	32
48	SC	126498	STEELSCAPE, INC	RANCHO CUCAMONGA	30
49	SC	115536	AES REDONDO BEACH, LLC	REDONDO BEACH	30
50	SC	104806	MM LOPEZ ENERGY LLC	SYLMAR	29

Attachment C

VOC and NOX Stationary Sources in 2012 Emitting 10 Tons/Year and Higher

(D12r082114)

SCAB VOC EMISSION PRODUCERS

51	SC	800236	LA CO. SANITATION DIST	CARSON	25
52	SC	800193	LA CITY, DWP VALLEY GENERATING STATION	SUN VALLEY	25
53	SC	129816	INLAND EMPIRE ENERGY CENTER, LLC	MENIFEE	23
54	SC	17301	ORANGE COUNTY SANITATION DISTRICT	FOUNTAIN VALLEY	22
55	SC	14492	JOHNSON LAMINATING & COATING INC	CARSON	22
56	SC	167981	TESORO LOGISTICS OPERATIONS LLC	WILMINGTON	22
57	SC	800272	CHEMOIL TERMINALS CORPORATION	CARSON	22
58	SC	88228	VORTEX WHIRLPOOL SYSTEMS, INC	PERRIS	22
59	SC	76915	ST. JAMES OIL CORP.	LOS ANGELES	22
60	SC	45489	ABBOTT CARDIOVASCULAR SYSTEMS, INC.	TEMECULA	22
61	SC	2825	MCP FOODS INC	ANAHEIM	21
62	SC	167499	CSM BAKERY PRODUCTS NA, INC	COLTON	21
63	SC	800386	LA CO., SHERIFF DEPT	SAUGUS	20
64	SC	800214	LA CITY, SANITATION BUREAU (HTP)	PLAYA DEL REY	20
65	SC	2044	G B MFG INC/CALIF ACRYLIC, DBA CAL SPAS	POMONA	20
66	SC	119940	BUILDING MATERIALS MANUFACTURING CORP	FONTANA	19
67	SC	157259	GRAPHIC PACKAGING INTERNATIONAL, INC	IRVINE	19
68	SC	800052	ARCO TERMINAL SERVICES CORP., TERMINAL 2	LONG BEACH	19
69	SC	145100	P & D DAIRY	CHINO	19
70	SC	800113	ROHR, INC.	RIVERSIDE	19
71	SC	115663	EL SEGUNDO POWER, LLC	EL SEGUNDO	19
72	SC	8582	SO CAL GAS CO/PLAYA DEL REY STORAGE FACI	PLAYA DEL REY	18
73	SC	3585	R. R. DONNELLEY & SONS CO, LA MFG DIV	TORRANCE	18
74	SC	800092	EXXONMOBIL OIL CORP	TERMINAL ISLAND	18
75	SC	150201	BREITBURN OPERATING LP	SANTA FE SPRINGS	17
76	SC	126536	CONSOLIDATED FOUNDRIES - POMONA	POMONA	17
77	SC	20197	LAC/USC MEDICAL CENTER	LOS ANGELES	17
78	SC	800038	THE BOEING COMPANY - C17 PROGRAM	LONG BEACH	17
79	SC	124619	ARDAGH METAL PACKAGING USA INC.	TERMINAL ISLAND	17
80	SC	800022	CALNEV PIPE LINE, LLC	BLOOMINGTON	17
81	SC	101977	SIGNAL HILL PETROLEUM INC	SIGNAL HILL	17
82	SC	45086	SIGNAL HILL PETROLEUM INC	LONG BEACH	17
83	SC	115962	BEST CONTRACTING SERVICES INC	GARDENA	17
84	SC	800051	ARCO TERMINAL SERVICES CORPORATION	LONG BEACH	16
85	SC	16389	CEDARS-SINAI MEDICAL CTR	LOS ANGELES	16
86	SC	159492	WOODWARD HRT- VALENCIA	VALENCIA	16
87	SC	800286	ARCO TERMINAL SERVICES CORP	SIGNAL HILL	16
88	SC	62548	NEWARK PACIFIC PAPERBOARD CORP.	COMMERCE	16
89	SC	115536	AES REDONDO BEACH, LLC	REDONDO BEACH	16
90	SC	153095	SA RECYCLING LLC, ADAMS STEEL DBA	ANAHEIM	16
91	SC	800032	CHEVRON USA INC	MONTEBELLO	15
92	SC	800327	GLENDALE CITY, GLENDALE WATER & POWER	GLENDALE	15
93	SC	144826	PASTIME LAKES DAIRY	LAKEVIEW	15
94	SC	3417	AIR PROD & CHEM INC	CARSON	15
95	SC	800263	U.S. GOVT, DEPT OF NAVY	SAN CLEMENTE	15
96	SC	25070	LA CNTY SANITATION DISTRICT-PUENTE HILLS	CITY OF INDUSTRY	15
97	SC	139799	LITHOGRAPHIX INC	HAWTHORNE	14
98	SC	145211	R & J HARINGA DAIRY	SAN JACINTO	14
99	SC	124838	EXIDE TECHNOLOGIES	VERNON	14
100	SC	148236	AIR LIQUIDE LARGE INDUSTRIES U.S., LP	EL SEGUNDO	14
101	SC	98715	TECHNO COATINGS INC	ANAHEIM	14

SCAB NOX EMISSION PRODUCERS

51	SC	129497	THUMS LONG BEACH CO	LONG BEACH	29
52	SC	800386	LA CO., SHERIFF DEPT	SAUGUS	29
53	SC	800168	PASADENA CITY, DWP	PASADENA	29
54	SC	114801	RHODIA INC.	CARSON	28
55	SC	113518	BREA PARENT 2007,LLC	BREA	28
56	SC	128243	BURBANK CITY,BURBANK WATER & POWER,SCPPA	BURBANK	28
57	SC	115663	EL SEGUNDO POWER, LLC	EL SEGUNDO	27
58	SC	101656	AIR PRODUCTS AND CHEMICALS, INC.	WILMINGTON	27
59	SC	8582	SO CAL GAS CO/PLAYA DEL REY STORAGE FACI	PLAYA DEL REY	27
60	SC	16978	CLOUGHERTY PACKING LLC/HORMEL FOODS CORP	VERNON	26
61	SC	15504	SCHLOSSER FORGE COMPANY	RANCHO CUCAMONGA	26
62	SC	17301	ORANGE COUNTY SANITATION DISTRICT	FOUNTAIN VALLEY	26
63	SC	22911	CARLTON FORGE WORKS	PARAMOUNT	26
64	SC	45063	BIG BEAR AREA REGIONAL WASTEWATER	BIG BEAR CITY	25
65	SS	62862	IMPERIAL IRRIGATION DISTRICT/ COACHELLA	COACHELLA	23
66	SC	8547	QUEMETCO INC	CITY OF INDUSTRY	22
67	SC	113674	U S A WASTE OF CAL(EL SOBRANTE LANDFILL)	CORONA	21
68	SC	105903	PRIME WHEEL	CARSON	21
69	SC	94872	METAL CONTAINER CORP	MIRA LOMA	20
70	SC	155474	BICENT (CALIFORNIA) MALBURG LLC	VERNON	20
71	SC	3417	AIR PROD & CHEM INC	CARSON	19
72	SC	10966	WEBER METALS INC	PARAMOUNT	19
73	SC	800080	LUNDAY-THAGARD COMPANY	SOUTH GATE	19
74	SC	7411	DAVIS WIRE CORP	IRWINDALE	18
75	SC	43436	TST, INC.	FONTANA	17
76	SS	42218	PALM SPRINGS CITY (MUNICIPAL)	PALM SPRINGS	17
77	SC	800330	THUMS LONG BEACH	LONG BEACH	17
78	SC	800265	UNIV OF SO CAL (EIS & NSR USE ONLY)	LOS ANGELES	16
79	SC	16389	CEDARS-SINAI MEDICAL CTR	LOS ANGELES	16
80	SC	14495	VISTA METALS CORPORATION	FONTANA	16
81	SC	16639	SHULTZ STEEL CO	SOUTH GATE	16
82	SC	148236	AIR LIQUIDE LARGE INDUSTRIES U.S., LP	EL SEGUNDO	16
83	SC	42514	LA COUNTY SANITATION DIST (CALABASAS)	AGOURA	16
84	SC	800037	DEMENNO/KERDOON	COMPTON	15
85	SC	47781	OLS ENERGY-CHINO	CHINO	15
86	SC	139010	RIPON COGENERATION LLC	POMONA	15
87	SC	118406	CARSON COGENERATION COMPANY	CARSON	15
88	SC	800325	TIDELANDS OIL PRODUCTION CO	LONG BEACH	15
89	SC	16642	ANHEUSER-BUSCH LLC., (LA BREWERY)	VAN NUYS	14
90	SC	129660	NM MID VALLEY GENCO LLC	RIALTO	14
91	SC	45448	GAS RECOVERY SYST LLC (COYOTE CANYON)	NEWPORT COAST	14
92	SC	9755	UNITED AIRLINES INC	LOS ANGELES	14
93	SC	800288	UNIV CAL IRVINE (NSR USE ONLY)	IRVINE	13
94	SC	94677	YORBA LINDA WATER DISTRICT	YORBA LINDA	13
95	SC	550	LA CO., INTERNAL SERVICE DEPT	LOS ANGELES	13
96	SC	129661	NM MILLIKEN GENCO, LLC	ONTARIO	13
97	SC	115315	NRG CALIFORNIA SOUTH LP, ETIWANDA GEN ST	ETIWANDA	12
98	SC	150351	SAMUEL P LEWIS DBA CHINO WELDING & ASSEM	MIRA LOMA	12
99	SC	155877	MILLERCOORS, LLC	IRWINDALE	12
100	SC	145061	TADEMA CATTLE CO	CHINO	12
101	SC	3704	ALL AMERICAN ASPHALT, UNIT NO.01	CORONA	12

Attachment C

VOC and NOX Stationary Sources in 2012 Emitting 10 Tons/Year and Higher

(D12r082114)

SCAB VOC EMISSION PRODUCERS

102	SC	800267	TRIUMPH PROCESSING, INC.	LYNWOOD	14
103	SC	800279	SFPP, L.P. (NSR USE ONLY)	ORANGE	13
104	SC	47708	HELLMAN PROPERTIES LLC	SEAL BEACH	13
105	SC	124904	LOS ANGELES TIMES COMMUNICATIONS LLC	LOS ANGELES	13
106	SC	800056	KINDER MORGAN LIQUIDS TERMINALS, LLC	WILMINGTON	13
107	SC	134590	FLEISCHMANN'S VINEGAR CO, INC	MONTEBELLO	13
108	SC	800335	LA CITY, DEPT OF AIRPORTS	LOS ANGELES	13
109	SC	145351	LEGEND DAIRY FARMS	ONTARIO	13
110	SC	800264	EDGINGTON OIL COMPANY	LONG BEACH	13
111	SC	800393	VALERO WILMINGTON ASPHALT PLANT	WILMINGTON	13
112	SC	1744	KIRKHILL - TA COMPANY	BREA	13
113	SC	800369	EQUILON ENTER.LLC , SHELL OIL PROD. U S	VAN NUYS	13
114	SC	117290	B BRAUN MEDICAL, INC	IRVINE	13
115	SC	124808	INEOS POLYPROPYLENE LLC	CARSON	13
116	SC	140811	DUCOMMUN AEROSTRUCTURES INC	MONROVIA	13
117	SC	103609	ST. JUDE MEDICAL CRMD	SYLMAR	13
118	SC	18931	TAMCO	RANCHO CUCAMONGA	13
119	SC	25501	FABRI-COTE,DIV A & S GLASS FABRICS CO IN	LOS ANGELES	13
120	SC	21887	KIMBERLY-CLARK WORLDWIDE INC.-FULT. MILL	FULLERTON	12
121	SC	8820	REULAND ELECTRIC CO, H.BRITTON LEES	CITY OF INDUSTRY	12
122	SC	171988	ACCURATE METAL SOLUTIONS ANAHEIM, LLC	ANAHEIM	12
123	SC	145415	GERBEN HETTINGA/HETTINGA DAIRY	SAN JACINTO	12
124	SC	166073	BETA OFFSHORE	HUNTINGTON BEACH	12
125	SC	145061	TADEMA CATTLE CO	CHINO	12
126	SC	18452	UNIVERSITY OF CALIFORNIA, LOS ANGELES	LOS ANGELES	12
127	SC	772	DEFT INC	IRVINE	12
128	SC	800396	BP WEST COAST PROD/ARCO VINVALE TERMINAL	SOUTH GATE	12
129	SC	171327	PHILLIPS 66 PIPELINE LLC	TORRANCE	12
130	SC	52742	STOROPACK INC	DOWNEY	11
131	SC	58563	MERCURY PLASTICS INC	CITY OF INDUSTRY	11
132	SC	119741	JENSEN PRECAST	FONTANA	11
133	SC	133987	PLAINS EXPLORATION & PRODUCTION CO, LP	LOS ANGELES	11
134	SC	47901	PARKER HANNIFIN CORP, CONTROL SYS DIV	IRVINE	11
135	SC	800397	BP WEST COAST PROD.,ARCO COLTON	BLOOMINGTON	11
136	SC	40915	FREUND BAKING CO	GLENDALE	11
137	SC	8309	CAMBRO MANUFACTURING CO	HUNTINGTON BEACH	11
138	SC	169990	SPS TECHNOLOGIES, LLC	GARDENA	11
139	SC	13011	M.C. GILL CORP	EL MONTE	11
140	SC	16213	EXXONMOBIL OIL CORP	TORRANCE	11
141	SC	143870	ABACHERLI DAIRY, RONALD ABACHERLI	MENIFEE	11
142	SC	39855	MIZKAN AMERICAS, INC	RANCHO CUCAMONGA	10
143	SC	128243	BURBANK CITY,BURBANK WATER & POWER,SCPPA	BURBANK	10
144	SC	132124	BP WEST COAST PRODUCTS, LLC/CARSON TERMI	CARSON	10
145	SC	10245	LA CITY, TERMINAL ISLAND TREATMENT PLANT	SAN PEDRO	10
146	SC	12630	FLINT GROUP NORTH AMERICA CORP	CITY OF INDUSTRY	10
147	SC	106897	AG-FUME SERVICES INC	SAN PEDRO	10
148	SC	144144	JIM BOOTSMA, JR., DAIRY	LAKEVIEW	10
149	SC	100145	HARBOR FUMIGATION INC	SAN PEDRO	10
150	SC	1703	EASTERN MUNICIPAL WATER DISTRICT	TEMECULA	10
151	SC	800234	LOMA LINDA UNIV	LOMA LINDA	10
152	SC	57094	GS ROOFING PRODUCTS CO, INC/CERTAINTEED	WILMINGTON	10

SCAB NOX EMISSION PRODUCERS

102	SC	136	PRESS FORGE CO	PARAMOUNT	12
103	SC	119133	EOP - 10960 WILSHIRE LLC	LOS ANGELES	12
104	SC	800170	LA CITY, DWP HARBOR GENERATING STATION	WILMINGTON	12
105	SC	800202	UNIVERSAL CITY STUDIOS, LLC.	UNIVERSAL CITY	12
106	SC	35302	OWENS CORNING ROOFING AND ASPHALT, LLC	COMPTON	11
107	SC	800409	NORTHROP GRUMMAN SYSTEMS CORPORATION	REDONDO BEACH	11
108	SC	143829	TIVA DAIRY	ONTARIO	11
109	SC	346	FRITO-LAY, INC.	RANCHO CUCAMONGA	11
110	SC	150397	RF MAC DONALD CO	SANTA FE SPRINGS	10
111	SC	113873	MM WEST COVINA LLC	WEST COVINA	10
112	SC	16338	KAISER ALUMINUM FABRICATED PRODUCTS, LLC	LOS ANGELES	10
113	SC	68042	CORONA ENERGY PARTNERS, LTD	CORONA	10
114	SC	11887	NASA JET PROPULSION LAB	PASADENA	10
115	SC	115172	RAYTHEON COMPANY	EL SEGUNDO	10

Attachment C

VOC and NOX Stationary Sources in 2012 Emitting 10 Tons/Year and Higher

(D12r082114)

SCAB VOC EMISSION PRODUCERS

153	SC	91157	FOOD FOR LIFE BAKING CO INC	CORONA	10
154	SC	1379	MADISON-GRAHAM COLORGRAPHICS INC	LOS ANGELES	10
155	SC	44655	REINHOLD INDUSTRIES INC	SANTA FE SPRINGS	10
156	SC	800417	PLAINS WEST COAST TERMINALS LLC	COMPTON	10
157	SC	116931	EQUILON ENT LLC, SHELL OIL PROD. U S	SIGNAL HILL	10
158	SC	146947	EAGLE LIVESTOCK INC	ONTARIO	10
159	SC	84273	TEVA PARENTERAL MEDICINES, INC	IRVINE	10
160	SC	115394	AES ALAMITOS, LLC	LONG BEACH	10
161	SC	104004	MICROMETALS, INC	ANAHEIM	10
162	SC	800080	LUNDAY-THAGARD COMPANY	SOUTH GATE	10

SCAB NOX EMISSION PRODUCERS

Attachment D:

