SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Final 2021 PM10 Maintenance Plan for the South Coast Air Basin

~~APRIL~~ MAY 2021

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1. Introduction

The South Coast Air Basin (SCAB) was designated as an attainment area for the 24-hour average PM10 National Ambient Air Quality Standard (NAAQS) by the U.S. EPA in June 2013. Pursuant to section 107(d)(3)(E) of the Clean Air Act (CAA)[1], which specifies the requirements for redesignation, South Coast Air Quality Management District (South Coast AQMD) adopted the 2009 PM10 Redesignation Request and Maintenance Plan for the South Coast Air Basin (SCAB) on January 8, 2010. South Coast AQMD then forwarded the plan to California Air Resources Board (CARB) on January 15, 2010; it was submitted to EPA on April 28, 2010 and approved effective July 26, 2013. The purpose of the maintenance plan is to ensure the basin remains in attainment with the 24-hour PM10 NAAQS for at least ten years after redesignation. The PM10 Maintenance Plan approved in 2013 covers the time period from July 2013 through July 2023. Section 175A of the CAA[2] requires that the State submit a subsequent maintenance plan 8 years after redesignation as attainment to provide for the maintenance of the NAAQS for a further 10 years after the period covered by the first maintenance plan. As such, the second maintenance plan for the 24-hour PM10 standard is due to the U.S EPA in July 2021.This document provides the proposed second maintenance plan, referred to as the maintenance plan or the Plan from this point on in this document, for 24-hour average PM10 NAAQS.

1.1. Maintenance Plan

The maintenance plan covers the 12-year period (July 2023 to 2035) beginning at the end of the period covered by the first maintenance plan. Although the second maintenance plan is required to cover through 2033, which is 10 years after the first maintenance period, the new maintenance horizon year was chosen to be 2035, adding two extra years beyond the required period[3]. The maintenance plan requires a maintenance demonstration, a commitment to a future monitoring network, verification of continued attainment, a contingency plan, and provisions for contingency plan implementation [4]. The maintenance plan also includes an analysis of past exceedances of the NAAQS. The purpose of these elements and their locations in the maintenance plan are summarized next.

First, we analyzed past exceedances of the NAAQS to demonstrate that the South Coast Air Basin has continued to attain the standard during the first maintenance plan period after removing data that was influenced by exceptional events. This analysis is included in Section 2.3. The maintenance demonstration uses future emission projections, comparison of the future inventory with the attainment emissions inventory, and comparison of the relative change of projected emissions with the PM10 design values over the first maintenance plan period to show that the NAAQS will not be exceeded. In Section 3, to demonstrate maintenance of the NAAQS, the emissions inventory for the period covered by the maintenance plan (July 2023 to 2035) is updated from that used in the first maintenance plan to include the latest data and planning assumptions. Transportation conformity

[1] 42 U.S.C. §7407. Available at: https://www.gpo.gov/fdsys/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapI-partD-subpart1-sec7505a.htm

[2] 42 U.S.C. §7505a. Available at: https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapI-partD-subpart1-sec7505a.htm

[3] The reason for using 2035 as the horizon year is explained in section 3.1

[4] United States Environmental Protection Agency. 1992. Procedures for Processing Requests to Redesignate Areas to Attainment. Memorandum from John Calcagni to USEPA Regional Directors. September 4. Available at: https://www.epa.gov/sites/production/files/2016-03/documents/calcagni_memo_-_procedures_for_processing_requests_to_redesignate_areas_to_attainment_090492.pdf

budgets were updated by California Air Resources Board (CARB) and included in section 4. The maintenance plan also provides a commitment to continue to maintain a PM10 monitoring network in the South Coast Air Basin to verify continued attainment of the NAAQS (Sections 5 and 6). Finally, Section 7 provides a contingency plan that commits South Coast AQMD to a series of strategies to further reduce particulate emissions if the Basin violates the PM10 24-hour standard. The maintenance plan defined in this document meets the criteria specified in CAA Section 175A and the guidance provided by U.S. EPA [4].

Since South Coast AQMD submitted the redesignation request in 2010, emission reductions of particulate matter and its precursors from the implementation of the 2012 and 2016 Air Quality Management Plans (AQMPs) to meet federal PM2.5 and Ozone standards have continued to reduce ambient PM10 in the South Coast Air Basin. Additional measures adopted by CARB since 2010 have also achieved emission reductions. These emission reductions also help to ensure that the South Coast Air Basin continues to attain the 24-hour PM10 NAAQS.