Annual Average On-Road Mobile Source Emissions

Attachment D

Table D-1
2012 Annual Average 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10573318	36555	175922	87373	17531	83747	898	64531	6468	4175	1793	6774	1545	4549	47123	9377	10824598	297081	11121679
VMT/1000	354702	1270	5900	3272	803	4317	69	7476	312	296	209	782	60	160	377	86	362432	17659	380091
Reactive Organic Gas Emissions																			
Run Exh	31.68	0.12	0.68	0.53	0.30	1.99	0.13	4.97	0.05	0.17	0.38	1.21	0.06	0.14	0.19	0.01	33.47	9.14	42.60
Idle Exh	0.00	0.00	0.07	0.01	0.02	0.03	0.00	0.51	0.00	0.01	0.00	0.00	0.02	0.01	0.00	0.00	0.11	0.58	0.68
Start Ex	27.93	0.00	1.81	0.00	0.75	0.00	0.12	0.00	0.11	0.00	0.03	0.00	0.02	0.00	0.01	0.00	30.77	0.00	30.77
Total Ex	59.62	0.12	2.56	0.54	1.06	2.02	0.25	5.48	0.16	0.19	0.41	1.21	0.09	0.16	0.20	0.01	64.35	9.71	74.06
Diurnal	8.48	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	8.49	0.01	8.50
Hot Soak	16.90	0.00	0.46	0.00	0.10	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.49	0.00	17.49
Running	47.63	0.00	3.15	0.00	0.41	0.00	0.06	0.00	0.04	0.00	0.03	0.00	0.02	0.00	0.02	0.00	51.35	0.00	51.35
Resting	6.11	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	0.01	0.00	6.12	0.00	6.12
Total	138.73	0.12	6.18	0.54	1.58	2.03	0.33	5.48	0.20	0.19	0.44	1.21	0.11	0.16	0.23	0.01	147.80	9.72	157.52
Carbon Monoxide Emissions																			
Run Exh	881.94	0.83	17.83	3.66	8.22	6.15	4.96	18.89	1.29	0.54	4.55	14.48	1.35	0.36	5.83	0.05	925.96	44.96	970.92
Idle Exh	0.00	0.00	0.63	0.09	0.24	0.25	0.00	1.53	0.04	0.06	0.00	0.00	0.12	0.07	0.00	0.00	1.02	2.00	3.03
Start Ex	319.06	0.00	20.21	0.00	10.03	0.00	2.32	0.00	1.63	0.00	0.43	0.00	0.28	0.00	0.08	0.00	354.06	0.00	354.06
Total Ex	1200.99	0.83	38.67	3.75	18.48	6.41	7.28	20.42	2.96	0.60	4.99	14.48	1.76	0.43	5.91	0.05	1281.04	46.97	1328.01
Oxides of Nitrogen Emissions																			
Run Exh	94.74	0.73	3.56	21.34	1.50	35.82	0.46	90.38	0.32	3.00	0.73	19.64	0.11	1.95	0.54	0.60	101.96	173.46	275.42
Idle Exh	0.00	0.00	0.01	0.25	0.00	1.00	0.00	5.57	0.00	0.18	0.00	0.00	0.00	0.29	0.00	0.00	0.01	7.29	7.30
Start Ex	26.48	0.00	5.28	0.00	1.10	0.18	0.11	0.42	0.25	0.01	0.05	0.00	0.02	0.00	0.01	0.00	33.29	0.62	33.90
Total Ex	121.22	0.73	8.84	21.59	2.60	37.00	0.57	96.36	0.57	3.20	0.78	19.64	0.12	2.24	0.55	0.60	135.26	181.37	316.62
PM2.5 Emissions																			
Run Exh	0.94	0.09	0.01	0.12	0.00	1.37	0.00	2.72	0.00	0.09	0.00	0.27	0.00	0.07	0.00	0.02	0.95	4.74	5.69
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08
Start Ex	0.24	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	0.25	0.00	0.25
Total Ex	1.18	0.09	0.02	0.12	0.00	1.37	0.00	2.80	0.00	0.09	0.00	0.27	0.00	0.07	0.00	0.02	1.20	4.82	6.02
TireWear	0.78	0.00	0.01	0.01	0.00	0.01	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.10	0.89
BrakeWear	6.14	0.02	0.22	0.13	0.05	0.27	0.00	0.22	0.02	0.02	0.01	0.31	0.02	0.06	0.02	0.01	6.48	1.02	7.50
Total	8.10	0.11	0.25	0.26	0.06	1.65	0.00	3.08	0.02	0.11	0.01	0.58	0.02	0.13	0.03	0.02	8.48	5.93	14.41
Fuel Consumption (1000 gallons) and SO2																			
Fuel	18065.97	49.63	551.06	171.20	118.25	485.02	16.68	1384.63	45.74	41.86	43.57	177.57	5.68	22.36	52.99	8.52	18899.94	2340.79	21240.73
SOx	1.69	0.01	0.05	0.02	0.01	0.05	0.00	0.14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	1.77	0.24	2.01

Table D-2
2012 Summer Planning 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10573318	36555	175922	87373	17531	83747	898	64531	6468	4175	1793	6774	1545	4549	47123	9377	10824598	297081	11121679
VMT/1000	354702	1270	5900	3272	803	4317	69	7476	312	296	209	782	60	160	377	86	362432	17659	380091
Reactive Organic Gas Emissions																			
Run Exh	32.06	0.12	0.69	0.53	0.30	1.99	0.13	4.97	0.05	0.17	0.39	1.21	0.06	0.14	0.19	0.01	33.86	9.14	42.99
Idle Exh	0.00	0.00	0.07	0.01	0.01	0.03	0.00	0.49	0.00	0.01	0.00	0.00	0.02	0.01	0.00	0.00	0.11	0.55	0.66
Start Ex	24.68	0.00	1.74	0.00	0.71	0.00	0.11	0.00	0.10	0.00	0.03	0.00	0.02	0.00	0.01	0.00	27.40	0.00	27.40
Total Ex	56.74	0.12	2.50	0.54	1.03	2.01	0.24	5.46	0.16	0.19	0.42	1.21	0.09	0.15	0.19	0.01	61.37	9.69	71.06
Diurnal	13.82	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	13.84	0.01	13.85
Hot Soak	18.32	0.00	0.50	0.00	0.10	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.95	0.00	18.95
Running	45.01	0.00	3.08	0.00	0.41	0.00	0.06	0.00	0.04	0.00	0.03	0.00	0.01	0.00	0.02	0.00	48.65	0.00	48.65
Resting	9.87	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	9.89	0.00	9.89
Total	143.77	0.12	6.09	0.54	1.54	2.02	0.31	5.46	0.20	0.19	0.45	1.21	0.10	0.15	0.24	0.01	152.69	9.70	162.39
Carbon Monoxide Emissions																			
Run Exh	950.81	0.83	18.13	3.66	8.22	6.15	4.88	18.89	1.30	0.54	4.58	14.48	1.32	0.36	5.77	0.05	995.02	44.96	1039.98
Idle Exh	0.00	0.00	0.63	0.09	0.17	0.19	0.00	1.19	0.04	0.04	0.00	0.00	0.12	0.05	0.00	0.00	0.96	1.56	2.52
Start Ex	274.61	0.00	19.27	0.00	9.64	0.00	2.28	0.00	1.55	0.00	0.38	0.00	0.23	0.00	0.08	0.00	308.04	0.00	308.04
Total Ex	1225.42	0.83	38.03	3.75	18.04	6.34	7.16	20.09	2.89	0.58	4.95	14.48	1.67	0.42	5.86	0.05	1304.02	46.53	1350.54
Oxides of Nitrogen Emissions																			
Run Exh	83.51	0.69	3.13	20.22	1.31	33.84	0.40	85.51	0.29	2.84	0.64	18.57	0.09	1.85	0.47	0.57	89.84	164.08	253.92
Idle Exh	0.00	0.00	0.01	0.25	0.00	1.03	0.00	5.72	0.00	0.19	0.00	0.00	0.00	0.30	0.00	0.00	0.01	7.49	7.50
Start Ex	24.58	0.00	5.06	0.00	1.05	0.18	0.10	0.42	0.24	0.01	0.05	0.00	0.02	0.00	0.01	0.00	31.11	0.62	31.72
Total Ex	108.09	0.69	8.19	20.47	2.36	35.06	0.50	91.65	0.53	3.04	0.69	18.57	0.11	2.15	0.48	0.57	120.95	172.19	293.14
PM2.5 Emissions																			
Run Exh	0.94	0.09	0.01	0.12	0.00	1.37	0.00	2.72	0.00	0.09	0.00	0.27	0.00	0.07	0.00	0.02	0.95	4.74	5.69
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07
Start Ex	0.24	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	0.25	0.00	0.25
Total Ex	1.18	0.09	0.02	0.12	0.00	1.37	0.00	2.79	0.00	0.09	0.00	0.27	0.00	0.07	0.00	0.02	1.20	4.81	6.01
TireWear	0.78	0.00	0.01	0.01	0.00	0.01	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.10	0.89
BrakeWear	6.14	0.02	0.22	0.13	0.05	0.27	0.00	0.22	0.02	0.02	0.01	0.31	0.02	0.06	0.02	0.01	6.48	1.02	7.50
Total	8.10	0.11	0.25	0.26	0.06	1.65	0.00	3.08	0.02	0.11	0.01	0.58	0.02	0.13	0.03	0.02	8.48	5.93	14.41
Fuel Consumption (1000 gallons) and SO2																			
Fuel	18942.97	49.63	550.94	171.20	118.22	485.37	16.66	1387.50	45.73	41.93	43.57	177.57	5.66	22.46	52.98	8.52	19776.73	2344.18	22120.90
SOx	1.78	0.01	0.05	0.02	0.01	0.05	0.00	0.14	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	1.85	0.24	2.09

Table D-3
2017 Annual Average 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10596601	66032	142449	104147	15942	100772	648	71389	7499	4482	2065	5193	1855	5131	39865	9448	10806924	366594	11173518
VMT/1000	370583	2638	4439	3917	786	5555	79	9468	357	376	242	610	72	196	327	82	376885	22842	399727
Reactive Organic Gas Emissions																			
Run Exh	17.68	0.09	0.33	0.46	0.12	1.04	0.05	1.58	0.03	0.06	0.27	0.77	0.01	0.04	0.09	0.01	18.58	4.04	22.62
Idle Exh	0.00	0.00	0.06	0.01	0.01	0.01	0.00	0.18	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.09	0.21	0.30
Start Ex	15.09	0.00	1.27	0.00	0.37	0.00	0.03	0.00	0.08	0.00	0.03	0.00	0.01	0.00	0.00	0.00	16.88	0.00	16.88
Total Ex	32.77	0.09	1.66	0.47	0.50	1.05	0.08	1.76	0.11	0.06	0.30	0.77	0.04	0.04	0.09	0.01	35.55	4.25	39.81
Diurnal	5.93	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	5.93	0.01	5.94
Hot Soak	12.62	0.00	0.39	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	13.06	0.00	13.06
Running	31.93	0.00	2.61	0.00	0.20	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.01	0.00	0.01	0.00	34.82	0.00	34.82
Resting	4.89	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	4.90	0.00	4.90
Total	88.13	0.09	4.67	0.47	0.74	1.06	0.09	1.76	0.15	0.06	0.32	0.77	0.04	0.04	0.11	0.01	94.26	4.26	98.52
Carbon Monoxide Emissions																			
Run Exh	534.16	0.83	8.64	3.04	3.28	3.51	2.70	7.76	0.70	0.19	2.96	10.24	0.26	0.11	2.59	0.04	555.28	25.72	581.00
Idle Exh	0.00	0.00	0.50	0.10	0.22	0.12	0.00	0.71	0.04	0.02	0.00	0.00	0.15	0.02	0.00	0.00	0.90	0.96	1.86
Start Ex	187.45	0.00	12.68	0.00	5.82	0.00	0.80	0.00	1.33	0.00	0.35	0.00	0.18	0.00	0.05	0.00	208.66	0.00	208.66
Total Ex	721.61	0.83	21.82	3.14	9.31	3.63	3.49	8.47	2.08	0.20	3.31	10.24	0.59	0.13	2.63	0.04	764.85	26.68	791.52
Oxides of Nitrogen Emissions																			
Run Exh	54.05	0.44	1.97	14.79	0.77	21.68	0.31	55.62	0.19	1.99	0.55	11.94	0.06	1.85	0.29	0.48	58.18	108.79	166.97
Idle Exh	0.00	0.00	0.01	0.29	0.00	0.79	0.00	5.45	0.00	0.13	0.00	0.00	0.00	0.28	0.00	0.00	0.01	6.95	6.95
Start Ex	14.90	0.00	4.24	0.00	0.80	1.35	0.06	1.71	0.22	0.07	0.04	0.00	0.01	0.03	0.01	0.00	20.29	3.15	23.44
Total Ex	68.95	0.44	6.21	15.09	1.57	23.82	0.37	62.78	0.40	2.18	0.59	11.94	0.07	2.16	0.30	0.48	78.47	118.89	197.36
PM2.5 Emissions																			
Run Exh	0.73	0.05	0.01	0.10	0.00	0.67	0.00	0.39	0.00	0.02	0.00	0.16	0.00	0.02	0.00	0.01	0.74	1.42	2.16
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Start Ex	0.17	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	0.17	0.00	0.17
Total Ex	0.90	0.05	0.01	0.10	0.00	0.67	0.00	0.40	0.00	0.02	0.00	0.16	0.00	0.02	0.00	0.01	0.91	1.43	2.34
TireWear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.13	0.96
BrakeWear	6.41	0.04	0.17	0.15	0.05	0.34	0.00	0.27	0.02	0.02	0.01	0.24	0.03	0.07	0.02	0.01	6.71	1.14	7.85
Total	8.12	0.10	0.19	0.26	0.05	1.03	0.00	0.76	0.02	0.04	0.02	0.40	0.03	0.09	0.02	0.02	8.45	2.70	11.15
Fuel Consumption (1000 gallons) and SO2																			
Fuel	16833.52	90.96	413.67	202.51	111.37	631.46	16.91	1645.04	51.16	53.11	49.39	132.39	6.45	27.37	45.16	8.25	17527.63	2791.09	20318.71
SOx	1.58	0.01	0.04	0.02	0.01	0.07	0.00	0.17	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	1.64	0.28	1.93

Table D-4
2017 Summer Planning 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10596601	66032	142449	104147	15942	100772	648	71389	7499	4482	2065	5193	1855	5131	39865	9448	10806924	366594	11173518
VMT/1000	370583	2638	4439	3917	786	5555	79	9468	357	376	242	610	72	196	327	82	376885	22842	399727
Reactive Organic Gas Emissions																			
Run Exh	18.08	0.09	0.34	0.46	0.12	1.04	0.05	1.58	0.03	0.06	0.28	0.77	0.01	0.04	0.09	0.01	18.99	4.04	23.03
Idle Exh	0.00	0.00	0.06	0.01	0.01	0.01	0.00	0.17	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.09	0.20	0.29
Start Ex	13.34	0.00	1.22	0.00	0.35	0.00	0.03	0.00	0.08	0.00	0.02	0.00	0.01	0.00	0.00	0.00	15.05	0.00	15.05
Total Ex	31.41	0.09	1.62	0.47	0.49	1.05	0.08	1.75	0.11	0.06	0.30	0.77	0.04	0.04	0.09	0.01	34.14	4.24	38.38
Diurnal	9.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	9.62	0.00	9.62
Hot Soak	13.45	0.00	0.41	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	13.91	0.00	13.91
Running	30.24	0.00	2.55	0.00	0.19	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.01	0.00	0.01	0.00	33.06	0.00	33.06
Resting	7.57	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	7.59	0.00	7.59
Total	92.27	0.09	4.60	0.47	0.72	1.05	0.09	1.75	0.15	0.06	0.32	0.77	0.04	0.04	0.12	0.01	98.31	4.24	102.56
Carbon Monoxide Emissions																			
Run Exh	581.39	0.83	8.78	3.04	3.33	3.51	2.75	7.76	0.71	0.19	3.00	10.24	0.26	0.11	2.59	0.04	602.82	25.72	628.53
Idle Exh	0.00	0.00	0.50	0.10	0.16	0.08	0.00	0.52	0.04	0.01	0.00	0.00	0.15	0.01	0.00	0.00	0.84	0.73	1.57
Start Ex	160.82	0.00	12.09	0.00	5.53	0.00	0.76	0.00	1.26	0.00	0.30	0.00	0.15	0.00	0.05	0.00	180.96	0.00	180.96
Total Ex	742.21	0.83	21.37	3.14	9.03	3.60	3.51	8.27	2.02	0.20	3.30	10.24	0.56	0.12	2.63	0.04	784.62	26.45	811.07
Oxides of Nitrogen Emissions																			
Run Exh	47.68	0.42	1.73	14.02	0.68	20.49	0.27	52.63	0.16	1.88	0.48	11.29	0.05	1.75	0.25	0.45	51.31	102.90	154.22
Idle Exh	0.00	0.00	0.01	0.29	0.00	0.81	0.00	5.63	0.00	0.13	0.00	0.00	0.00	0.29	0.00	0.00	0.01	7.15	7.16
Start Ex	13.84	0.00	4.07	0.00	0.76	1.35	0.06	1.71	0.21	0.07	0.04	0.00	0.01	0.03	0.01	0.00	19.00	3.15	22.15
Total Ex	61.52	0.42	5.80	14.31	1.44	22.65	0.33	59.96	0.37	2.08	0.52	11.29	0.07	2.07	0.26	0.45	70.32	113.21	183.53
PM2.5 Emissions																			
Run Exh	0.73	0.05	0.01	0.10	0.00	0.67	0.00	0.39	0.00	0.02	0.00	0.16	0.00	0.02	0.00	0.01	0.74	1.42	2.16
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Start Ex	0.17	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	0.17	0.00	0.17
Total Ex	0.90	0.05	0.01	0.10	0.00	0.67	0.00	0.40	0.00	0.02	0.00	0.16	0.00	0.02	0.00	0.01	0.91	1.43	2.34
TireWear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.13	0.96
BrakeWear	6.41	0.04	0.17	0.15	0.05	0.34	0.00	0.27	0.02	0.02	0.01	0.24	0.03	0.07	0.02	0.01	6.71	1.14	7.85
Total	8.12	0.10	0.19	0.26	0.05	1.03	0.00	0.76	0.02	0.04	0.02	0.40	0.03	0.09	0.02	0.02	8.45	2.70	11.15
Fuel Consumption (1000 gallons) and SO2																			
Fuel	17666.93	90.96	413.59	202.51	111.38	631.88	16.91	1650.00	51.15	53.19	49.39	132.39	6.44	27.48	45.16	8.25	18360.95	2796.65	21157.60
SOx	1.66	0.01	0.04	0.02	0.01	0.07	0.00	0.17	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	1.72	0.28	2.00

Table D-5
2018 Annual Average 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10561345	71858	137507	108403	16048	106075	655	73387	7760	4635	2127	4889	1966	5118	38588	9463	10765996	383828	11149824
VMT/1000	367748	2828	4202	4029	788	5834	83	9934	364	391	246	567	75	196	315	83	373821	23862	397683
Reactive Organic Gas Emissions																			
Run Exh	15.31	0.08	0.29	0.44	0.10	0.94	0.04	1.41	0.02	0.04	0.25	0.67	0.01	0.03	0.07	0.01	16.08	3.63	19.71
Idle Exh	0.00	0.00	0.06	0.01	0.01	0.01	0.00	0.17	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.09	0.20	0.29
Start Ex	13.15	0.00	1.18	0.00	0.33	0.00	0.03	0.00	0.08	0.00	0.02	0.00	0.01	0.00	0.00	0.00	14.81	0.00	14.81
Total Ex	28.46	0.08	1.52	0.45	0.45	0.95	0.07	1.58	0.11	0.05	0.27	0.67	0.04	0.03	0.07	0.01	30.98	3.83	34.81
Diurnal	5.48	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	0.01	0.00	5.49	0.00	5.49
Hot Soak	11.62	0.00	0.38	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	12.04	0.00	12.04
Running	29.38	0.00	2.51	0.00	0.18	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.01	0.00	0.01	0.00	32.16	0.00	32.16
Resting	4.61	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	4.61	0.00	4.61
Total	79.54	0.08	4.42	0.45	0.67	0.96	0.08	1.58	0.15	0.05	0.29	0.67	0.04	0.03	0.09	0.01	85.28	3.83	89.11
Carbon Monoxide Emissions																			
Run Exh	473.28	0.83	7.44	2.88	2.71	3.23	2.63	7.51	0.61	0.16	2.64	9.28	0.23	0.09	2.01	0.04	491.54	24.01	515.55
Idle Exh	0.00	0.00	0.48	0.11	0.22	0.11	0.00	0.67	0.04	0.01	0.00	0.00	0.15	0.01	0.00	0.00	0.89	0.91	1.81
Start Ex	166.22	0.00	11.69	0.00	5.36	0.00	0.74	0.00	1.29	0.00	0.34	0.00	0.18	0.00	0.04	0.00	185.88	0.00	185.88
Total Ex	639.51	0.83	19.61	2.99	8.29	3.34	3.37	8.18	1.94	0.17	2.98	9.28	0.56	0.10	2.05	0.04	678.30	24.93	703.23
Oxides of Nitrogen Emissions																			
Run Exh	47.24	0.40	1.74	13.55	0.66	19.99	0.30	52.16	0.16	1.80	0.51	10.23	0.06	1.70	0.25	0.45	50.92	100.28	151.20
Idle Exh	0.00	0.00	0.01	0.30	0.00	0.76	0.00	5.35	0.00	0.12	0.00	0.00	0.00	0.27	0.00	0.00	0.01	6.79	6.80
Start Ex	12.94	0.00	4.06	0.00	0.75	1.60	0.06	1.98	0.21	0.08	0.04	0.00	0.01	0.04	0.01	0.00	18.08	3.70	21.78
Total Ex	60.18	0.40	5.80	13.84	1.41	22.35	0.36	59.49	0.37	2.00	0.55	10.23	0.07	2.01	0.26	0.45	69.00	110.77	179.77
PM2.5 Emissions																			
Run Exh	0.71	0.05	0.01	0.10	0.00	0.60	0.00	0.26	0.00	0.01	0.00	0.13	0.00	0.01	0.00	0.01	0.72	1.17	1.89
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Start Ex	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.17
Total Ex	0.88	0.05	0.01	0.10	0.00	0.60	0.00	0.27	0.00	0.01	0.00	0.13	0.00	0.01	0.00	0.01	0.89	1.18	2.06
TireWear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.14	0.96
BrakeWear	6.36	0.05	0.16	0.15	0.05	0.36	0.00	0.28	0.02	0.02	0.01	0.23	0.03	0.07	0.02	0.01	6.65	1.17	7.82
Total	8.05	0.10	0.18	0.26	0.05	0.98	0.00	0.65	0.02	0.03	0.02	0.36	0.03	0.08	0.02	0.02	8.36	2.48	10.84
Fuel Consumption (1000 gallons) and SO2																			
Fuel	16145.49	94.85	390.22	205.73	110.21	660.41	17.14	1704.43	51.81	54.93	49.93	121.39	6.72	27.31	43.36	8.12	16814.86	2877.18	19692.04
SOx	1.51	0.01	0.04	0.02	0.01	0.07	0.00	0.17	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.58	0.29	1.87

Table D-6
2018 Summer Planning 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10561345	71858	137507	108403	16048	106075	655	73387	7760	4635	2127	4889	1966	5118	38588	9463	10765996	383828	11149824
VMT/1000	367748	2828	4202	4029	788	5834	83	9934	364	391	246	567	75	196	315	83	373821	23862	397683
Reactive Organic Gas Emissions																			
Run Exh	15.70	0.08	0.29	0.44	0.10	0.94	0.04	1.41	0.02	0.04	0.25	0.67	0.01	0.03	0.07	0.01	16.49	3.63	20.12
Idle Exh	0.00	0.00	0.06	0.01	0.01	0.01	0.00	0.16	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.09	0.18	0.28
Start Ex	11.62	0.00	1.14	0.00	0.32	0.00	0.02	0.00	0.08	0.00	0.02	0.00	0.01	0.00	0.00	0.00	13.21	0.00	13.21
Total Ex	27.31	0.08	1.48	0.45	0.43	0.95	0.07	1.57	0.11	0.05	0.27	0.67	0.04	0.03	0.07	0.01	29.79	3.81	33.60
Diurnal	8.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	8.88	0.00	8.88
Hot Soak	12.36	0.00	0.40	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	12.80	0.00	12.80
Running	27.83	0.00	2.45	0.00	0.18	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.01	0.00	0.01	0.00	30.54	0.00	30.54
Resting	7.08	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	7.10	0.00	7.10
Total	83.45	0.08	4.35	0.45	0.65	0.95	0.08	1.57	0.15	0.05	0.30	0.67	0.04	0.03	0.10	0.01	89.11	3.82	92.93
Carbon Monoxide Emissions																			
Run Exh	516.18	0.83	7.57	2.88	2.76	3.23	2.68	7.51	0.62	0.16	2.68	9.28	0.23	0.09	2.02	0.04	534.73	24.01	558.75
Idle Exh	0.00	0.00	0.48	0.11	0.16	0.08	0.00	0.49	0.04	0.01	0.00	0.00	0.15	0.01	0.00	0.00	0.83	0.69	1.52
Start Ex	142.48	0.00	11.15	0.00	5.10	0.00	0.71	0.00	1.22	0.00	0.29	0.00	0.15	0.00	0.04	0.00	161.13	0.00	161.13
Total Ex	658.66	0.83	19.19	2.99	8.02	3.31	3.39	7.99	1.88	0.17	2.97	9.28	0.53	0.09	2.06	0.04	696.70	24.70	721.40
Oxides of Nitrogen Emissions																			
Run Exh	41.68	0.38	1.53	12.83	0.58	18.89	0.26	49.35	0.14	1.70	0.45	9.68	0.05	1.60	0.22	0.42	44.91	94.85	139.76
Idle Exh	0.00	0.00	0.01	0.30	0.00	0.78	0.00	5.52	0.00	0.12	0.00	0.00	0.00	0.28	0.00	0.00	0.01	7.00	7.01
Start Ex	12.01	0.00	3.89	0.00	0.72	1.60	0.06	1.98	0.20	0.08	0.04	0.00	0.01	0.04	0.01	0.00	16.94	3.70	20.64
Total Ex	53.69	0.38	5.43	13.13	1.30	21.26	0.32	56.85	0.34	1.90	0.49	9.68	0.06	1.92	0.23	0.42	61.85	105.55	167.40
PM2.5 Emissions																			
Run Exh	0.71	0.05	0.01	0.10	0.00	0.60	0.00	0.26	0.00	0.01	0.00	0.13	0.00	0.01	0.00	0.01	0.72	1.17	1.89
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Start Ex	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.17
Total Ex	0.88	0.05	0.01	0.10	0.00	0.60	0.00	0.27	0.00	0.01	0.00	0.13	0.00	0.01	0.00	0.01	0.89	1.17	2.06
TireWear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.14	0.96
BrakeWear	6.36	0.05	0.16	0.15	0.05	0.36	0.00	0.28	0.02	0.02	0.01	0.23	0.03	0.07	0.02	0.01	6.65	1.17	7.82
Total	8.05	0.10	0.18	0.26	0.05	0.98	0.00	0.65	0.02	0.03	0.02	0.36	0.03	0.08	0.02	0.02	8.36	2.48	10.84
Fuel Consumption (1000 gallons) and SO2																			
Fuel	16947.07	94.85	390.13	205.73	110.21	660.85	17.14	1709.65	51.80	55.01	49.93	121.39	6.72	27.43	43.36	8.12	17616.35	2883.03	20499.38
SOx	1.59	0.01	0.04	0.02	0.01	0.07	0.00	0.18	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.65	0.29	1.94

Table D-7
2019 Annual Average 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10667042	78482	131325	111397	16029	110665	662	75696	7989	4912	2193	4690	2081	5133	37612	9459	10864933	400434	11265367
VMT/1000	369571	3030	3947	4090	785	6087	84	10345	371	410	252	539	79	197	306	81	375395	24779	400174
Reactive Organic Gas Emissions																			
Run Exh	13.75	0.08	0.24	0.42	0.08	0.83	0.04	1.41	0.02	0.04	0.23	0.60	0.01	0.03	0.05	0.01	14.42	3.43	17.86
Idle Exh	0.00	0.00	0.05	0.01	0.01	0.01	0.00	0.16	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.09	0.19	0.28
Start Ex	11.66	0.00	1.08	0.00	0.30	0.00	0.02	0.00	0.08	0.00	0.02	0.00	0.01	0.00	0.00	0.00	13.17	0.00	13.17
Total Ex	25.41	0.08	1.37	0.43	0.40	0.84	0.06	1.58	0.10	0.05	0.25	0.60	0.04	0.03	0.05	0.01	27.69	3.62	31.31
Diurnal	5.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	5.15	0.00	5.16
Hot Soak	10.84	0.00	0.36	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	11.23	0.00	11.23
Running	27.75	0.00	2.38	0.00	0.17	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.01	0.00	0.01	0.00	30.39	0.00	30.39
Resting	4.38	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	4.39	0.00	4.39
Total	73.52	0.08	4.12	0.43	0.60	0.85	0.07	1.58	0.14	0.05	0.27	0.60	0.04	0.03	0.07	0.01	78.85	3.63	82.48
Carbon Monoxide Emissions																			
Run Exh	430.31	0.86	6.27	2.70	2.22	2.94	2.60	7.93	0.52	0.16	2.37	8.56	0.20	0.09	1.64	0.03	446.13	23.26	469.38
Idle Exh	0.00	0.00	0.45	0.11	0.22	0.10	0.00	0.66	0.04	0.01	0.00	0.00	0.16	0.01	0.00	0.00	0.88	0.89	1.76
Start Ex	149.79	0.00	10.65	0.00	4.92	0.00	0.71	0.00	1.25	0.00	0.32	0.00	0.18	0.00	0.04	0.00	167.86	0.00	167.86
Total Ex	580.10	0.86	17.37	2.81	7.36	3.03	3.30	8.58	1.81	0.17	2.69	8.56	0.55	0.10	1.68	0.03	614.86	24.15	639.01
Oxides of Nitrogen Emissions																			
Run Exh	42.14	0.37	1.52	12.21	0.56	17.91	0.29	50.75	0.14	1.74	0.47	9.12	0.05	1.60	0.22	0.42	45.40	94.12	139.52
Idle Exh	0.00	0.00	0.00	0.30	0.00	0.71	0.00	5.23	0.00	0.12	0.00	0.00	0.00	0.26	0.00	0.00	0.01	6.62	6.63
Start Ex	11.35	0.00	3.84	0.00	0.70	1.86	0.06	2.18	0.20	0.09	0.04	0.00	0.01	0.05	0.01	0.00	16.20	4.18	20.39
Total Ex	53.49	0.37	5.36	12.51	1.26	20.48	0.35	58.17	0.35	1.95	0.51	9.12	0.07	1.90	0.23	0.42	61.61	104.92	166.53
PM2.5 Emissions																			
Run Exh	0.71	0.05	0.01	0.09	0.00	0.52	0.00	0.25	0.00	0.01	0.00	0.12	0.00	0.01	0.00	0.01	0.72	1.05	1.77
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Start Ex	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.17
Total Ex	0.88	0.05	0.01	0.09	0.00	0.52	0.00	0.26	0.00	0.01	0.00	0.12	0.00	0.01	0.00	0.01	0.89	1.06	1.94
TireWear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.14	0.97
BrakeWear	6.39	0.05	0.15	0.16	0.05	0.38	0.00	0.30	0.02	0.03	0.02	0.21	0.03	0.07	0.02	0.01	6.67	1.19	7.86
Total	8.08	0.10	0.16	0.26	0.05	0.92	0.00	0.65	0.02	0.03	0.02	0.33	0.03	0.08	0.02	0.02	8.38	2.39	10.77
Fuel Consumption (1000 gallons) and SO2																			
Fuel	15710.31	99.40	365.29	206.48	108.80	686.96	17.26	1755.60	51.99	56.87	50.54	114.05	7.01	27.26	41.69	7.98	16352.89	2954.60	19307.49
SOx	1.47	0.01	0.03	0.02	0.01	0.07	0.00	0.18	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.53	0.30	1.83

Table D-8
2019 Summer Planning 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10667042	78482	131325	111397	16029	110665	662	75696	7989	4912	2193	4690	2081	5133	37612	9459	10864933	400434	11265367
VMT/1000	369571	3030	3947	4090	785	6087	84	10345	371	410	252	539	79	197	306	81	375395	24779	400174
Reactive Organic Gas Emissions																			
Run Exh	14.13	0.08	0.25	0.42	0.08	0.83	0.04	1.41	0.02	0.04	0.23	0.60	0.01	0.03	0.06	0.01	14.82	3.43	18.25
Idle Exh	0.00	0.00	0.05	0.01	0.01	0.01	0.00	0.15	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.09	0.18	0.27
Start Ex	10.30	0.00	1.04	0.00	0.29	0.00	0.02	0.00	0.07	0.00	0.02	0.00	0.01	0.00	0.00	0.00	11.76	0.00	11.76
Total Ex	24.43	0.08	1.34	0.43	0.39	0.84	0.06	1.57	0.10	0.05	0.26	0.60	0.04	0.03	0.06	0.01	26.66	3.61	30.28
Diurnal	8.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	8.34	0.00	8.34
Hot Soak	11.50	0.00	0.38	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	11.92	0.00	11.92
Running	26.26	0.00	2.33	0.00	0.17	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.01	0.00	0.01	0.00	28.84	0.00	28.84
Resting	6.70	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	6.72	0.00	6.72
Total	77.23	0.08	4.06	0.43	0.59	0.84	0.07	1.57	0.14	0.05	0.28	0.60	0.04	0.03	0.08	0.01	82.49	3.61	86.10
Carbon Monoxide Emissions																			
Run Exh	470.00	0.86	6.39	2.70	2.27	2.94	2.65	7.93	0.53	0.16	2.41	8.56	0.20	0.09	1.67	0.03	486.11	23.26	509.37
Idle Exh	0.00	0.00	0.45	0.11	0.16	0.07	0.00	0.48	0.04	0.01	0.00	0.00	0.16	0.01	0.00	0.00	0.82	0.67	1.49
Start Ex	128.31	0.00	10.15	0.00	4.67	0.00	0.67	0.00	1.18	0.00	0.28	0.00	0.15	0.00	0.04	0.00	145.44	0.00	145.44
Total Ex	598.30	0.86	16.99	2.81	7.10	3.01	3.32	8.40	1.75	0.17	2.69	8.56	0.51	0.09	1.70	0.03	632.37	23.93	656.30
Oxides of Nitrogen Emissions																			
Run Exh	37.18	0.35	1.34	11.57	0.49	16.92	0.25	48.01	0.13	1.65	0.41	8.62	0.05	1.51	0.19	0.39	40.04	89.03	129.07
Idle Exh	0.00	0.00	0.00	0.30	0.00	0.74	0.00	5.40	0.00	0.12	0.00	0.00	0.00	0.27	0.00	0.00	0.01	6.83	6.83
Start Ex	10.54	0.00	3.68	0.00	0.67	1.86	0.05	2.18	0.19	0.09	0.04	0.00	0.01	0.05	0.01	0.00	15.19	4.18	19.37
Total Ex	47.72	0.35	5.03	11.87	1.16	19.52	0.31	55.60	0.32	1.86	0.45	8.62	0.06	1.82	0.20	0.39	55.24	100.03	155.27
PM2.5 Emissions																			
Run Exh	0.71	0.05	0.01	0.09	0.00	0.52	0.00	0.25	0.00	0.01	0.00	0.12	0.00	0.01	0.00	0.01	0.72	1.05	1.77
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.17
Total Ex	0.88	0.05	0.01	0.09	0.00	0.52	0.00	0.26	0.00	0.01	0.00	0.12	0.00	0.01	0.00	0.01	0.89	1.06	1.94
TireWear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.14	0.97
BrakeWear	6.39	0.05	0.15	0.16	0.05	0.38	0.00	0.30	0.02	0.03	0.02	0.21	0.03	0.07	0.02	0.01	6.67	1.19	7.86
Total	8.08	0.10	0.16	0.26	0.05	0.92	0.00	0.65	0.02	0.03	0.02	0.33	0.03	0.08	0.02	0.02	8.38	2.39	10.77
Fuel Consumption (1000 gallons) and SO2																			
Fuel	16491.08	99.40	365.21	206.48	108.81	687.42	17.27	1760.97	51.97	56.95	50.54	114.05	7.00	27.37	41.70	7.98	17133.59	2960.63	20094.22
SOx	1.55	0.01	0.03	0.02	0.01	0.07	0.00	0.18	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.61	0.30	1.91

Table D-9
2020 Annual Average 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10664111	83690	125210	114218	16011	113604	672	77809	8228	5191	2258	4491	2196	5150	36717	9445	10855403	413598	11269001
VMT/1000	367082	3173	3709	4141	779	6317	85	10739	377	427	256	510	83	197	299	80	372670	25584	398254
Reactive Organic Gas Emissions																			
Run Exh	12.59	0.08	0.21	0.39	0.07	0.56	0.04	1.35	0.02	0.04	0.20	0.54	0.01	0.03	0.04	0.01	13.17	3.00	16.17
Idle Exh	0.00	0.00	0.05	0.01	0.01	0.01	0.00	0.15	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.09	0.18	0.27
Start Ex	10.34	0.00	0.98	0.00	0.28	0.00	0.02	0.00	0.08	0.00	0.02	0.00	0.01	0.00	0.00	0.00	11.73	0.00	11.73
Total Ex	22.93	0.08	1.24	0.40	0.36	0.57	0.06	1.50	0.10	0.05	0.22	0.54	0.04	0.03	0.04	0.01	24.99	3.17	28.16
Diurnal	4.84	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	0.01	0.00	4.84	0.00	4.85
Hot Soak	10.07	0.00	0.34	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	10.45	0.00	10.45
Running	26.19	0.00	2.26	0.00	0.17	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.01	0.00	0.01	0.00	28.70	0.00	28.70
Resting	4.15	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	4.16	0.00	4.16
Total	68.18	0.08	3.85	0.41	0.56	0.57	0.07	1.50	0.14	0.05	0.25	0.54	0.04	0.03	0.06	0.01	73.14	3.17	76.32
Carbon Monoxide Emissions																			
Run Exh	391.93	0.86	5.30	2.53	1.82	2.14	2.57	8.05	0.44	0.17	2.00	7.87	0.18	0.08	1.32	0.03	405.56	21.73	427.30
Idle Exh	0.00	0.00	0.43	0.11	0.22	0.07	0.00	0.61	0.05	0.01	0.00	0.00	0.17	0.01	0.00	0.00	0.87	0.81	1.68
Start Ex	134.41	0.00	9.73	0.00	4.53	0.00	0.69	0.00	1.21	0.00	0.31	0.00	0.18	0.00	0.04	0.00	151.09	0.00	151.09
Total Ex	526.34	0.86	15.46	2.65	6.57	2.20	3.26	8.66	1.69	0.18	2.31	7.87	0.54	0.09	1.35	0.03	557.52	22.55	580.06
Oxides of Nitrogen Emissions																			
Run Exh	37.54	0.33	1.34	11.00	0.48	13.16	0.28	47.95	0.12	1.60	0.44	8.04	0.05	1.50	0.19	0.39	40.44	83.98	124.42
Idle Exh	0.00	0.00	0.00	0.30	0.00	0.60	0.00	5.04	0.00	0.11	0.00	0.00	0.00	0.25	0.00	0.00	0.01	6.30	6.31
Start Ex	9.90	0.00	3.61	0.00	0.65	2.25	0.06	2.52	0.19	0.11	0.04	0.00	0.01	0.05	0.01	0.00	14.47	4.93	19.40
Total Ex	47.43	0.33	4.95	11.30	1.13	16.01	0.34	55.51	0.32	1.82	0.48	8.04	0.06	1.81	0.20	0.39	54.91	95.21	150.12
PM2.5 Emissions																			
Run Exh	0.70	0.04	0.01	0.09	0.00	0.35	0.00	0.21	0.00	0.01	0.00	0.10	0.00	0.01	0.00	0.01	0.70	0.82	1.52
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.16	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	0.17	0.00	0.17
Total Ex	0.86	0.04	0.01	0.09	0.00	0.35	0.00	0.22	0.00	0.01	0.00	0.10	0.00	0.01	0.00	0.01	0.87	0.82	1.69
TireWear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.15	0.97
BrakeWear	6.35	0.05	0.14	0.16	0.05	0.39	0.00	0.31	0.02	0.03	0.02	0.20	0.03	0.07	0.02	0.01	6.62	1.21	7.83
Total	8.02	0.10	0.15	0.26	0.05	0.76	0.00	0.63	0.03	0.03	0.02	0.30	0.03	0.08	0.02	0.02	8.31	2.18	10.49
Fuel Consumption (1000 gallons) and SO2																			
Fuel	15072.79	101.56	342.12	206.85	106.85	708.82	17.35	1798.43	52.51	58.85	51.10	106.84	7.29	27.20	40.38	7.86	15690.41	3016.42	18706.83
SOx	1.41	0.01	0.03	0.02	0.01	0.08	0.00	0.18	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.47	0.31	1.78