2. PM10 Monitoring Network, Concentration Trends and Emission Controls

This section includes a description of the South Coast AQMD monitoring network for PM10 in the South Coast Air Basin, an analysis of PM10 trends, an analysis of trends of meteorological factors that influence PM10 concentrations, and a discussion of exceedances of the NAAQS for the 2010 - 2020 period. In addition, this section provides a list of PM10 exceptional events for which the South Coast AQMD is preparing technical demonstrations. This analysis demonstrates that the South Coast Air Basin has continued to attain the PM10 standard during the first maintenance plan period and that meteorological factors during the first maintenance period were not unusually favorable to lower pollutant levels. This section also discusses the major sources of PM10 and South Coast AQMD rules that regulate emissions of particulate matter in the South Coast Air Basin.

2.1. Current Monitoring Network

South Coast AQMD monitors PM10 at the locations shown in Figure 2-1 and listed in Table 2-1. The figure shows currently operating monitors and monitors that have operated between 2009 – 2021 but have now been relocated. Based on site availability, some monitoring locations may move over time. Three types of monitors are shown: federal reference method (FRM) gravimetric monitors, hourly Beta Attenuation monitors (BAM), and hourly Tapered Element Oscillating Microbalance (TEOM) monitors. For information about the types of monitors, sampling schedule, monitoring purpose, and spatial scale of each monitor in the PM10 monitoring network see the South Coast AQMD Monitoring Network Plan[5]. The PM10 monitoring network meets the minimum monitoring requirements specified in 40 CFR Part 58.

[5] South Coast AQMD. 2020. South Coast AQMD FINAL 2020 Annual Air Quality Monitoring Network Plan. Available at: http://www.aqmd.gov/home/air-quality/clean-air-plans/monitoring-network-plan#