Table D-10
2020 Summer Planning 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10664111	83690	125210	114218	16011	113604	672	77809	8228	5191	2258	4491	2196	5150	36717	9445	10855403	413598	11269001
VMT/1000	367082	3173	3709	4141	779	6317	85	10739	377	427	256	510	83	197	299	80	372670	25584	398254
Reactive Organic Gas Emissions																			
Run Exh	12.93	0.08	0.21	0.39	0.07	0.56	0.04	1.35	0.02	0.04	0.21	0.54	0.01	0.03	0.04	0.01	13.52	3.00	16.52
Idle Exh	0.00	0.00	0.05	0.01	0.01	0.01	0.00	0.14	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.09	0.17	0.26
Start Ex	9.13	0.00	0.94	0.00	0.27	0.00	0.02	0.00	0.07	0.00	0.02	0.00	0.01	0.00	0.00	0.00	10.47	0.00	10.47
Total Ex	22.06	0.08	1.21	0.40	0.35	0.57	0.06	1.49	0.09	0.05	0.23	0.54	0.04	0.03	0.04	0.01	24.08	3.16	27.24
Diurnal	7.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	7.84	0.00	7.84
Hot Soak	10.67	0.00	0.36	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	11.07	0.00	11.07
Running	24.79	0.00	2.21	0.00	0.16	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.00	0.00	0.01	0.00	27.24	0.00	27.24
Resting	6.34	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	6.35	0.00	6.35
Total	71.69	0.08	3.79	0.41	0.54	0.57	0.06	1.49	0.13	0.05	0.25	0.54	0.04	0.03	0.07	0.01	76.58	3.16	79.74
Carbon Monoxide Emissions																			
Run Exh	428.13	0.86	5.41	2.53	1.86	2.14	2.62	8.05	0.45	0.17	2.05	7.87	0.19	0.08	1.34	0.03	442.06	21.73	463.80
Idle Exh	0.00	0.00	0.43	0.11	0.16	0.05	0.00	0.44	0.05	0.01	0.00	0.00	0.17	0.01	0.00	0.00	0.81	0.62	1.43
Start Ex	115.17	0.00	9.27	0.00	4.30	0.00	0.65	0.00	1.14	0.00	0.27	0.00	0.14	0.00	0.03	0.00	130.98	0.00	130.98
Total Ex	543.31	0.86	15.11	2.65	6.32	2.18	3.28	8.50	1.63	0.17	2.32	7.87	0.50	0.09	1.38	0.03	573.85	22.35	596.20
Oxides of Nitrogen Emissions																			
Run Exh	33.13	0.32	1.17	10.42	0.42	12.44	0.25	45.36	0.11	1.51	0.38	7.61	0.04	1.42	0.17	0.37	35.68	79.44	115.12
Idle Exh	0.00	0.00	0.00	0.30	0.00	0.61	0.00	5.20	0.00	0.12	0.00	0.00	0.00	0.26	0.00	0.00	0.01	6.49	6.50
Start Ex	9.19	0.00	3.47	0.00	0.62	2.25	0.05	2.52	0.19	0.11	0.04	0.00	0.01	0.05	0.00	0.00	13.57	4.93	18.50
Total Ex	42.32	0.32	4.64	10.72	1.04	15.30	0.30	53.09	0.30	1.73	0.42	7.61	0.06	1.73	0.17	0.37	49.25	90.86	140.11
PM2.5 Emissions																			
Run Exh	0.70	0.04	0.01	0.09	0.00	0.35	0.00	0.21	0.00	0.01	0.00	0.10	0.00	0.01	0.00	0.01	0.70	0.82	1.52
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.16	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	0.17	0.00	0.17
Total Ex	0.86	0.04	0.01	0.09	0.00	0.35	0.00	0.22	0.00	0.01	0.00	0.10	0.00	0.01	0.00	0.01	0.87	0.82	1.69
TireWear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.15	0.97
BrakeWear	6.35	0.05	0.14	0.16	0.05	0.39	0.00	0.31	0.02	0.03	0.02	0.20	0.03	0.07	0.02	0.01	6.62	1.21	7.83
Total	8.02	0.10	0.15	0.26	0.05	0.76	0.00	0.63	0.03	0.03	0.02	0.30	0.03	0.08	0.02	0.02	8.31	2.18	10.49
Fuel Consumption (1000 gallons) and SO2																			
Fuel	15823.40	101.56	342.05	206.85	106.87	709.28	17.35	1803.99	52.50	58.94	51.11	106.84	7.29	27.32	40.39	7.86	16440.95	3022.64	19463.59
SOx	1.48	0.01	0.03	0.02	0.01	0.08	0.00	0.18	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.54	0.31	1.85

Table D-11
2021 Annual Average 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10803736	89889	119810	117203	16085	115011	689	80040	8462	5407	2325	4336	2315	5166	35925	9420	10989347	426472	11415819
VMT/1000	369291	3340	3506	4200	778	6552	87	11170	382	444	260	488	86	197	291	79	374681	26470	401151
Reactive Organic Gas Emissions																			
Run Exh	11.74	0.07	0.17	0.37	0.06	0.26	0.03	1.35	0.02	0.04	0.19	0.48	0.01	0.03	0.03	0.01	12.24	2.60	14.85
Idle Exh	0.00	0.00	0.05	0.02	0.01	0.00	0.00	0.15	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.09	0.17	0.26
Start Ex	9.33	0.00	0.88	0.00	0.26	0.00	0.02	0.00	0.07	0.00	0.02	0.00	0.01	0.00	0.00	0.00	10.59	0.00	10.59
Total Ex	21.06	0.07	1.10	0.38	0.33	0.26	0.05	1.49	0.09	0.04	0.21	0.48	0.04	0.03	0.04	0.01	22.92	2.77	25.69
Diurnal	4.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	4.63	0.00	4.63
Hot Soak	9.51	0.00	0.32	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	9.87	0.00	9.87
Running	25.19	0.00	2.15	0.00	0.16	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.01	0.00	0.01	0.00	27.58	0.00	27.58
Resting	3.99	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	4.00	0.00	4.00
Total	64.39	0.07	3.58	0.39	0.51	0.26	0.06	1.49	0.13	0.04	0.24	0.48	0.05	0.03	0.05	0.01	69.00	2.77	71.77
Carbon Monoxide Emissions																			
Run Exh	363.67	0.86	4.47	2.37	1.50	1.12	2.58	8.42	0.38	0.17	1.88	7.30	0.17	0.08	1.04	0.03	375.69	20.34	396.03
Idle Exh	0.00	0.00	0.41	0.12	0.22	0.03	0.00	0.59	0.05	0.01	0.00	0.00	0.18	0.01	0.00	0.00	0.85	0.76	1.61
Start Ex	122.90	0.00	8.89	0.00	4.18	0.00	0.68	0.00	1.17	0.00	0.31	0.00	0.18	0.00	0.03	0.00	138.33	0.00	138.33
Total Ex	486.57	0.86	13.77	2.49	5.90	1.15	3.25	9.01	1.60	0.18	2.18	7.30	0.53	0.09	1.07	0.03	514.87	21.10	535.97
Oxides of Nitrogen Emissions																			
Run Exh	33.98	0.30	1.17	9.86	0.40	8.32	0.28	44.98	0.11	1.38	0.41	7.22	0.05	1.41	0.17	0.37	36.58	73.83	110.41
Idle Exh	0.00	0.00	0.00	0.29	0.00	0.37	0.00	4.90	0.00	0.10	0.00	0.00	0.00	0.24	0.00	0.00	0.01	5.90	5.91
Start Ex	8.77	0.00	3.39	0.00	0.60	2.81	0.06	2.74	0.19	0.13	0.04	0.00	0.01	0.06	0.00	0.00	13.06	5.74	18.80
Total Ex	42.75	0.30	4.57	10.15	1.00	11.51	0.34	52.62	0.30	1.61	0.46	7.22	0.06	1.70	0.17	0.37	49.65	85.48	135.12
PM2.5 Emissions																			
Run Exh	0.69	0.04	0.00	0.08	0.00	0.04	0.00	0.20	0.00	0.01	0.00	0.09	0.00	0.01	0.00	0.01	0.69	0.48	1.17
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.16	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	0.16	0.00	0.16
Total Ex	0.85	0.04	0.01	0.08	0.00	0.04	0.00	0.20	0.00	0.01	0.00	0.09	0.00	0.01	0.00	0.01	0.85	0.48	1.33
TireWear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.15	0.98
BrakeWear	6.39	0.06	0.13	0.16	0.05	0.40	0.00	0.32	0.03	0.03	0.02	0.19	0.03	0.07	0.02	0.01	6.65	1.23	7.88
Total	8.05	0.10	0.14	0.26	0.05	0.47	0.00	0.63	0.03	0.03	0.02	0.28	0.03	0.08	0.02	0.01	8.33	1.86	10.19
Fuel Consumption (1000 gallons) and SO2																			
Fuel	14621.43	104.30	322.35	207.87	106.18	733.63	17.61	1848.61	53.09	60.66	51.78	101.19	7.58	27.16	39.31	7.74	15219.33	3091.16	18310.49
SOx	1.37	0.01	0.03	0.02	0.01	0.08	0.00	0.19	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.43	0.31	1.74

Table D-12
2021 Summer Planning 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10803736	89889	119810	117203	16085	115011	689	80040	8462	5407	2325	4336	2315	5166	35925	9420	10989347	426472	11415819
VMT/1000	369291	3340	3506	4200	778	6552	87	11170	382	444	260	488	86	197	291	79	374681	26470	401151
Reactive Organic Gas Emissions																			
Run Exh	12.05	0.07	0.18	0.37	0.06	0.26	0.04	1.35	0.02	0.04	0.20	0.48	0.01	0.03	0.04	0.01	12.57	2.60	15.18
Idle Exh	0.00	0.00	0.05	0.02	0.01	0.00	0.00	0.14	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.09	0.16	0.25
Start Ex	8.25	0.00	0.85	0.00	0.25	0.00	0.02	0.00	0.07	0.00	0.02	0.00	0.01	0.00	0.00	0.00	9.46	0.00	9.46
Total Ex	20.29	0.07	1.08	0.38	0.31	0.26	0.05	1.48	0.09	0.04	0.22	0.48	0.04	0.03	0.04	0.01	22.13	2.76	24.89
Diurnal	7.48	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	0.01	0.00	7.49	0.00	7.49
Hot Soak	10.07	0.00	0.34	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	10.45	0.00	10.45
Running	23.83	0.00	2.10	0.00	0.15	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.00	0.00	0.01	0.00	26.16	0.00	26.16
Resting	6.08	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	6.10	0.00	6.10
Total	67.77	0.07	3.53	0.39	0.50	0.26	0.06	1.48	0.13	0.04	0.24	0.48	0.04	0.03	0.06	0.01	72.33	2.76	75.09
Carbon Monoxide Emissions																			
Run Exh	397.70	0.86	4.58	2.37	1.54	1.12	2.63	8.42	0.39	0.17	1.92	7.30	0.17	0.08	1.07	0.03	410.00	20.34	430.34
Idle Exh	0.00	0.00	0.41	0.12	0.16	0.02	0.00	0.43	0.05	0.01	0.00	0.00	0.18	0.01	0.00	0.00	0.79	0.58	1.37
Start Ex	105.31	0.00	8.47	0.00	3.97	0.00	0.64	0.00	1.10	0.00	0.27	0.00	0.15	0.00	0.03	0.00	119.93	0.00	119.93
Total Ex	503.01	0.86	13.45	2.49	5.66	1.14	3.28	8.85	1.54	0.17	2.19	7.30	0.50	0.09	1.10	0.03	530.73	20.92	551.65
Oxides of Nitrogen Emissions																			
Run Exh	29.99	0.28	1.03	9.34	0.35	7.86	0.25	42.55	0.10	1.31	0.37	6.83	0.04	1.33	0.15	0.34	32.27	69.84	102.11
Idle Exh	0.00	0.00	0.00	0.29	0.00	0.38	0.00	5.05	0.00	0.11	0.00	0.00	0.00	0.25	0.00	0.00	0.01	6.09	6.09
Start Ex	8.14	0.00	3.25	0.00	0.58	2.81	0.05	2.74	0.18	0.13	0.04	0.00	0.01	0.06	0.00	0.00	12.26	5.74	17.99
Total Ex	38.13	0.28	4.28	9.63	0.93	11.06	0.30	50.34	0.28	1.54	0.40	6.83	0.05	1.63	0.15	0.34	44.53	81.66	126.19
PM2.5 Emissions																			
Run Exh	0.69	0.04	0.00	0.08	0.00	0.04	0.00	0.20	0.00	0.01	0.00	0.09	0.00	0.01	0.00	0.01	0.69	0.48	1.17
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.16	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	0.16	0.00	0.16
Total Ex	0.85	0.04	0.01	0.08	0.00	0.04	0.00	0.20	0.00	0.01	0.00	0.09	0.00	0.01	0.00	0.01	0.85	0.48	1.33
TireWear	0.81	0.01	0.01	0.01	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.15	0.98
BrakeWear	6.39	0.06	0.13	0.16	0.05	0.40	0.00	0.32	0.03	0.03	0.02	0.19	0.03	0.07	0.02	0.01	6.65	1.23	7.88
Total	8.05	0.10	0.14	0.26	0.05	0.47	0.00	0.63	0.03	0.03	0.02	0.28	0.03	0.08	0.02	0.01	8.33	1.86	10.19
Fuel Consumption (1000 gallons) and SO2																			
Fuel	15349.87	104.30	322.28	207.87	106.19	734.08	17.61	1854.29	53.08	60.75	51.79	101.19	7.58	27.27	39.32	7.74	15947.72	3097.50	19045.21
SOx	1.44	0.01	0.03	0.02	0.01	0.08	0.00	0.19	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.31	1.81

Table D-13
2022 Annual Average 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10978201	95841	114633	120082	16176	120899	709	81954	8678	5630	2392	4226	2433	5179	35131	9388	11158353	443199	11601552
VMT/1000	371584	3488	3324	4253	779	6762	90	11575	387	457	265	469	90	197	284	79	376803	27280	404083
Reactive Organic Gas Emissions																			
Run Exh	10.92	0.07	0.14	0.35	0.04	0.26	0.03	1.33	0.01	0.04	0.18	0.43	0.01	0.03	0.03	0.01	11.37	2.51	13.88
Idle Exh	0.00	0.00	0.04	0.02	0.01	0.00	0.00	0.14	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.08	0.16	0.25
Start Ex	8.48	0.00	0.79	0.00	0.23	0.00	0.02	0.00	0.07	0.00	0.02	0.00	0.01	0.00	0.00	0.00	9.63	0.00	9.63
Total Ex	19.40	0.07	0.98	0.37	0.29	0.26	0.05	1.47	0.09	0.04	0.20	0.43	0.04	0.03	0.03	0.01	21.08	2.67	23.75
Diurnal	4.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	4.46	0.00	4.46
Hot Soak	9.06	0.00	0.31	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	9.40	0.00	9.40
Running	24.44	0.00	2.04	0.00	0.15	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.01	0.00	0.01	0.00	26.71	0.00	26.71
Resting	3.86	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	3.87	0.00	3.87
Total	61.21	0.07	3.33	0.37	0.47	0.26	0.06	1.47	0.13	0.04	0.22	0.43	0.05	0.03	0.04	0.01	65.51	2.67	68.19
Carbon Monoxide Emissions																			
Run Exh	337.71	0.85	3.79	2.20	1.23	1.15	2.61	8.70	0.33	0.17	1.73	6.82	0.15	0.08	0.84	0.03	348.37	20.00	368.37
Idle Exh	0.00	0.00	0.39	0.12	0.21	0.02	0.00	0.57	0.05	0.01	0.00	0.00	0.19	0.01	0.00	0.00	0.84	0.74	1.58
Start Ex	113.31	0.00	8.08	0.00	3.85	0.00	0.68	0.00	1.13	0.00	0.30	0.00	0.18	0.00	0.03	0.00	127.56	0.00	127.56
Total Ex	451.02	0.85	12.26	2.33	5.29	1.18	3.28	9.27	1.51	0.18	2.03	6.82	0.52	0.09	0.86	0.03	476.77	20.74	497.51
Oxides of Nitrogen Emissions																			
Run Exh	30.83	0.27	1.02	8.80	0.34	7.85	0.28	41.63	0.10	1.26	0.39	6.56	0.04	1.31	0.14	0.34	33.14	68.03	101.16
Idle Exh	0.00	0.00	0.00	0.29	0.00	0.36	0.00	4.72	0.00	0.09	0.00	0.00	0.00	0.23	0.00	0.00	0.01	5.70	5.70
Start Ex	7.82	0.00	3.15	0.00	0.56	3.04	0.05	2.97	0.18	0.14	0.04	0.00	0.01	0.06	0.00	0.00	11.83	6.21	18.04
Total Ex	38.65	0.27	4.17	9.08	0.90	11.25	0.34	49.33	0.28	1.50	0.43	6.56	0.06	1.60	0.15	0.34	44.97	79.93	124.90
PM2.5 Emissions																			
Run Exh	0.68	0.04	0.00	0.08	0.00	0.04	0.00	0.18	0.00	0.01	0.00	0.08	0.00	0.01	0.00	0.01	0.68	0.44	1.12
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.16	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	0.16	0.00	0.16
Total Ex	0.84	0.04	0.00	0.08	0.00	0.04	0.00	0.18	0.00	0.01	0.00	0.08	0.00	0.01	0.00	0.01	0.85	0.44	1.29
TireWear	0.82	0.01	0.01	0.02	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.16	0.99
BrakeWear	6.43	0.06	0.12	0.16	0.05	0.42	0.00	0.33	0.03	0.03	0.02	0.19	0.03	0.07	0.02	0.01	6.69	1.26	7.95
Total	8.09	0.11	0.13	0.25	0.05	0.48	0.00	0.63	0.03	0.03	0.02	0.27	0.03	0.08	0.02	0.01	8.36	1.86	10.22
Fuel Consumption (1000 gallons) and SO2																			
Fuel	14158.34	105.95	304.33	208.68	105.47	753.99	17.88	1890.91	53.47	62.21	52.46	96.81	7.86	27.11	38.21	7.62	14738.02	3153.27	17891.29
SOx	1.33	0.01	0.03	0.02	0.01	0.08	0.00	0.19	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.38	0.32	1.70