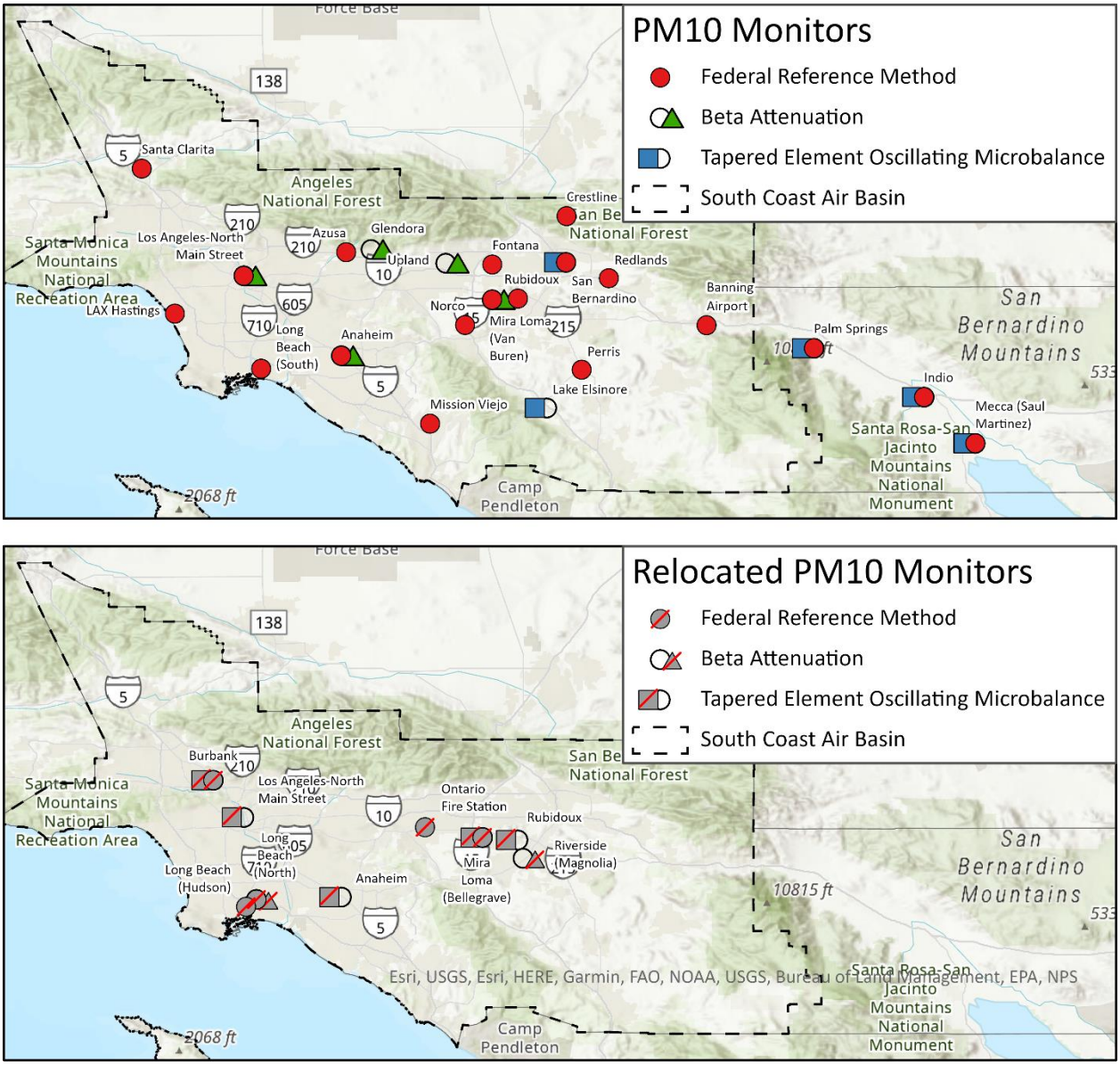


Figure 2-1: Locations of PM10 monitors. Top – Currently operating monitors. Bottom – Monitors that have been relocated since 2009.

Table 2-1: List of PM10 monitors in the South Coast Air Basin that are currently operating or operated between 2009 – 2021 but have been relocated

State Code	County Code	Site Number	Parameter Occurrence Code (POC)	Local Site Name	Station Abbreviation
06	037	0002	2	Azusa	AZUS
06	037	0016	3	Glendora	GLEN
06	037	1002	2	Burbank	BURK
06	037	1002	3	Burbank	BURK
06	037	1103	2	Los Angeles-North Main Street	CELA

State Code	County Code	Site Number	Parameter Occurrence Code (POC)	Local Site Name	Station Abbreviation
06	037	1103	3	Los Angeles-North Main Street	CELA
06	037	4002	2	Long Beach (North)	LGBH
06	037	4002	5	Long Beach (North)	LGBH
06	037	4004	2	Long Beach (South)	SLBH
06	037	4006	1	Long Beach (Hudson)	HDSN
06	037	5005	1	LAX Hastings	LAXH
06	037	6012	1	Santa Clarita	SCLR
06	059	0007	1	Anaheim	ANAH
06	059	0007	3	Anaheim	ANAH
06	059	0007	5	Anaheim	ANAH
06	059	2022	1	Mission Viejo	MSVJ
06	065	0003	1	Norco	NORC
06	065	0004	1	Mira Loma (Bellegrave)	MLHS
06	065	0004	3	Mira Loma (Bellegrave)	MLHS
06	065	0012	1	Banning Airport	BNAP
06	065	1003	5	Riverside (Magnolia)	RIVM
06	065	6001	1	Perris	PERI
06	065	8001	2	Rubidoux	RIVR
06	065	8001	4	Rubidoux	RIVR
06	065	8001	5	Rubidoux	RIVR
06	065	8001	9	Rubidoux	RIVR
06	065	8005	1	Mira Loma (Van Buren)	MLVB
06	065	8005	2	Mira Loma (Van Buren)	MLVB
06	065	8005	3	Mira Loma (Van Buren)	MLVB
06	065	8005	4	Mira Loma (Van Buren)	MLVB
06	065	9001	3	Lake Elsinore	ELSI
06	071	0005	1	Crestline	CRES
06	071	0025	1	Ontario Fire Station	ONFS
06	071	0025	2	Ontario Fire Station	ONFS
06	071	1004	3	Upland	UPLA
06	071	2002	2	Fontana	FONT
06	071	4003	1	Redlands	RDLD
06	071	9004	2	San Bernardino	SNBO
06	071	9004	3	San Bernardino	SNBO

2.2. Treatment of Exceptional Events

In order to evaluate trends in concentrations and implications for attainment, we remove the PM10 data that is influenced by suspected exceptional events. Exceptional events are those data points where

the concentration was caused by a natural event or activity that is unlikely to reoccur. In the case of PM10, wildfires or high winds can cause exceptional events. We used a methodology that is consistent with the U.S. EPA's exceptional event guidance to remove exceptional events[6]:

1. There is a clear causal relationship between the event and a monitored exceedance
2. The event is not reasonably controllable or preventable because it is a natural event or an event caused by human activity that is unlikely to recur at a particular location
3. In the case of a high wind dust event, high wind speeds are present and the dust that the wind entrains is transported to a monitor site. In addition, wind speeds in the source region must be high enough to entrain natural soils or overwhelm reasonable controls on anthropogenic sources. For the purposes of this analysis, a sustained wind speed of at least 25 mph recommended by U.S. EPA was used to identify events with winds that were sufficient to entrain natural soil or overwhelm reasonable controls on anthropogenic sources.

This analysis uses two separate methodologies to identify station-days that meet the criteria above.

All exceedances measured during the last maintenance period are evaluated holistically by considering the magnitude of the exceedance, the presence of upwind wildfires/Santa Ana winds /thunderstorm outflow, windspeeds at the exceeding monitor and in areas directly upwind, and sources of dust. Exceedances that generally meet the definition of an exceptional event based on this analysis are removed when evaluating trends in measured concentrations. Table 2-2 summarizes all of the exceedances recorded in the last maintenance period and details the results of this analysis. For the purposes of this analysis, exceedances where the sustained winds fell into Category 1, 2, or 3[7], or the likely cause was wildfire smoke were considered exceptional events.

Measurements that do not exceed the NAAQS, yet generally meet the definition of an exceptional event were also removed prior to evaluating the trends in measured concentrations. However, there are far too many of these measurements over the past maintenance period to holistically evaluate each value. Therefore, a screening methodology was implemented based on nearby meteorological data and co-

[6] United States Environmental Protection Agency. 2019. Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Influenced by High Wind Dust Events Under the 2016 Exceptional Events Rule. Memorandum from Richard Wayland to Regional Air Division Directors, Regions 1 - 10. April 4. Available at: https://www.epa.gov/sites/production/files/2019-04/documents/high_wind_dust_event_guidance.pdf

[7] The sustained wind categories are defined as:
Category 1 – The sustained wind speeds measured at the air quality stations when the PM10 concentrations were elevated were higher than 25 mph.
Category 2 – The sustained wind speeds measured at the nearby (within 5 miles) weather stations when the PM10 concentrations were elevated were higher than 25 mph.
Category 3 – The sustained wind speeds measured at the upwind weather stations when the PM10 concentrations were elevated were higher than 25 mph. The distance of the weather station to the air quality station was more than 5 miles but was located along the route of dust transport.
Category 4 – The sustained wind speeds when the PM10 concentrations were elevated were less than 25 mph.

located or near-located PM2.5 data. Suspected high wind exceptional events are determined as the days when 3-minute average daily maximum wind speeds near a monitor exceeded 25 mph. Since dust may be entrained in a region with high winds upwind of a monitor, wind measurements at nearby anemometers in an area sharing similar meteorological characteristics as the PM10 monitor of interest were also considered. The South Coast Air Basin was divided into "zones" (Figure 2-2), and when winds exceeding 25 mph occur at any wind speed monitor in a zone, all the PM10 measurements in that zone are removed for that day. While this screening criteria provides only an approximate estimate of the days that were influenced by exceptional events, it allows for a methodical and consistent evaluation of a decade of measurements at every monitor in the South Coast Air Basin. Data influenced by suspected wildfire exceptional events is identified by selecting days when the maximum daily average PM2.5 concentration in the South Coast Air Basin exceeded 35 µg m^{-3}. While this technique may also remove measurements collected during wintertime PM2.5 exceedances that are not wildfire related, these exceedance days typically have stagnant or low winds, and therefore tend to have only a slight contribution to coarse PM and generally low PM10 concentrations. All PM10 measurements that were influenced by wildfires based on this screening definition were removed from this analysis.