Table D-14
2022 Summer Planning 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	10978201	95841	114633	120082	16176	120899	709	81954	8678	5630	2392	4226	2433	5179	35131	9388	11158353	443199	11601552
VMT/1000	371584	3488	3324	4253	779	6762	90	11575	387	457	265	469	90	197	284	79	376803	27280	404083
Reactive Organic Gas Emissions																			
Run Exh	11.21	0.07	0.15	0.35	0.05	0.26	0.03	1.33	0.01	0.04	0.19	0.43	0.01	0.03	0.03	0.01	11.67	2.51	14.18
Idle Exh	0.00	0.00	0.04	0.02	0.01	0.00	0.00	0.13	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.08	0.15	0.24
Start Ex	7.50	0.00	0.76	0.00	0.22	0.00	0.02	0.00	0.07	0.00	0.02	0.00	0.01	0.00	0.00	0.00	8.60	0.00	8.60
Total Ex	18.71	0.07	0.95	0.37	0.28	0.26	0.05	1.46	0.09	0.04	0.21	0.43	0.04	0.03	0.03	0.01	20.36	2.67	23.03
Diurnal	7.20	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	0.01	0.00	7.21	0.00	7.21
Hot Soak	9.59	0.00	0.32	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	9.94	0.00	9.94
Running	23.10	0.00	2.00	0.00	0.15	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.00	0.00	0.01	0.00	25.32	0.00	25.32
Resting	5.87	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	5.88	0.00	5.88
Total	64.47	0.07	3.28	0.37	0.46	0.26	0.06	1.46	0.13	0.04	0.23	0.43	0.04	0.03	0.05	0.01	68.72	2.67	71.38
Carbon Monoxide Emissions																			
Run Exh	369.92	0.85	3.88	2.20	1.26	1.15	2.66	8.70	0.34	0.17	1.77	6.82	0.16	0.08	0.86	0.03	380.84	20.00	400.83
Idle Exh	0.00	0.00	0.39	0.12	0.16	0.02	0.00	0.42	0.05	0.01	0.00	0.00	0.19	0.01	0.00	0.00	0.78	0.57	1.35
Start Ex	97.08	0.00	7.70	0.00	3.65	0.00	0.64	0.00	1.07	0.00	0.26	0.00	0.14	0.00	0.03	0.00	110.58	0.00	110.58
Total Ex	467.00	0.85	11.97	2.33	5.06	1.17	3.30	9.11	1.45	0.17	2.03	6.82	0.49	0.09	0.89	0.03	492.19	20.57	512.76
Oxides of Nitrogen Emissions																			
Run Exh	27.21	0.26	0.90	8.33	0.30	7.42	0.25	39.38	0.08	1.20	0.34	6.21	0.04	1.24	0.12	0.32	29.24	64.35	93.59
Idle Exh	0.00	0.00	0.00	0.29	0.00	0.37	0.00	4.88	0.00	0.09	0.00	0.00	0.00	0.24	0.00	0.00	0.01	5.87	5.87
Start Ex	7.27	0.00	3.02	0.00	0.53	3.04	0.05	2.97	0.18	0.14	0.04	0.00	0.01	0.06	0.00	0.00	11.11	6.21	17.32
Total Ex	34.48	0.26	3.92	8.62	0.83	10.83	0.30	47.23	0.26	1.43	0.38	6.21	0.05	1.54	0.13	0.32	40.35	76.43	116.78
PM2.5 Emissions																			
Run Exh	0.68	0.04	0.00	0.08	0.00	0.04	0.00	0.18	0.00	0.01	0.00	0.08	0.00	0.01	0.00	0.01	0.68	0.44	1.12
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.16	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	0.16	0.00	0.16
Total Ex	0.84	0.04	0.00	0.08	0.00	0.04	0.00	0.18	0.00	0.01	0.00	0.08	0.00	0.01	0.00	0.01	0.85	0.44	1.29
TireWear	0.82	0.01	0.01	0.02	0.00	0.02	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.16	0.99
BrakeWear	6.43	0.06	0.12	0.16	0.05	0.42	0.00	0.33	0.03	0.03	0.02	0.19	0.03	0.07	0.02	0.01	6.69	1.26	7.95
Total	8.09	0.11	0.13	0.25	0.05	0.48	0.00	0.63	0.03	0.03	0.02	0.27	0.03	0.08	0.02	0.01	8.36	1.86	10.22
Fuel Consumption (1000 gallons) and SO2																			
Fuel	14863.90	105.95	304.28	208.68	105.49	754.46	17.88	1896.71	53.46	62.30	52.46	96.81	7.86	27.22	38.21	7.62	15443.53	3159.75	18603.28
SOx	1.39	0.01	0.03	0.02	0.01	0.08	0.00	0.19	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.45	0.32	1.77

Table D-15
2023 Annual Average 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	11142993	101233	109707	122760	16290	123930	731	82328	8905	5609	2456	4121	2550	5193	34403	9346	11318035	454520	11772555
VMT/1000	373722	3614	3159	4297	778	6966	91	11969	391	470	270	453	94	197	277	77	378782	28043	406825
Reactive Organic Gas Emissions																			
Run Exh	10.38	0.06	0.12	0.33	0.04	0.21	0.03	0.86	0.01	0.03	0.17	0.39	0.01	0.03	0.02	0.01	10.78	1.90	12.68
Idle Exh	0.00	0.00	0.04	0.02	0.01	0.00	0.00	0.10	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.08	0.11	0.20
Start Ex	7.75	0.00	0.72	0.00	0.22	0.00	0.02	0.00	0.07	0.00	0.02	0.00	0.01	0.00	0.00	0.00	8.81	0.00	8.81
Total Ex	18.13	0.06	0.88	0.35	0.27	0.21	0.05	0.96	0.09	0.03	0.19	0.39	0.04	0.03	0.02	0.01	19.66	2.02	21.68
Diurnal	4.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	4.30	0.00	4.30
Hot Soak	8.65	0.00	0.29	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	8.97	0.00	8.97
Running	23.74	0.00	1.94	0.00	0.14	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.01	0.00	0.01	0.00	25.89	0.00	25.89
Resting	3.74	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	3.74	0.00	3.74
Total	58.54	0.06	3.11	0.35	0.44	0.21	0.05	0.96	0.13	0.03	0.21	0.39	0.04	0.03	0.04	0.01	62.57	2.02	64.59
Carbon Monoxide Emissions																			
Run Exh	317.43	0.84	3.23	2.05	1.01	1.08	2.65	8.11	0.29	0.14	1.61	6.37	0.14	0.08	0.66	0.03	327.02	18.70	345.72
Idle Exh	0.00	0.00	0.37	0.12	0.21	0.02	0.00	0.38	0.05	0.00	0.00	0.00	0.19	0.01	0.00	0.00	0.82	0.53	1.36
Start Ex	104.86	0.00	7.41	0.00	3.58	0.00	0.69	0.00	1.11	0.00	0.29	0.00	0.18	0.00	0.03	0.00	118.14	0.00	118.14
Total Ex	422.29	0.84	11.00	2.17	4.81	1.10	3.33	8.49	1.44	0.14	1.90	6.37	0.52	0.09	0.68	0.03	445.98	19.23	465.22
Oxides of Nitrogen Emissions																			
Run Exh	28.25	0.24	0.89	7.80	0.29	4.73	0.29	20.65	0.09	0.52	0.37	5.97	0.04	1.21	0.12	0.32	30.33	41.44	71.77
Idle Exh	0.00	0.00	0.00	0.28	0.00	0.26	0.00	3.31	0.00	0.04	0.00	0.00	0.00	0.22	0.00	0.00	0.00	4.10	4.11
Start Ex	7.03	0.00	2.93	0.00	0.52	3.53	0.05	3.89	0.18	0.19	0.04	0.00	0.01	0.07	0.00	0.00	10.77	7.69	18.46
Total Ex	35.28	0.24	3.82	8.08	0.81	8.52	0.34	27.85	0.27	0.75	0.41	5.97	0.05	1.50	0.13	0.32	41.11	53.23	94.34
PM2.5 Emissions																			
Run Exh	0.67	0.03	0.00	0.08	0.00	0.02	0.00	0.07	0.00	0.00	0.00	0.08	0.00	0.01	0.00	0.01	0.68	0.29	0.97
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.16	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	0.16	0.00	0.16
Total Ex	0.83	0.03	0.00	0.08	0.00	0.02	0.00	0.08	0.00	0.00	0.00	0.08	0.00	0.01	0.00	0.01	0.84	0.30	1.13
TireWear	0.82	0.01	0.01	0.02	0.00	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.16	1.00
BrakeWear	6.46	0.06	0.12	0.16	0.05	0.43	0.00	0.34	0.03	0.03	0.02	0.18	0.03	0.07	0.02	0.01	6.72	1.29	8.01
Total	8.12	0.10	0.13	0.25	0.05	0.47	0.00	0.53	0.03	0.03	0.02	0.26	0.03	0.08	0.02	0.01	8.39	1.74	10.14
Fuel Consumption (1000 gallons) and SO2																			
Fuel	13699.72	106.91	288.03	209.24	105.01	769.68	18.17	1875.80	53.89	62.83	53.04	92.70	8.14	27.06	37.20	7.50	14263.20	3151.72	17414.92
SOx	1.28	0.01	0.03	0.02	0.01	0.08	0.00	0.19	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.34	0.32	1.66

Table D-16
2023 Summer Planning 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	11142993	101233	109707	122760	16290	123930	731	82328	8905	5609	2456	4121	2550	5193	34403	9346	11318035	454520	11772555
VMT/1000	373722	3614	3159	4297	778	6966	91	11969	391	470	270	453	94	197	277	77	378782	28043	406825
Reactive Organic Gas Emissions																			
Run Exh	10.64	0.06	0.12	0.33	0.04	0.21	0.03	0.86	0.01	0.03	0.17	0.39	0.01	0.03	0.02	0.01	11.05	1.90	12.96
Idle Exh	0.00	0.00	0.04	0.02	0.01	0.00	0.00	0.09	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.08	0.11	0.19
Start Ex	6.86	0.00	0.69	0.00	0.21	0.00	0.02	0.00	0.07	0.00	0.02	0.00	0.01	0.00	0.00	0.00	7.87	0.00	7.87
Total Ex	17.51	0.06	0.85	0.35	0.26	0.21	0.05	0.95	0.08	0.03	0.19	0.39	0.04	0.03	0.02	0.01	19.01	2.01	21.02
Diurnal	6.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	6.95	0.00	6.95
Hot Soak	9.14	0.00	0.30	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	9.48	0.00	9.48
Running	22.42	0.00	1.90	0.00	0.14	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.00	0.00	0.01	0.00	24.53	0.00	24.53
Resting	5.67	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	5.68	0.00	5.68
Total	61.68	0.06	3.06	0.35	0.43	0.21	0.05	0.95	0.12	0.03	0.21	0.39	0.04	0.03	0.04	0.01	65.65	2.01	67.66
Carbon Monoxide Emissions																			
Run Exh	347.74	0.84	3.30	2.05	1.03	1.08	2.71	8.11	0.29	0.14	1.65	6.37	0.15	0.08	0.68	0.03	357.54	18.70	376.24
Idle Exh	0.00	0.00	0.37	0.12	0.16	0.01	0.00	0.28	0.05	0.00	0.00	0.00	0.19	0.01	0.00	0.00	0.77	0.42	1.19
Start Ex	89.93	0.00	7.06	0.00	3.40	0.00	0.65	0.00	1.05	0.00	0.25	0.00	0.14	0.00	0.02	0.00	102.51	0.00	102.51
Total Ex	437.67	0.84	10.73	2.17	4.59	1.10	3.36	8.38	1.39	0.14	1.91	6.37	0.48	0.09	0.70	0.03	460.82	19.12	479.94
Oxides of Nitrogen Emissions																			
Run Exh	24.95	0.23	0.78	7.39	0.25	4.46	0.25	19.54	0.08	0.49	0.32	5.65	0.03	1.15	0.11	0.30	26.77	39.20	65.97
Idle Exh	0.00	0.00	0.00	0.28	0.00	0.27	0.00	3.41	0.00	0.04	0.00	0.00	0.00	0.22	0.00	0.00	0.00	4.22	4.23
Start Ex	6.52	0.00	2.82	0.00	0.50	3.53	0.05	3.89	0.17	0.19	0.04	0.00	0.01	0.07	0.00	0.00	10.12	7.69	17.81
Total Ex	31.47	0.23	3.60	7.67	0.75	8.26	0.30	26.84	0.25	0.73	0.36	5.65	0.05	1.44	0.11	0.30	36.89	51.11	88.00
PM2.5 Emissions																			
Run Exh	0.67	0.03	0.00	0.08	0.00	0.02	0.00	0.07	0.00	0.00	0.00	0.08	0.00	0.01	0.00	0.01	0.68	0.29	0.97
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.16	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	0.16	0.00	0.16
Total Ex	0.83	0.03	0.00	0.08	0.00	0.02	0.00	0.08	0.00	0.00	0.00	0.08	0.00	0.01	0.00	0.01	0.84	0.30	1.13
TireWear	0.82	0.01	0.01	0.02	0.00	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.16	1.00
BrakeWear	6.46	0.06	0.12	0.16	0.05	0.43	0.00	0.34	0.03	0.03	0.02	0.18	0.03	0.07	0.02	0.01	6.72	1.29	8.01
Total	8.12	0.10	0.13	0.25	0.05	0.47	0.00	0.53	0.03	0.03	0.02	0.26	0.03	0.08	0.02	0.01	8.39	1.74	10.14
Fuel Consumption (1000 gallons) and SO2																			
Fuel	14382.28	106.91	287.98	209.24	105.03	770.15	18.18	1881.36	53.88	62.92	53.04	92.70	8.13	27.17	37.20	7.50	14945.72	3157.95	18103.67
SOx	1.35	0.01	0.03	0.02	0.01	0.08	0.00	0.19	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.40	0.32	1.72

Table D-17
2025 Annual Average 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	11216166	107798	102510	129900	16852	137859	793	88337	9320	5987	2568	3876	2780	5210	33541	9250	11384530	488217	11872747
VMT/1000	368734	3725	2923	4442	794	7325	98	12748	400	487	276	417	100	197	268	76	373593	29417	403010
Reactive Organic Gas Emissions																			
Run Exh	9.19	0.05	0.09	0.29	0.03	0.21	0.03	0.90	0.01	0.03	0.12	0.30	0.00	0.02	0.02	0.01	9.49	1.81	11.31
Idle Exh	0.00	0.00	0.04	0.02	0.01	0.00	0.00	0.10	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.08	0.12	0.20
Start Ex	6.44	0.00	0.59	0.00	0.20	0.00	0.01	0.00	0.07	0.00	0.02	0.00	0.01	0.00	0.00	0.00	7.34	0.00	7.34
Total Ex	15.63	0.05	0.71	0.31	0.24	0.22	0.05	1.00	0.08	0.03	0.15	0.30	0.04	0.03	0.02	0.01	16.91	1.94	18.85
Diurnal	3.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	3.95	0.00	3.95
Hot Soak	7.79	0.00	0.26	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	8.09	0.00	8.09
Running	22.09	0.00	1.77	0.00	0.14	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.01	0.00	0.01	0.00	24.08	0.00	24.08
Resting	3.44	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	3.45	0.00	3.45
Total	52.90	0.05	2.76	0.31	0.41	0.22	0.05	1.00	0.12	0.03	0.17	0.30	0.04	0.03	0.03	0.01	56.48	1.94	58.42
Carbon Monoxide Emissions																			
Run Exh	274.52	0.78	2.36	1.79	0.70	1.12	2.74	8.83	0.22	0.15	1.26	5.47	0.11	0.08	0.46	0.02	282.38	18.24	300.62
Idle Exh	0.00	0.00	0.34	0.13	0.22	0.02	0.00	0.39	0.05	0.01	0.00	0.00	0.21	0.01	0.00	0.00	0.82	0.55	1.38
Start Ex	89.27	0.00	6.37	0.00	3.21	0.00	0.72	0.00	1.06	0.00	0.28	0.00	0.18	0.00	0.02	0.00	101.12	0.00	101.12
Total Ex	363.80	0.78	9.08	1.92	4.14	1.13	3.47	9.22	1.33	0.16	1.54	5.47	0.50	0.09	0.48	0.02	384.32	18.80	403.12
Oxides of Nitrogen Emissions																			
Run Exh	23.49	0.18	0.68	6.16	0.22	4.65	0.30	20.67	0.07	0.58	0.32	4.55	0.03	1.02	0.09	0.28	25.20	38.10	63.30
Idle Exh	0.00	0.00	0.00	0.27	0.00	0.28	0.00	3.40	0.00	0.04	0.00	0.00	0.00	0.19	0.00	0.00	0.00	4.18	4.18
Start Ex	5.62	0.00	2.57	0.00	0.47	3.95	0.05	4.21	0.17	0.21	0.04	0.00	0.01	0.09	0.00	0.00	8.94	8.45	17.39
Total Ex	29.10	0.18	3.25	6.43	0.69	8.89	0.35	28.28	0.24	0.83	0.35	4.55	0.05	1.30	0.10	0.28	34.14	50.74	84.88
PM2.5 Emissions																			
Run Exh	0.65	0.02	0.00	0.07	0.00	0.02	0.00	0.08	0.00	0.00	0.00	0.06	0.00	0.01	0.00	0.01	0.65	0.26	0.91
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.16	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	0.16	0.00	0.16
Total Ex	0.81	0.02	0.00	0.07	0.00	0.02	0.00	0.08	0.00	0.00	0.00	0.06	0.00	0.01	0.00	0.01	0.81	0.26	1.07
TireWear	0.81	0.01	0.01	0.02	0.00	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.17	0.99
BrakeWear	6.38	0.06	0.11	0.17	0.05	0.45	0.00	0.37	0.03	0.03	0.02	0.17	0.03	0.07	0.02	0.01	6.63	1.32	7.95
Total	7.99	0.09	0.12	0.25	0.05	0.50	0.00	0.57	0.03	0.03	0.02	0.22	0.03	0.08	0.02	0.01	8.26	1.75	10.01
Fuel Consumption (1000 gallons) and SO2																			
Fuel	12436.89	103.83	264.69	213.24	105.23	801.13	18.93	1973.57	54.84	64.96	53.83	83.28	8.65	26.95	35.97	7.29	12979.04	3274.24	16253.28
SOx	1.17	0.01	0.02	0.02	0.01	0.08	0.00	0.20	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	1.22	0.33	1.55