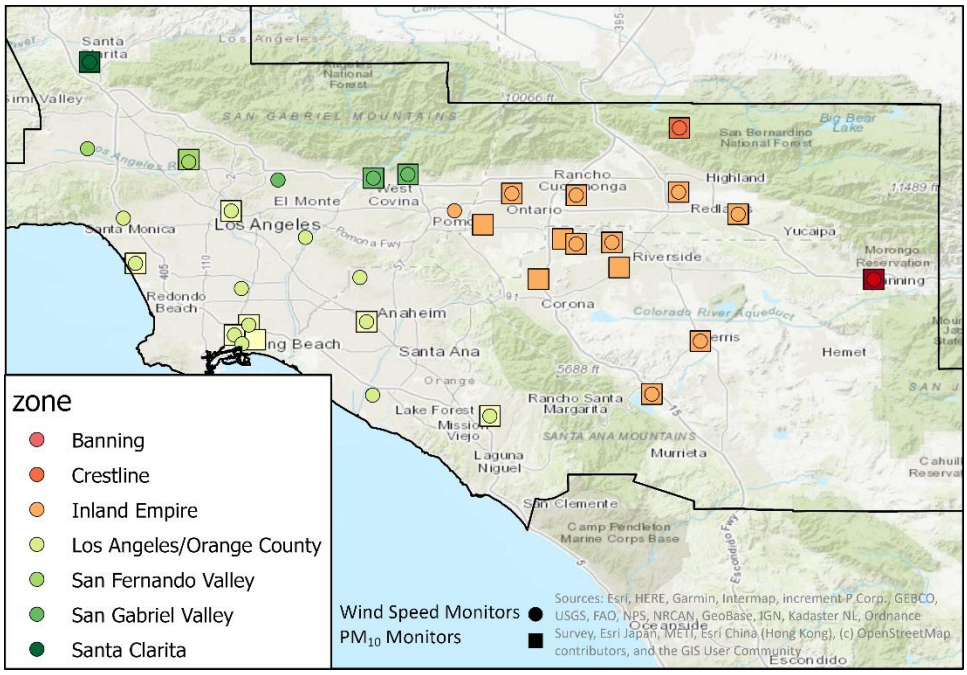


Figure 2-2: Zones sharing similar meteorological characteristics used to identify suspected exceptional events caused by high winds. ● - Wind Speed Monitors. ■ – PM10 Monitors.

2.3. Analysis of Exceedances and Exceptional Events in the First Maintenance Period

There were 26 PM10 exceedances in the South Coast air basin during the first maintenance period (2010 – 2020, Table 2-2). One exceedance was caused by the Bobcat and El Dorado wildfires and the others were caused by wind-blown dust or ash. The meteorological conditions during these events are consistent with exceptional high-wind events. South Coast AQMD is preparing exceptional event demonstrations for the exceedances at MLVB on October 10, 2019 and October 30, 2019 and at HDSN on April 9, 2019 given these events are considered to be regulatory significant. Due to resource limitations at South Coast AQMD and U.S. EPA, exceptional event demonstrations are only prepared for the subset of exceptional events that would result in attainment upon removal. The exceedances caused

by exceptional events will be removed from design value calculations upon concurrence of the exceptional event demonstrations by U.S. EPA. Removing these exceedances demonstrates that the South Coast Air Basin has continued to attain the PM10 standard during the first maintenance period.

Table 2-2: Summary of the past 10 years (2010 – 2020) of PM10 exceedance events in the South Coast Air Basin

Date	**Station (POC)** [8]	**24-hr PM10 (µg/m³)**	**Sustained Winds Category**[9]	**Likely Cause**	**Exceptional Event**	**Description of Event**
10/26/2020	ANAH (3), GLEN (3), MLVB (3), UPLA (3), SNBO (3), ELSI (3)	296, 170, 325, 175, 175, 192	Category 2	Windblown dust	all but GLEN meet screening criteria	Santa Ana wind event in the morning preceded wildfires that afternoon. PM10 concentrations increased with wind speeds in the morning hours.
09/11/2020 - 09/12/2020	GLEN(3), MLVB (1), MLVB (3)	227, 162, 169	Category 4	Wildfire smoke	meets screening criteria	Bobcat and El Dorado fires burning during this time period. PM2.5 concentrations also elevated above NAAQS. No high winds during these days.
10/30/2019	MLVB (3)[10]	170	Category 3	Windblown dust	preparing demonstration, meets screening criteria	Santa Ana wind event. PM10 concentrations increased with onset of Santa Ana winds.
10/10/2019	MLVB (3)[5]	282	Category 3	Windblown dust	preparing demonstration, meets screening criteria	Santa Ana wind event. PM10 concentrations increased with onset of Santa Ana winds. Blowing dust reported at Riverside Municipal Airport.