Table D-18
2025 Summer Planning 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	11216166	107798	102510	129900	16852	137859	793	88337	9320	5987	2568	3876	2780	5210	33541	9250	11384530	488217	11872747
VMT/1000	368734	3725	2923	4442	794	7325	98	12748	400	487	276	417	100	197	268	76	373593	29417	403010
Reactive Organic Gas Emissions																			
Run Exh	9.40	0.05	0.09	0.29	0.03	0.21	0.03	0.90	0.01	0.03	0.13	0.30	0.01	0.02	0.02	0.01	9.70	1.81	11.52
Idle Exh	0.00	0.00	0.04	0.02	0.01	0.00	0.00	0.09	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.08	0.11	0.19
Start Ex	5.71	0.00	0.57	0.00	0.19	0.00	0.01	0.00	0.06	0.00	0.02	0.00	0.01	0.00	0.00	0.00	6.58	0.00	6.58
Total Ex	15.11	0.05	0.70	0.31	0.23	0.22	0.05	0.99	0.08	0.03	0.15	0.30	0.04	0.03	0.02	0.01	16.36	1.93	18.29
Diurnal	6.39	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	0.01	0.00	6.39	0.00	6.40
Hot Soak	8.23	0.00	0.27	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	8.54	0.00	8.54
Running	20.85	0.00	1.74	0.00	0.13	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.00	0.00	0.01	0.00	22.78	0.00	22.78
Resting	5.22	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	5.23	0.00	5.23
Total	55.80	0.05	2.71	0.31	0.39	0.22	0.05	0.99	0.12	0.03	0.17	0.30	0.04	0.03	0.03	0.01	59.31	1.93	61.24
Carbon Monoxide Emissions																			
Run Exh	300.47	0.78	2.41	1.79	0.72	1.12	2.80	8.83	0.22	0.15	1.29	5.47	0.12	0.08	0.47	0.02	308.51	18.24	326.75
Idle Exh	0.00	0.00	0.34	0.13	0.16	0.01	0.00	0.28	0.05	0.00	0.00	0.00	0.21	0.01	0.00	0.00	0.76	0.44	1.20
Start Ex	76.72	0.00	6.08	0.00	3.05	0.00	0.69	0.00	1.00	0.00	0.24	0.00	0.14	0.00	0.02	0.00	87.94	0.00	87.94
Total Ex	377.20	0.78	8.83	1.92	3.93	1.13	3.49	9.11	1.28	0.16	1.53	5.47	0.47	0.09	0.49	0.02	397.21	18.68	415.90
Oxides of Nitrogen Emissions																			
Run Exh	20.74	0.17	0.60	5.84	0.19	4.39	0.26	19.56	0.06	0.55	0.28	4.30	0.03	0.97	0.08	0.26	22.25	36.04	58.29
Idle Exh	0.00	0.00	0.00	0.27	0.00	0.29	0.00	3.51	0.00	0.05	0.00	0.00	0.00	0.20	0.00	0.00	0.00	4.31	4.31
Start Ex	5.22	0.00	2.46	0.00	0.45	3.95	0.05	4.21	0.16	0.21	0.04	0.00	0.01	0.09	0.00	0.00	8.40	8.45	16.86
Total Ex	25.96	0.17	3.07	6.11	0.64	8.64	0.31	27.28	0.23	0.80	0.31	4.30	0.04	1.25	0.09	0.26	30.65	48.81	79.46
PM2.5 Emissions																			
Run Exh	0.65	0.02	0.00	0.07	0.00	0.02	0.00	0.08	0.00	0.00	0.00	0.06	0.00	0.01	0.00	0.01	0.65	0.26	0.91
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.16	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	0.16	0.00	0.16
Total Ex	0.81	0.02	0.00	0.07	0.00	0.02	0.00	0.08	0.00	0.00	0.00	0.06	0.00	0.01	0.00	0.01	0.81	0.26	1.07
TireWear	0.81	0.01	0.01	0.02	0.00	0.02	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.17	0.99
BrakeWear	6.38	0.06	0.11	0.17	0.05	0.45	0.00	0.37	0.03	0.03	0.02	0.17	0.03	0.07	0.02	0.01	6.63	1.32	7.95
Total	7.99	0.09	0.12	0.25	0.05	0.50	0.00	0.56	0.03	0.03	0.02	0.22	0.03	0.08	0.02	0.01	8.26	1.75	10.01
Fuel Consumption (1000 gallons) and SO2																			
Fuel	13057.01	103.83	264.64	213.24	105.25	801.66	18.93	1979.39	54.83	65.05	53.83	83.28	8.65	27.07	35.97	7.29	13599.12	3280.79	16879.91
SOx	1.22	0.01	0.02	0.02	0.01	0.08	0.00	0.20	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	1.27	0.33	1.61

Table D-19
2026 Annual Average 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	11378377	111427	99230	133163	17123	144029	824	90885	9521	6330	2602	3741	2891	5214	33256	9206	11543824	503995	12047819
VMT/1000	369198	3784	2826	4504	801	7486	100	13136	401	495	276	398	103	197	265	75	373970	30075	404045
Reactive Organic Gas Emissions																			
Run Exh	8.85	0.04	0.07	0.28	0.02	0.22	0.03	0.92	0.01	0.03	0.06	0.26	0.00	0.02	0.01	0.01	9.06	1.78	10.84
Idle Exh	0.00	0.00	0.03	0.02	0.01	0.00	0.00	0.10	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.08	0.12	0.20
Start Ex	5.98	0.00	0.54	0.00	0.19	0.00	0.01	0.00	0.06	0.00	0.02	0.00	0.01	0.00	0.00	0.00	6.83	0.00	6.83
Total Ex	14.83	0.04	0.65	0.30	0.23	0.22	0.05	1.02	0.08	0.03	0.09	0.26	0.04	0.03	0.02	0.01	15.97	1.90	17.88
Diurnal	3.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.86	0.00	3.86
Hot Soak	7.51	0.00	0.25	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	7.79	0.00	7.79
Running	21.63	0.00	1.70	0.00	0.14	0.00	0.01	0.00	0.04	0.00	0.02	0.00	0.01	0.00	0.01	0.00	23.53	0.00	23.53
Resting	3.36	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	3.37	0.00	3.37
Total	51.18	0.04	2.60	0.30	0.39	0.22	0.05	1.02	0.12	0.03	0.10	0.26	0.04	0.03	0.03	0.01	54.52	1.91	56.42
Carbon Monoxide Emissions																			
Run Exh	260.65	0.77	2.01	1.67	0.60	1.14	2.82	9.19	0.19	0.16	0.91	5.03	0.10	0.08	0.39	0.02	267.68	18.04	285.72
Idle Exh	0.00	0.00	0.33	0.13	0.22	0.02	0.00	0.40	0.05	0.01	0.00	0.00	0.22	0.01	0.00	0.00	0.82	0.56	1.39
Start Ex	84.17	0.00	5.95	0.00	3.08	0.00	0.75	0.00	1.05	0.00	0.25	0.00	0.18	0.00	0.02	0.00	95.44	0.00	95.44
Total Ex	344.81	0.77	8.29	1.80	3.90	1.16	3.57	9.58	1.29	0.16	1.17	5.03	0.50	0.09	0.41	0.02	363.94	18.60	382.55
Oxides of Nitrogen Emissions																			
Run Exh	21.88	0.15	0.60	5.43	0.19	4.63	0.31	20.69	0.07	0.59	0.27	3.80	0.03	0.93	0.08	0.26	23.42	36.48	59.90
Idle Exh	0.00	0.00	0.00	0.26	0.00	0.29	0.00	3.43	0.00	0.05	0.00	0.00	0.00	0.18	0.00	0.00	0.00	4.20	4.21
Start Ex	5.12	0.00	2.39	0.00	0.45	4.14	0.06	4.35	0.17	0.22	0.04	0.00	0.01	0.09	0.00	0.00	8.24	8.80	17.04
Total Ex	27.00	0.15	2.99	5.69	0.64	9.06	0.36	28.46	0.23	0.86	0.31	3.80	0.04	1.20	0.09	0.26	31.67	49.48	81.15
PM2.5 Emissions																			
Run Exh	0.63	0.02	0.00	0.06	0.00	0.02	0.00	0.08	0.00	0.00	0.00	0.05	0.00	0.01	0.00	0.01	0.63	0.24	0.87
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.16	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	0.16	0.00	0.16
Total Ex	0.79	0.02	0.00	0.06	0.00	0.02	0.00	0.08	0.00	0.00	0.00	0.05	0.00	0.01	0.00	0.01	0.79	0.24	1.04
TireWear	0.81	0.01	0.01	0.02	0.00	0.03	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.18	1.00
BrakeWear	6.39	0.06	0.11	0.17	0.05	0.46	0.00	0.38	0.03	0.03	0.02	0.16	0.04	0.07	0.02	0.01	6.64	1.34	7.98
Total	7.99	0.09	0.12	0.25	0.05	0.51	0.00	0.58	0.03	0.03	0.02	0.20	0.04	0.08	0.02	0.01	8.25	1.76	10.01
Fuel Consumption (1000 gallons) and SO2																			
Fuel	12000.72	102.78	254.59	214.81	105.68	816.13	19.30	2023.26	55.11	65.88	53.66	78.36	8.89	26.90	35.39	7.18	12533.34	3335.30	15868.64
SOx	1.13	0.01	0.02	0.02	0.01	0.09	0.00	0.21	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	1.18	0.34	1.51

Table D-20
2026 Summer Planning 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	11378377	111427	99230	133163	17123	144029	824	90885	9521	6330	2602	3741	2891	5214	33256	9206	11543824	503995	12047819
VMT/1000	369198	3784	2826	4504	801	7486	100	13136	401	495	276	398	103	197	265	75	373970	30075	404045
Reactive Organic Gas Emissions																			
Run Exh	9.03	0.04	0.07	0.28	0.02	0.22	0.03	0.92	0.01	0.03	0.06	0.26	0.00	0.02	0.01	0.01	9.25	1.78	11.03
Idle Exh	0.00	0.00	0.03	0.02	0.01	0.00	0.00	0.10	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.08	0.12	0.19
Start Ex	5.31	0.00	0.52	0.00	0.18	0.00	0.01	0.00	0.06	0.00	0.02	0.00	0.01	0.00	0.00	0.00	6.12	0.00	6.12
Total Ex	14.34	0.04	0.63	0.30	0.22	0.22	0.05	1.02	0.08	0.03	0.08	0.26	0.04	0.02	0.02	0.01	15.45	1.90	17.35
Diurnal	6.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	6.24	0.00	6.24
Hot Soak	7.94	0.00	0.26	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	8.23	0.00	8.23
Running	20.39	0.00	1.66	0.00	0.13	0.00	0.01	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.01	0.00	22.25	0.00	22.25
Resting	5.10	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	5.11	0.00	5.11
Total	54.00	0.04	2.56	0.30	0.38	0.22	0.05	1.02	0.12	0.03	0.10	0.26	0.04	0.02	0.03	0.01	57.28	1.90	59.18
Carbon Monoxide Emissions																			
Run Exh	285.12	0.77	2.05	1.67	0.61	1.14	2.88	9.19	0.20	0.16	0.93	5.03	0.10	0.08	0.40	0.02	292.30	18.04	310.34
Idle Exh	0.00	0.00	0.33	0.13	0.16	0.01	0.00	0.29	0.05	0.00	0.00	0.00	0.22	0.01	0.00	0.00	0.76	0.45	1.21
Start Ex	72.42	0.00	5.67	0.00	2.92	0.00	0.71	0.00	0.99	0.00	0.22	0.00	0.14	0.00	0.02	0.00	83.09	0.00	83.09
Total Ex	357.53	0.77	8.06	1.80	3.70	1.15	3.59	9.48	1.24	0.16	1.15	5.03	0.47	0.09	0.42	0.02	376.16	18.49	394.64
Oxides of Nitrogen Emissions																			
Run Exh	19.33	0.14	0.53	5.14	0.16	4.37	0.27	19.57	0.06	0.56	0.24	3.59	0.03	0.88	0.07	0.25	20.68	34.50	55.18
Idle Exh	0.00	0.00	0.00	0.26	0.00	0.30	0.00	3.54	0.00	0.05	0.00	0.00	0.00	0.18	0.00	0.00	0.00	4.33	4.33
Start Ex	4.76	0.00	2.30	0.00	0.43	4.14	0.05	4.35	0.16	0.22	0.04	0.00	0.01	0.09	0.00	0.00	7.75	8.80	16.56
Total Ex	24.08	0.14	2.83	5.40	0.60	8.81	0.32	27.46	0.22	0.83	0.27	3.59	0.04	1.15	0.08	0.25	28.43	47.63	76.07
PM2.5 Emissions																			
Run Exh	0.63	0.02	0.00	0.06	0.00	0.02	0.00	0.08	0.00	0.00	0.00	0.05	0.00	0.01	0.00	0.01	0.63	0.24	0.87
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.16	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	0.16	0.00	0.16
Total Ex	0.79	0.02	0.00	0.06	0.00	0.02	0.00	0.08	0.00	0.00	0.00	0.05	0.00	0.01	0.00	0.01	0.79	0.24	1.04
TireWear	0.81	0.01	0.01	0.02	0.00	0.03	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.18	1.00
BrakeWear	6.39	0.06	0.11	0.17	0.05	0.46	0.00	0.38	0.03	0.03	0.02	0.16	0.04	0.07	0.02	0.01	6.64	1.34	7.98
Total	7.99	0.09	0.12	0.25	0.05	0.51	0.00	0.58	0.03	0.03	0.02	0.20	0.04	0.08	0.02	0.01	8.25	1.76	10.01
Fuel Consumption (1000 gallons) and SO2																			
Fuel	12599.29	102.78	254.55	214.81	105.70	816.67	19.31	2029.19	55.10	65.98	53.66	78.36	8.89	27.01	35.39	7.18	13131.88	3341.99	16473.87
SOx	1.18	0.01	0.02	0.02	0.01	0.09	0.00	0.21	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	1.23	0.34	1.57

Table D-21
2031 Annual Average 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	12015546	123900	88415	150255	18694	167877	977	99670	10455	7581	2869	3469	3384	5243	32644	9160	12172984	567155	12740139
VMT/1000	370864	3961	2533	4831	842	8264	111	15055	415	532	290	353	114	198	255	72	375424	33266	408690
Reactive Organic Gas Emissions																			
Run Exh	7.53	0.03	0.03	0.23	0.01	0.23	0.03	1.03	0.01	0.03	0.03	0.14	0.00	0.02	0.01	0.00	7.65	1.71	9.36
Idle Exh	0.00	0.00	0.03	0.02	0.02	0.00	0.00	0.11	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.08	0.13	0.21
Start Ex	4.35	0.00	0.34	0.00	0.17	0.00	0.02	0.00	0.07	0.00	0.02	0.00	0.01	0.00	0.00	0.00	4.98	0.00	4.98
Total Ex	11.89	0.03	0.40	0.25	0.20	0.24	0.05	1.14	0.08	0.03	0.05	0.14	0.04	0.02	0.01	0.00	12.71	1.84	14.55
Diurnal	3.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.34	0.00	3.34
Hot Soak	6.09	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	6.31	0.00	6.31
Running	18.46	0.00	1.27	0.00	0.12	0.00	0.01	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	19.92	0.00	19.92
Resting	2.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.90	0.00	2.90
Total	42.67	0.03	1.85	0.25	0.35	0.24	0.06	1.14	0.13	0.03	0.07	0.14	0.05	0.02	0.01	0.00	45.18	1.84	47.02
Carbon Monoxide Emissions																			
Run Exh	209.71	0.68	0.81	1.24	0.30	1.24	3.16	10.77	0.12	0.16	0.58	3.79	0.05	0.07	0.11	0.02	214.85	17.97	232.82
Idle Exh	0.00	0.00	0.30	0.15	0.25	0.02	0.00	0.41	0.06	0.01	0.00	0.00	0.25	0.01	0.00	0.00	0.86	0.60	1.45
Start Ex	64.95	0.00	4.43	0.00	2.65	0.00	0.89	0.00	1.02	0.00	0.25	0.00	0.18	0.00	0.02	0.00	74.37	0.00	74.37
Total Ex	274.66	0.68	5.54	1.39	3.20	1.26	4.05	11.19	1.20	0.16	0.83	3.79	0.48	0.08	0.13	0.02	290.08	18.57	308.65
Oxides of Nitrogen Emissions																			
Run Exh	16.08	0.07	0.31	2.86	0.12	4.58	0.35	20.88	0.05	0.55	0.22	1.93	0.02	0.54	0.05	0.20	17.19	31.62	48.80
Idle Exh	0.00	0.00	0.00	0.23	0.00	0.33	0.00	3.52	0.00	0.06	0.00	0.00	0.00	0.11	0.00	0.00	0.00	4.25	4.26
Start Ex	3.36	0.00	1.72	0.00	0.38	4.87	0.07	4.85	0.16	0.26	0.04	0.00	0.01	0.12	0.00	0.00	5.75	10.11	15.85
Total Ex	19.44	0.07	2.03	3.09	0.50	9.78	0.41	29.25	0.21	0.87	0.26	1.93	0.03	0.78	0.05	0.20	22.94	45.98	68.92
PM2.5 Emissions																			
Run Exh	0.46	0.01	0.00	0.05	0.00	0.03	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.46	0.19	0.65
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.14	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	0.14	0.00	0.14
Total Ex	0.60	0.01	0.00	0.05	0.00	0.03	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.60	0.19	0.79
TireWear	0.81	0.01	0.01	0.02	0.00	0.03	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.20	1.02
BrakeWear	6.41	0.07	0.10	0.18	0.05	0.51	0.00	0.43	0.03	0.03	0.02	0.14	0.04	0.07	0.02	0.00	6.66	1.44	8.10
Total	7.82	0.08	0.10	0.25	0.06	0.56	0.00	0.66	0.03	0.04	0.02	0.16	0.04	0.07	0.02	0.01	8.08	1.83	9.91
Fuel Consumption (1000 gallons) and SO2																			
Fuel	10474.56	97.47	223.99	225.06	109.46	889.84	20.95	2271.31	56.57	69.98	55.81	66.22	9.88	26.60	33.70	6.88	10984.93	3653.36	14638.30
SOx	0.98	0.01	0.02	0.02	0.01	0.09	0.00	0.23	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	1.03	0.37	1.40