[8] ANAH – Anaheim; GLEN – Glendora; MLVB - Mira Loma (Van Buren); UPLA - Upland; SNBO – San Bernardino; ELSI - Lake Elsinore; HDSN – Long Beach (Hudson); PERI - Perris

[9] The sustained wind categories are defined as:

Category 1 – The sustained wind speeds measured at the air quality stations when the PM10 concentrations were elevated were higher than 25 mph.

Category 2 – The sustained wind speeds measured at the nearby (within 5 miles) weather stations when the PM10 concentrations were elevated were higher than 25 mph.

Category 3 – The sustained wind speeds measured at the upwind weather stations when the PM10 concentrations were elevated were higher than 25 mph. The distance of the weather station to the air quality station was more than 5 miles but was located along the route of dust transport.

Category 4 – The sustained wind speeds when the PM10 concentrations were elevated were less than 25 mph.

[10] Exceptional Event Demonstrations are being prepared by South Coast AQMD for these stations/dates

Date	Station (POC) [8]	24-hr PM10 (µg/m^3)	Sustained Winds Category[9]	Likely Cause	Exceptional Event	Description of Event
04/09/2019	HDSN (1)[5]	155	Category 2	Windblown dust	preparing demonstration	Strong westerly winds across basin. PM10 measurements at CELA and ANAH increased with winds in the afternoon. PM10 spiked at SLMZ at 800 µg/m^3 as well. Windblown dust advisory in effect for San Bernardino and Riverside Counties.
11/08/2018	MLVB (3)	229	Category 3	Windblown dust and/or ash	meets screening criteria	Santa Ana wind event. Dust and ash possibly emitted from Holy Fire burn scar. PM10 concentrations increased with onset of Santa Ana winds.
07/09/2018	UPLA (3)	156	Category 4	Windblown dust	does not meet screening criteria	Outflows from thunderstorms in the southwest U.S. deserts carried dust and sand into the Coachella Valley and South Coast Air Basin. See windblown dust advisory issued for this day. The Valley Fire in Forest Falls, San Bernardino County was also burning during this time, but winds near the fire should have kept smoke out of basin until overnight hours.
12/05/2017	SNBO (3)	157	Category 2	Windblown dust	meets screening criteria	Santa Ana winds from the NE. NWS had high wind warnings in place for storm. No windblown dust advisory in place. Some hours with sustained wind speeds of 25 mph or greater.
12/04/2017	MLVB (3)	257	Category 3	Windblown dust	meets screening criteria	Santa Ana winds from the NE. NWS had high wind warnings in place for storm. No windblown dust advisory in place. Some hours with sustained wind speeds of 25 mph or greater.
10/09/2017	MLVB (3)	251	Category 1	Windblown dust	meets screening criteria	Santa Ana winds from the NE. NWS had wind advisory in place for Inland Empire, Inland Orange County, and Coachella Valley.

Date	**Station (POC)** [8]	**24-hr PM10 (µg/m³)**	**Sustained Winds Category**[9]	**Likely Cause**	**Exceptional Event**	**Description of Event**
07/30/2016	SNBO (2), SNBO (3), UPLA (3)	277, 276, 183	Category 3	Windblown dust	meets screening criteria	Outflows from thunderstorms in the southwest U.S. deserts carried dust and sand into the Coachella Valley and South Coast Air Basin. The NWS did not have any watches, warnings, or advisories in place, but mentioned in a public information state that widespread dust from thunderstorm gust fronts were occurring in the area. PM10 was elevated across the entire basin.
12/26/2015	SNBO (2)	187	Category 3	Windblown dust	meets screening criteria	Sustained winds at Ontario International Airport of 38 mph and visibility down to 2.5 miles. NWS had high wind warnings in effect. Winds from the N and NE.
09/09/2015	PERI (1)	188	Category 2	Windblown dust	meets screening criteria	Possible outflows from thunderstorms. Otherwise unknown cause.
11/16/2014	SNBO (3)	156	Category 3	Windblown dust	meets screening criteria	Santa Ana wind event caused widespread blowing dust. NWS had high wind warnings issued for the area. South Coast AQMD had a Windblown Dust Advisory issued.
11/12/2013	MLVB (3)	169	Category 4	Windblown dust	does not meet screening criteria	Offshore winds. No NWS or South Coast AQMD warnings or advisories during this period.
10/04/2013	MLVB (3), SNBO (3)	286, 177	Category 2	Windblown dust	meets screening criteria	Santa Ana wind event. NWS had high wind warnings in place for the area.