Table D-22
2031 Summer Planning 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
	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Gas	Diesel	Total
vehicles	12015546	123900	88415	150255	18694	167877	977	99670	10455	7581	2869	3469	3384	5243	32644	9160	12172984	567155	12740139
VMT/1000	370864	3961	2533	4831	842	8264	111	15055	415	532	290	353	114	198	255	72	375424	33266	408690
Reactive Organic Gas Emissions																			
Run Exh	7.64	0.03	0.03	0.23	0.01	0.23	0.04	1.03	0.01	0.03	0.03	0.14	0.00	0.02	0.01	0.00	7.76	1.71	9.47
Idle Exh	0.00	0.00	0.03	0.02	0.02	0.00	0.00	0.10	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.08	0.12	0.20
Start Ex	3.88	0.00	0.33	0.00	0.16	0.00	0.02	0.00	0.06	0.00	0.02	0.00	0.01	0.00	0.00	0.00	4.48	0.00	4.48
Total Ex	11.52	0.03	0.38	0.25	0.19	0.24	0.05	1.13	0.07	0.03	0.05	0.14	0.04	0.02	0.01	0.00	12.32	1.83	14.15
Diurnal	5.42	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	0.01	0.00	5.43	0.00	5.43
Hot Soak	6.45	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	6.68	0.00	6.68
Running	17.36	0.00	1.24	0.00	0.12	0.00	0.01	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	18.79	0.00	18.79
Resting	4.41	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	4.42	0.00	4.42
Total	45.17	0.03	1.82	0.25	0.34	0.24	0.06	1.13	0.12	0.03	0.07	0.14	0.05	0.02	0.02	0.00	47.64	1.83	49.47
Carbon Monoxide Emissions																			
Run Exh	228.83	0.68	0.83	1.24	0.30	1.24	3.23	10.77	0.12	0.16	0.60	3.79	0.05	0.07	0.11	0.02	234.07	17.97	252.04
Idle Exh	0.00	0.00	0.30	0.15	0.18	0.02	0.00	0.30	0.06	0.00	0.00	0.00	0.25	0.01	0.00	0.00	0.79	0.48	1.27
Start Ex	56.27	0.00	4.22	0.00	2.52	0.00	0.84	0.00	0.96	0.00	0.22	0.00	0.15	0.00	0.02	0.00	65.20	0.00	65.20
Total Ex	285.10	0.68	5.35	1.39	3.00	1.25	4.07	11.07	1.14	0.16	0.81	3.79	0.45	0.08	0.13	0.02	300.06	18.45	318.51
Oxides of Nitrogen Emissions																			
Run Exh	14.21	0.06	0.28	2.71	0.10	4.32	0.30	19.75	0.04	0.52	0.19	1.83	0.02	0.51	0.04	0.19	15.18	29.90	45.08
Idle Exh	0.00	0.00	0.00	0.23	0.00	0.34	0.00	3.63	0.00	0.06	0.00	0.00	0.00	0.12	0.00	0.00	0.00	4.38	4.39
Start Ex	3.13	0.00	1.65	0.00	0.37	4.87	0.06	4.85	0.16	0.26	0.04	0.00	0.01	0.12	0.00	0.00	5.42	10.11	15.53
Total Ex	17.34	0.06	1.93	2.94	0.47	9.53	0.37	28.23	0.20	0.84	0.23	1.83	0.03	0.75	0.04	0.19	20.61	44.39	64.99
PM2.5 Emissions																			
Run Exh	0.46	0.01	0.00	0.05	0.00	0.03	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.46	0.19	0.65
Idle Exh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Ex	0.14	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	0.14	0.00	0.14
Total Ex	0.60	0.01	0.00	0.05	0.00	0.03	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.60	0.19	0.79
TireWear	0.81	0.01	0.01	0.02	0.00	0.03	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.20	1.02
BrakeWear	6.41	0.07	0.10	0.18	0.05	0.51	0.00	0.43	0.03	0.03	0.02	0.14	0.04	0.07	0.02	0.00	6.66	1.44	8.10
Total	7.82	0.08	0.10	0.25	0.06	0.56	0.00	0.66	0.03	0.04	0.02	0.16	0.04	0.07	0.02	0.01	8.08	1.83	9.91
Fuel Consumption (1000 gallons) and SO2																			
Fuel	11000.02	97.47	223.96	225.06	109.49	890.47	20.95	2277.62	56.56	70.10	55.81	66.22	9.88	26.71	33.70	6.88	11510.37	3660.53	15170.89
SOx	1.03	0.01	0.02	0.02	0.01	0.09	0.00	0.23	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	1.08	0.37	1.45

Attachment E:

Diesel Emissions in South Coast Air Basin

TABLE E-1
2012 Baseline Diesel Emissions (Tons/Day)
in South Coast Air Basin

MSC		Annual Average Inventory									Summer Planning	
Code	Major Source Category (MSC)	TOG	VOC	NOX	CO	SOX	TSP	PM10	PM2.5	NH3	VOC	NOX
010	Electric Utilities	0.124	0.104	0.000	0.282	0.001	0.004	0.004	0.004	0.008	0.104	0.000
030	Oil and Gas Production (Combustion)	0.013	0.011	0.000	0.030	0.000	0.015	0.014	0.014	0.003	0.011	0.000
050	Manufacturing and Industrial	0.061	0.051	0.183	0.139	0.001	0.032	0.031	0.031	0.003	0.054	0.212
052	Food and Agricultural Processing	0.010	0.008	0.096	0.025	0.000	0.006	0.006	0.006	0.000	0.009	0.106
060	Service and Commercial	0.090	0.076	0.819	0.207	0.002	0.065	0.064	0.063	0.003	0.079	0.842
099	Other (Fuel Combustion)	0.196	0.164	3.019	0.842	0.000	0.055	0.054	0.052	0.001	0.182	3.359
110	Sewage Treatment	0.004	0.001	0.005	0.004	0.019	0.001	0.001	0.001	0.000	0.001	0.006
130	Incinerators	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	Oil and Gas Production	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
320	Petroleum Refining	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
330	Petroleum Marketing	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.000
610	Residential Fuel Combustion	0.000	0.000	0.082	0.011	0.001	0.009	0.009	0.009	0.000	0.000	0.082
710	Light Duty Passenger	0.115	0.101	0.611	0.679	0.003	0.074	0.073	0.070	0.003	0.101	0.577
722	Light Duty Trucks-1 (up to 3750 lb.)	0.009	0.008	0.046	0.046	0.000	0.006	0.006	0.006	0.000	0.008	0.043
723	Light Duty Trucks-2 (3751 to 5750 lb.)	0.002	0.002	0.010	0.013	0.000	0.001	0.001	0.001	0.000	0.002	0.010
724	Medium Duty Trucks (5751-8500 lb.)	0.013	0.011	0.059	0.095	0.002	0.008	0.008	0.007	0.001	0.011	0.055
742	Light Heavy Duty Diesel Trucks-1 (8501-10000 lb.)	0.457	0.402	16.133	2.794	0.013	0.097	0.096	0.092	0.008	0.402	15.295
743	Light Heavy Duty Diesel Trucks-2 (10001-14000 lb.)	0.159	0.139	5.460	0.953	0.005	0.035	0.035	0.033	0.003	0.139	5.177
744	Medium Heavy Duty Diesel Trucks (14001-33000 lb.)	2.298	2.017	37.005	6.406	0.051	1.451	1.442	1.380	0.128	2.016	35.057
746	Heavy Heavy Duty Diesel Trucks (>33001 lb.)	6.805	5.474	96.356	20.423	0.144	2.944	2.926	2.799	0.219	5.456	91.652
760	Heavy Duty Diesel Urban Buses	5.247	1.205	19.637	14.478	0.009	0.283	0.281	0.269	0.023	1.205	18.566
772	School Buses - Diesel	0.178	0.156	2.248	0.435	0.002	0.075	0.074	0.071	0.005	0.155	2.149
778	Other Buses - Motor Coach - Diesel	0.101	0.089	1.564	0.317	0.002	0.039	0.039	0.037	0.003	0.088	1.494
779	All Other Buses - Diesel	0.109	0.096	1.633	0.282	0.002	0.054	0.054	0.052	0.006	0.096	1.547
780	Motor Homes	0.011	0.010	0.603	0.046	0.001	0.017	0.017	0.017	0.000	0.010	0.569
820	Trains	1.472	1.235	19.722	3.860	0.014	0.434	0.434	0.390	0.009	1.235	19.722
833	Ocean Going Vessels	1.964	1.751	30.140	3.430	4.567	0.959	0.959	0.918	0.028	1.751	30.140
835	Commercial Harbor Craft	1.366	1.147	15.844	5.432	0.001	0.735	0.735	0.677	0.000	1.202	16.563
840	Recreational Boats	0.015	0.014	0.004	0.063	0.000	0.004	0.004	0.003	0.000	0.020	0.006
860	Commercial/Industrial Mobile Equipment	7.184	6.035	51.171	31.034	0.037	2.865	2.865	2.635	0.036	6.749	58.152
870	Farm Equipment	0.469	0.394	2.489	1.294	0.000	0.157	0.157	0.144	0.000	0.479	3.027
	RECLAIM			0.710		0.067						0.729
	Total Diesel	**28.484**	**20.712**	**305.648**	**93.619**	**4.946**	**10.423**	**10.389**	**9.781**	**0.491**	**21.574**	**305.135**

Notes:
(1) Emission from line items not included.
(2) Ships and Commercial Boats in 2016 AQMP inventory do not use residual oil.

TABLE E-2
2019 Baseline Diesel Emissions (Tons/Day)
in South Coast Air Basin

MSC		Annual Average Inventory									Summer Planning	
Code	Major Source Category (MSC)	TOG	VOC	NOX	CO	SOX	TSP	PM10	PM2.5	NH3	VOC	NOX
010	Electric Utilities	0.098	0.082	0.000	0.224	0.001	0.003	0.003	0.003	0.006	0.082	0.000
030	Oil and Gas Production (Combustion)	0.013	0.011	0.000	0.032	0.000	0.015	0.015	0.015	0.003	0.011	0.000
050	Manufacturing and Industrial	0.064	0.053	0.204	0.144	0.001	0.034	0.033	0.033	0.003	0.057	0.238
052	Food and Agricultural Processing	0.011	0.009	0.095	0.027	0.000	0.008	0.007	0.007	0.001	0.010	0.101
060	Service and Commercial	0.099	0.083	0.875	0.226	0.002	0.071	0.070	0.069	0.003	0.086	0.900
099	Other (Fuel Combustion)	0.146	0.122	2.459	0.670	0.000	0.041	0.041	0.039	0.001	0.136	2.736
110	Sewage Treatment	0.004	0.001	0.006	0.005	0.022	0.002	0.002	0.002	0.000	0.001	0.007
130	Incinerators	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	Oil and Gas Production	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
320	Petroleum Refining	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
330	Petroleum Marketing	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.000
610	Residential Fuel Combustion	0.000	0.000	0.088	0.012	0.001	0.010	0.009	0.009	0.000	0.000	0.088
710	Light Duty Passenger	0.071	0.062	0.290	0.615	0.006	0.038	0.038	0.037	0.007	0.062	0.274
722	Light Duty Trucks-1 (up to 3750 lb.)	0.004	0.003	0.020	0.020	0.000	0.003	0.002	0.002	0.000	0.003	0.019
723	Light Duty Trucks-2 (3751 to 5750 lb.)	0.003	0.003	0.008	0.022	0.001	0.001	0.001	0.001	0.001	0.003	0.008
724	Medium Duty Trucks (5751-8500 lb.)	0.016	0.014	0.048	0.198	0.004	0.007	0.007	0.006	0.003	0.014	0.046
742	Light Heavy Duty Diesel Trucks-1 (8501-10000 lb.)	0.367	0.322	9.693	2.140	0.015	0.075	0.075	0.071	0.010	0.322	9.195
743	Light Heavy Duty Diesel Trucks-2 (10001-14000 lb.)	0.123	0.108	2.817	0.673	0.007	0.026	0.026	0.025	0.004	0.108	2.674
744	Medium Heavy Duty Diesel Trucks (14001-33000 lb.)	0.964	0.846	20.485	3.033	0.073	0.551	0.547	0.524	0.181	0.846	19.518
746	Heavy Heavy Duty Diesel Trucks (>33001 lb.)	2.758	1.578	58.171	8.582	0.180	0.274	0.272	0.261	0.302	1.569	55.598
760	Heavy Duty Diesel Urban Buses	3.090	0.603	9.123	8.556	0.004	0.121	0.121	0.115	0.016	0.603	8.625
772	School Buses - Diesel	0.036	0.031	1.903	0.096	0.003	0.010	0.010	0.009	0.006	0.031	1.823
778	Other Buses - Motor Coach - Diesel	0.029	0.026	0.932	0.098	0.003	0.004	0.004	0.004	0.004	0.026	0.892
779	All Other Buses - Diesel	0.025	0.022	1.019	0.075	0.003	0.005	0.005	0.005	0.008	0.022	0.968
780	Motor Homes	0.009	0.008	0.417	0.034	0.001	0.012	0.012	0.011	0.000	0.008	0.394
820	Trains	0.938	0.786	16.879	4.014	0.014	0.296	0.296	0.271	0.010	0.786	16.879
833	Ocean Going Vessels	2.486	2.220	26.175	4.173	3.149	0.912	0.912	0.872	0.035	2.220	26.175
835	Commercial Harbor Craft	1.265	1.063	11.151	6.601	0.001	0.464	0.464	0.428	0.000	1.115	11.667
840	Recreational Boats	0.012	0.011	0.003	0.047	0.000	0.003	0.003	0.002	0.000	0.016	0.004
860	Commercial/Industrial Mobile Equipment	5.027	4.223	38.235	32.580	0.047	1.674	1.673	1.539	0.046	4.800	43.761
870	Farm Equipment	0.351	0.295	1.935	1.144	0.000	0.122	0.122	0.113	0.000	0.359	2.354
	RECLAIM			0.660		0.088						0.678
	Total Diesel	**18.023**	**12.599**	**203.692**	**74.038**	**3.626**	**4.781**	**4.770**	**4.472**	**0.650**	**13.309**	**205.622**

Notes:
(1) Emission from line items not included.
(2) Ships and Commercial Boats in 2016 AQMP inventory do not use residual oil.

TABLE E-3
2021 Baseline Diesel Emissions (Tons/Day)
in South Coast Air Basin

MSC		Annual Average Inventory									Summer Planning	
Code	Major Source Category (MSC)	TOG	VOC	NOX	CO	SOX	TSP	PM10	PM2.5	NH3	VOC	NOX
010	Electric Utilities	0.102	0.085	0.000	0.232	0.001	0.003	0.003	0.003	0.007	0.085	0.000
030	Oil and Gas Production (Combustion)	0.014	0.011	0.000	0.032	0.000	0.015	0.015	0.015	0.003	0.011	0.000
050	Manufacturing and Industrial	0.064	0.054	0.209	0.146	0.001	0.035	0.034	0.034	0.003	0.058	0.245
052	Food and Agricultural Processing	0.011	0.009	0.098	0.028	0.000	0.008	0.008	0.007	0.001	0.010	0.104
060	Service and Commercial	0.101	0.085	0.889	0.231	0.002	0.073	0.071	0.071	0.003	0.089	0.916
099	Other (Fuel Combustion)	0.112	0.094	2.051	0.564	0.000	0.029	0.029	0.028	0.001	0.104	2.281
110	Sewage Treatment	0.004	0.001	0.007	0.005	0.023	0.002	0.002	0.002	0.000	0.001	0.007
130	Incinerators	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	Oil and Gas Production	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
320	Petroleum Refining	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
330	Petroleum Marketing	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.000
610	Residential Fuel Combustion	0.000	0.000	0.089	0.012	0.001	0.010	0.009	0.009	0.000	0.000	0.089
710	Light Duty Passenger	0.062	0.054	0.232	0.597	0.006	0.032	0.032	0.031	0.008	0.054	0.219
722	Light Duty Trucks-1 (up to 3750 lb.)	0.003	0.003	0.016	0.016	0.000	0.002	0.002	0.002	0.000	0.003	0.015
723	Light Duty Trucks-2 (3751 to 5750 lb.)	0.003	0.003	0.007	0.024	0.001	0.001	0.001	0.001	0.001	0.003	0.007
724	Medium Duty Trucks (5751-8500 lb.)	0.016	0.014	0.045	0.217	0.004	0.006	0.006	0.006	0.003	0.014	0.043
742	Light Heavy Duty Diesel Trucks-1 (8501-10000 lb.)	0.328	0.288	7.961	1.895	0.015	0.067	0.067	0.064	0.010	0.288	7.553
743	Light Heavy Duty Diesel Trucks-2 (10001-14000 lb.)	0.110	0.097	2.188	0.590	0.007	0.024	0.024	0.022	0.005	0.097	2.078
744	Medium Heavy Duty Diesel Trucks (14001-33000 lb.)	0.295	0.260	11.509	1.148	0.078	0.044	0.044	0.042	0.195	0.259	11.061
746	Heavy Heavy Duty Diesel Trucks (>33001 lb.)	2.749	1.494	52.616	9.007	0.189	0.216	0.214	0.205	0.326	1.485	50.344
760	Heavy Duty Diesel Urban Buses	2.572	0.480	7.220	7.299	0.003	0.095	0.095	0.091	0.015	0.480	6.826
772	School Buses - Diesel	0.033	0.029	1.705	0.093	0.003	0.008	0.008	0.008	0.006	0.029	1.635
778	Other Buses - Motor Coach - Diesel	0.028	0.024	0.789	0.099	0.003	0.003	0.003	0.003	0.005	0.024	0.756
779	All Other Buses - Diesel	0.023	0.021	0.820	0.076	0.004	0.004	0.004	0.004	0.009	0.021	0.781
780	Motor Homes	0.008	0.007	0.365	0.030	0.001	0.010	0.010	0.010	0.000	0.007	0.345
820	Trains	0.886	0.742	16.250	4.121	0.015	0.284	0.284	0.261	0.010	0.742	16.250
833	Ocean Going Vessels	2.665	2.381	24.209	4.435	3.284	0.962	0.962	0.920	0.038	2.381	24.209
835	Commercial Harbor Craft	1.257	1.056	10.696	6.724	0.001	0.441	0.441	0.406	0.000	1.107	11.179
840	Recreational Boats	0.011	0.011	0.003	0.043	0.000	0.003	0.003	0.002	0.000	0.015	0.004
860	Commercial/Industrial Mobile Equipment	4.653	3.910	34.030	33.594	0.049	1.377	1.377	1.267	0.049	4.436	38.905
870	Farm Equipment	0.322	0.270	1.722	1.113	0.000	0.109	0.109	0.101	0.000	0.329	2.094
	RECLAIM			0.540		0.088						0.555
	Total Diesel	**16.449**	**11.496**	**176.265**	**72.371**	**3.778**	**3.863**	**3.856**	**3.612**	**0.695**	**12.146**	**178.499**

Notes:
(1) Emission from line items not included.
(2) Ships and Commercial Boats in 2016 AQMP inventory do not use residual oil.

TABLE E-4
2022 Baseline Diesel Emissions (Tons/Day)
in South Coast Air Basin

MSC		Annual Average Inventory									Summer Planning	
Code	Major Source Category (MSC)	TOG	VOC	NOX	CO	SOX	TSP	PM10	PM2.5	NH3	VOC	NOX
010	Electric Utilities	0.105	0.088	0.000	0.238	0.001	0.004	0.003	0.003	0.007	0.088	0.000
030	Oil and Gas Production (Combustion)	0.014	0.012	0.000	0.032	0.000	0.016	0.015	0.015	0.003	0.012	0.000
050	Manufacturing and Industrial	0.065	0.054	0.212	0.147	0.001	0.035	0.034	0.034	0.003	0.058	0.248
052	Food and Agricultural Processing	0.011	0.009	0.101	0.029	0.000	0.008	0.008	0.008	0.001	0.010	0.107
060	Service and Commercial	0.102	0.086	0.898	0.234	0.002	0.074	0.072	0.072	0.004	0.090	0.925
099	Other (Fuel Combustion)	0.112	0.094	2.051	0.564	0.000	0.029	0.029	0.028	0.001	0.104	2.282
110	Sewage Treatment	0.004	0.001	0.007	0.005	0.023	0.002	0.002	0.002	0.000	0.001	0.008
130	Incinerators	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	Oil and Gas Production	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
320	Petroleum Refining	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
330	Petroleum Marketing	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.000
610	Residential Fuel Combustion	0.000	0.000	0.090	0.012	0.001	0.010	0.010	0.009	0.000	0.000	0.090
710	Light Duty Passenger	0.057	0.050	0.206	0.585	0.006	0.029	0.029	0.028	0.008	0.050	0.195
722	Light Duty Trucks-1 (up to 3750 lb.)	0.003	0.002	0.014	0.015	0.000	0.002	0.002	0.002	0.000	0.002	0.013
723	Light Duty Trucks-2 (3751 to 5750 lb.)	0.003	0.003	0.007	0.025	0.001	0.001	0.001	0.001	0.001	0.003	0.007
724	Medium Duty Trucks (5751-8500 lb.)	0.016	0.014	0.043	0.223	0.004	0.006	0.006	0.006	0.003	0.014	0.041
742	Light Heavy Duty Diesel Trucks-1 (8501-10000 lb.)	0.310	0.272	7.171	1.773	0.015	0.064	0.063	0.061	0.010	0.272	6.804
743	Light Heavy Duty Diesel Trucks-2 (10001-14000 lb.)	0.104	0.092	1.910	0.552	0.008	0.022	0.022	0.021	0.005	0.092	1.813
744	Medium Heavy Duty Diesel Trucks (14001-33000 lb.)	0.296	0.260	11.255	1.176	0.080	0.041	0.041	0.039	0.201	0.260	10.832
746	Heavy Heavy Duty Diesel Trucks (>33001 lb.)	2.765	1.470	49.327	9.272	0.193	0.192	0.190	0.182	0.338	1.462	47.231
760	Heavy Duty Diesel Urban Buses	2.355	0.433	6.565	6.818	0.003	0.087	0.087	0.083	0.014	0.433	6.207
772	School Buses - Diesel	0.032	0.029	1.604	0.092	0.003	0.008	0.008	0.007	0.006	0.028	1.539
778	Other Buses - Motor Coach - Diesel	0.027	0.024	0.699	0.099	0.003	0.003	0.003	0.003	0.005	0.023	0.670
779	All Other Buses - Diesel	0.024	0.021	0.797	0.078	0.004	0.003	0.003	0.003	0.009	0.021	0.760
780	Motor Homes	0.007	0.007	0.341	0.028	0.001	0.009	0.009	0.009	0.000	0.007	0.322
820	Trains	0.860	0.721	15.744	4.161	0.015	0.275	0.275	0.252	0.010	0.721	15.744
833	Ocean Going Vessels	2.781	2.485	23.595	4.613	3.369	0.996	0.996	0.953	0.039	2.485	23.595
835	Commercial Harbor Craft	1.253	1.053	10.488	6.780	0.001	0.431	0.431	0.397	0.000	1.104	10.952
840	Recreational Boats	0.011	0.010	0.003	0.041	0.000	0.003	0.003	0.002	0.000	0.015	0.004
860	Commercial/Industrial Mobile Equipment	4.410	3.705	31.178	34.030	0.050	1.205	1.205	1.109	0.051	4.191	35.513
870	Farm Equipment	0.308	0.259	1.625	1.098	0.000	0.103	0.103	0.095	0.000	0.315	1.977
	RECLAIM			0.420		0.088						0.430
	Total Diesel	**16.051**	**11.267**	**166.350**	**72.722**	**3.871**	**3.656**	**3.649**	**3.421**	**0.717**	**11.873**	**168.307**

Notes:
(1) Emission from line items not included.
(2) Ships and Commercial Boats in 2016 AQMP inventory do not use residual oil.

TABLE E-5
2023 Baseline Diesel Emissions (Tons/Day)
in South Coast Air Basin

MSC		Annual Average Inventory									Summer Planning	
Code	Major Source Category (MSC)	TOG	VOC	NOX	CO	SOX	TSP	PM10	PM2.5	NH3	VOC	NOX
010	Electric Utilities	0.106	0.089	0.000	0.242	0.001	0.004	0.004	0.003	0.007	0.089	0.000
030	Oil and Gas Production (Combustion)	0.014	0.012	0.000	0.032	0.000	0.016	0.015	0.015	0.003	0.012	0.000
050	Manufacturing and Industrial	0.065	0.054	0.213	0.147	0.001	0.035	0.034	0.034	0.003	0.058	0.250
052	Food and Agricultural Processing	0.011	0.009	0.102	0.029	0.000	0.008	0.008	0.008	0.001	0.010	0.108
060	Service and Commercial	0.103	0.087	0.904	0.236	0.002	0.075	0.073	0.072	0.004	0.091	0.931
099	Other (Fuel Combustion)	0.112	0.094	2.052	0.564	0.000	0.029	0.029	0.028	0.001	0.104	2.283
110	Sewage Treatment	0.004	0.001	0.007	0.005	0.023	0.002	0.002	0.002	0.000	0.001	0.008
130	Incinerators	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	Oil and Gas Production	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
320	Petroleum Refining	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
330	Petroleum Marketing	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.000
610	Residential Fuel Combustion	0.000	0.000	0.091	0.013	0.001	0.010	0.010	0.009	0.000	0.000	0.091
710	Light Duty Passenger	0.052	0.045	0.182	0.573	0.006	0.026	0.026	0.025	0.008	0.045	0.172
722	Light Duty Trucks-1 (up to 3750 lb.)	0.002	0.002	0.012	0.013	0.000	0.002	0.002	0.002	0.000	0.002	0.012
723	Light Duty Trucks-2 (3751 to 5750 lb.)	0.003	0.003	0.007	0.026	0.001	0.001	0.001	0.001	0.001	0.003	0.007
724	Medium Duty Trucks (5751-8500 lb.)	0.015	0.013	0.040	0.228	0.005	0.006	0.006	0.006	0.004	0.013	0.038
742	Light Heavy Duty Diesel Trucks-1 (8501-10000 lb.)	0.293	0.257	6.427	1.658	0.015	0.060	0.060	0.057	0.010	0.257	6.100
743	Light Heavy Duty Diesel Trucks-2 (10001-14000 lb.)	0.099	0.087	1.649	0.515	0.008	0.021	0.021	0.020	0.005	0.087	1.566
744	Medium Heavy Duty Diesel Trucks (14001-33000 lb.)	0.238	0.209	8.516	1.101	0.082	0.023	0.022	0.022	0.207	0.209	8.262
746	Heavy Heavy Duty Diesel Trucks (>33001 lb.)	2.218	0.956	27.850	8.488	0.191	0.079	0.079	0.075	0.349	0.951	26.838
760	Heavy Duty Diesel Urban Buses	2.151	0.391	5.973	6.372	0.003	0.080	0.080	0.076	0.014	0.391	5.647
772	School Buses - Diesel	0.032	0.028	1.502	0.091	0.003	0.007	0.007	0.007	0.006	0.028	1.442
778	Other Buses - Motor Coach - Diesel	0.016	0.014	0.326	0.079	0.003	0.001	0.001	0.001	0.005	0.014	0.315
779	All Other Buses - Diesel	0.014	0.012	0.428	0.064	0.004	0.001	0.001	0.001	0.009	0.012	0.412
780	Motor Homes	0.007	0.006	0.318	0.026	0.001	0.008	0.008	0.008	0.000	0.006	0.301
820	Trains	0.840	0.704	15.272	4.202	0.015	0.268	0.268	0.246	0.010	0.704	15.272
833	Ocean Going Vessels	2.898	2.590	22.967	4.791	3.454	1.031	1.031	0.986	0.041	2.590	22.967
835	Commercial Harbor Craft	1.254	1.053	10.332	6.849	0.001	0.423	0.423	0.389	0.000	1.103	10.781
840	Recreational Boats	0.010	0.010	0.003	0.039	0.000	0.003	0.002	0.002	0.000	0.014	0.004
860	Commercial/Industrial Mobile Equipment	4.284	3.599	29.495	34.690	0.051	1.091	1.091	1.004	0.052	4.063	33.530
870	Farm Equipment	0.296	0.249	1.536	1.086	0.000	0.097	0.097	0.089	0.000	0.302	1.868
	RECLAIM			0.420		0.088						0.430
	Total Diesel	**15.153**	**10.589**	**136.621**	**72.160**	**3.957**	**3.405**	**3.400**	**3.186**	**0.738**	**11.173**	**139.630**

Notes:
(1) Emission from line items not included.
(2) Ships and Commercial Boats in 2016 AQMP inventory do not use residual oil.

TABLE E-6
2025 Baseline Diesel Emissions (Tons/Day)
in South Coast Air Basin

MSC		Annual Average Inventory									Summer Planning	
Code	Major Source Category (MSC)	TOG	VOC	NOX	CO	SOX	TSP	PM10	PM2.5	NH3	VOC	NOX
010	Electric Utilities	0.109	0.091	0.000	0.247	0.001	0.004	0.004	0.004	0.007	0.091	0.000
030	Oil and Gas Production (Combustion)	0.014	0.012	0.000	0.032	0.000	0.016	0.015	0.015	0.003	0.012	0.000
050	Manufacturing and Industrial	0.065	0.055	0.215	0.148	0.001	0.035	0.034	0.034	0.003	0.058	0.253
052	Food and Agricultural Processing	0.012	0.010	0.107	0.030	0.000	0.009	0.008	0.008	0.001	0.010	0.112
060	Service and Commercial	0.105	0.088	0.918	0.240	0.002	0.076	0.074	0.073	0.004	0.092	0.946
099	Other (Fuel Combustion)	0.112	0.094	2.053	0.565	0.000	0.029	0.029	0.028	0.001	0.104	2.283
110	Sewage Treatment	0.004	0.001	0.007	0.005	0.024	0.002	0.002	0.002	0.000	0.001	0.008
130	Incinerators	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	Oil and Gas Production	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
320	Petroleum Refining	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
330	Petroleum Marketing	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.000
610	Residential Fuel Combustion	0.000	0.000	0.092	0.013	0.001	0.010	0.010	0.010	0.000	0.000	0.092
710	Light Duty Passenger	0.039	0.034	0.130	0.522	0.006	0.018	0.018	0.017	0.008	0.034	0.123
722	Light Duty Trucks-1 (up to 3750 lb.)	0.002	0.002	0.009	0.010	0.000	0.001	0.001	0.001	0.000	0.002	0.009
723	Light Duty Trucks-2 (3751 to 5750 lb.)	0.003	0.003	0.007	0.027	0.001	0.001	0.001	0.001	0.001	0.003	0.006
724	Medium Duty Trucks (5751-8500 lb.)	0.013	0.011	0.033	0.224	0.004	0.005	0.005	0.004	0.004	0.011	0.031
742	Light Heavy Duty Diesel Trucks-1 (8501-10000 lb.)	0.263	0.231	5.211	1.467	0.015	0.054	0.053	0.051	0.010	0.231	4.947
743	Light Heavy Duty Diesel Trucks-2 (10001-14000 lb.)	0.090	0.079	1.222	0.452	0.008	0.020	0.019	0.019	0.005	0.079	1.162
744	Medium Heavy Duty Diesel Trucks (14001-33000 lb.)	0.245	0.215	8.886	1.133	0.085	0.024	0.024	0.022	0.218	0.215	8.637
746	Heavy Heavy Duty Diesel Trucks (>33001 lb.)	2.362	0.999	28.281	9.218	0.201	0.082	0.082	0.078	0.372	0.994	27.272
760	Heavy Duty Diesel Urban Buses	1.798	0.302	4.549	5.473	0.002	0.060	0.059	0.057	0.012	0.302	4.301
772	School Buses - Diesel	0.029	0.026	1.300	0.089	0.003	0.006	0.006	0.006	0.006	0.026	1.249
778	Other Buses - Motor Coach - Diesel	0.017	0.015	0.363	0.087	0.003	0.001	0.001	0.001	0.005	0.015	0.350
779	All Other Buses - Diesel	0.015	0.013	0.471	0.071	0.004	0.001	0.001	0.001	0.009	0.013	0.453
780	Motor Homes	0.006	0.006	0.280	0.023	0.001	0.007	0.007	0.007	0.000	0.006	0.264
820	Trains	0.776	0.651	13.931	4.283	0.015	0.246	0.246	0.226	0.011	0.651	13.931
833	Ocean Going Vessels	3.133	2.800	21.371	5.151	3.626	1.101	1.101	1.053	0.044	2.800	21.371
835	Commercial Harbor Craft	1.255	1.055	10.078	6.963	0.001	0.412	0.412	0.379	0.000	1.105	10.510
840	Recreational Boats	0.010	0.009	0.002	0.036	0.000	0.002	0.002	0.002	0.000	0.013	0.003
860	Commercial/Industrial Mobile Equipment	4.054	3.406	26.380	35.615	0.051	0.884	0.884	0.813	0.053	3.828	29.817
870	Farm Equipment	0.272	0.228	1.374	1.063	0.000	0.086	0.086	0.079	0.000	0.278	1.671
	RECLAIM			0.420		0.088						0.430
	Total Diesel	**14.820**	**10.449**	**127.688**	**73.186**	**4.143**	**3.190**	**3.184**	**2.990**	**0.776**	**10.987**	**130.230**

Notes:
(1) Emission from line items not included.
(2) Ships and Commercial Boats in 2016 AQMP inventory do not use residual oil.

TABLE E-7
2031 Baseline Diesel Emissions (Tons/Day)
in South Coast Air Basin

MSC		Annual Average Inventory									Summer Planning	
Code	Major Source Category (MSC)	TOG	VOC	NOX	CO	SOX	TSP	PM10	PM2.5	NH3	VOC	NOX
010	Electric Utilities	0.109	0.091	0.000	0.247	0.001	0.004	0.004	0.004	0.007	0.091	0.000
030	Oil and Gas Production (Combustion)	0.014	0.012	0.000	0.033	0.000	0.016	0.015	0.015	0.003	0.012	0.000
050	Manufacturing and Industrial	0.067	0.055	0.223	0.151	0.001	0.036	0.035	0.035	0.003	0.059	0.264
052	Food and Agricultural Processing	0.012	0.010	0.115	0.032	0.000	0.010	0.010	0.009	0.001	0.011	0.120
060	Service and Commercial	0.110	0.092	0.954	0.252	0.002	0.080	0.078	0.077	0.004	0.096	0.983
099	Other (Fuel Combustion)	0.113	0.094	2.055	0.565	0.000	0.029	0.029	0.028	0.001	0.104	2.286
110	Sewage Treatment	0.005	0.001	0.007	0.005	0.025	0.002	0.002	0.002	0.000	0.001	0.008
130	Incinerators	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
310	Oil and Gas Production	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000
320	Petroleum Refining	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
330	Petroleum Marketing	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000
610	Residential Fuel Combustion	0.000	0.000	0.096	0.013	0.001	0.010	0.010	0.010	0.000	0.000	0.096
710	Light Duty Passenger	0.019	0.017	0.041	0.429	0.006	0.005	0.005	0.005	0.009	0.017	0.039
722	Light Duty Trucks-1 (up to 3750 lb.)	0.000	0.000	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.002
723	Light Duty Trucks-2 (3751 to 5750 lb.)	0.003	0.003	0.006	0.028	0.001	0.001	0.001	0.001	0.001	0.003	0.006
724	Medium Duty Trucks (5751-8500 lb.)	0.010	0.009	0.019	0.222	0.004	0.002	0.002	0.002	0.004	0.009	0.018
742	Light Heavy Duty Diesel Trucks-1 (8501-10000 lb.)	0.203	0.178	2.631	1.046	0.015	0.038	0.038	0.037	0.011	0.178	2.501
743	Light Heavy Duty Diesel Trucks-2 (10001-14000 lb.)	0.077	0.067	0.461	0.347	0.008	0.016	0.016	0.015	0.006	0.067	0.440
744	Medium Heavy Duty Diesel Trucks (14001-33000 lb.)	0.271	0.238	9.776	1.259	0.094	0.026	0.026	0.025	0.246	0.238	9.533
746	Heavy Heavy Duty Diesel Trucks (>33001 lb.)	2.746	1.134	29.252	11.189	0.230	0.089	0.089	0.085	0.439	1.128	28.235
760	Heavy Duty Diesel Urban Buses	1.127	0.138	1.934	3.792	0.001	0.023	0.023	0.022	0.011	0.138	1.829
772	School Buses - Diesel	0.022	0.019	0.778	0.079	0.003	0.003	0.003	0.002	0.006	0.019	0.752
778	Other Buses - Motor Coach - Diesel	0.018	0.016	0.370	0.090	0.003	0.001	0.001	0.001	0.006	0.016	0.359
779	All Other Buses - Diesel	0.016	0.014	0.503	0.076	0.004	0.001	0.001	0.001	0.010	0.014	0.486
780	Motor Homes	0.005	0.004	0.205	0.015	0.001	0.004	0.004	0.003	0.000	0.004	0.194
820	Trains	0.668	0.559	10.665	4.569	0.016	0.197	0.197	0.181	0.011	0.559	10.665
833	Ocean Going Vessels	3.914	3.501	19.577	6.344	4.156	1.330	1.330	1.272	0.054	3.501	19.577
835	Commercial Harbor Craft	1.187	0.997	9.350	6.936	0.001	0.374	0.374	0.344	0.000	1.044	9.744
840	Recreational Boats	0.008	0.007	0.002	0.028	0.000	0.002	0.002	0.001	0.000	0.011	0.003
860	Commercial/Industrial Mobile Equipment	3.709	3.115	21.663	37.611	0.053	0.585	0.585	0.538	0.058	3.476	24.224
870	Farm Equipment	0.212	0.179	1.005	1.009	0.000	0.061	0.061	0.056	0.000	0.217	1.222
	RECLAIM			0.420		0.088						0.430
	Total Diesel	**14.661**	**10.566**	**112.108**	**76.368**	**4.716**	**2.943**	**2.938**	**2.770**	**0.889**	**11.029**	**114.011**

Notes:
(1) Emission from line items not included.
(2) Ships and Commercial Boats in 2016 AQMP inventory do not use residual oil.

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

Year	Emission, Tons/Day
2012	0.1825
2016	0.2235
2017	0.2332
2018	0.2431
2019	0.2526
2020	0.2622
2021	0.2658
2022	0.2698
2023	0.2733
2024	0.2773
2025	0.2811
2026	0.2844
2027	0.2879
2028	0.2914
2030	0.2983
2031	0.3018