2.4. PM10 Trends and Influence of Meteorological Factors Over the First Maintenance Period

Attainment of the 24-hour PM10 NAAQS is based on the design value, which represents the average number of exceedances of the standard in a three-year period. This form is not useful for analyzing trends of concentrations over time. We therefore use a different but related form, referred to as the concentration-based design value in this document, and the annual average PM10 concentration to analyze PM10 trends.

For this analysis, the concentration-based design value is defined as the fourth highest concentration at a monitor in a three-year period, after simulating days without measurements. To simulate days without measurements, each measurement is repeated n times in each year, where $n = round\left(\frac{dyear}{d}\right)$, where $dyear$ is the number of days in the year (365 or 366), d is the number of measurements at the monitor, and $round()$ rounds to the nearest integer. The concentration-based design value can be complete or incomplete. The value is complete if all quarters in the three-year period are at least 75% complete or the concentration-based design value is 155 µg m^{-3} or larger. Completeness is calculated by dividing the number of valid samples by the number of scheduled samples. This methodology produces similar conclusions as the official exceedance-based design values, but also provides additional context when tracking trends in measured concentrations over time. In general, concentration-based design values of 155 µg m^{-3} or larger would also have exceedance-based design values that do not attain the standard.

PM10 concentrations are influenced by rainfall because the water droplets remove particulate matter from the air and less fugitive dust is emitted from moist outdoor surfaces than similar dry surfaces. In addition, the atmospheric instability that commonly occurs with rainstorms facilities ventilation of the Basin and vertical mixing. Rainfall during the 2010 - 2020 period in the National Oceanic and Atmospheric Administration (NOAA) South Coast Drainage Climate Division, which overlaps the South Coast Air Basin, was slightly lower than the average in prior decades (Figure 2-3)[11]. Average annual rainfall was 15.1 inches from 2010 - 2020 compared with 18.1 inches during 1990 – 2009 in the NOAA South Coast Drainage Climate Division. The rainfall conditions during 2010 – 2020 were not conducive to lower PM10 concentrations since rainfall tended to be lower than average during this period.

[11] Rainfall data for NOAA South Coast Drainage Climate Division: NOAA National Centers for Environmental information, Climate at a Glance: Divisional Time Series, published March 2021, retrieved on March 23, 2021 from https://www.ncdc.noaa.gov/cag/

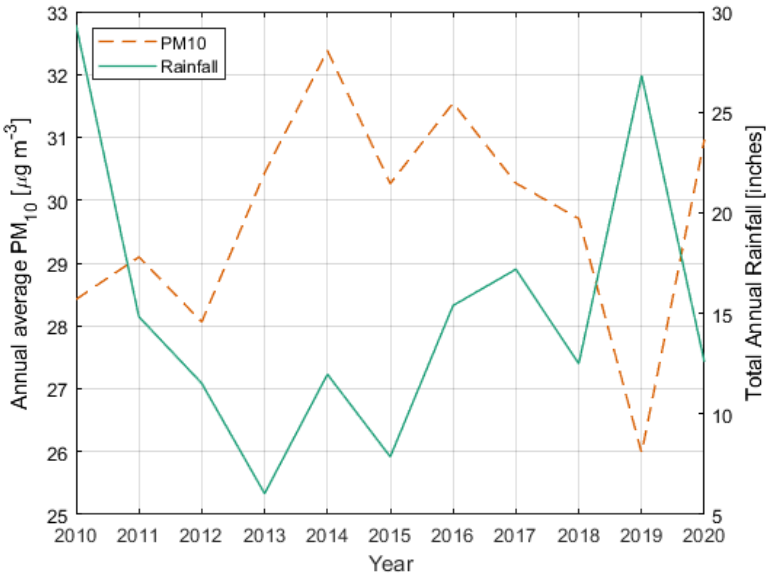


Figure 2-3: Trend of annual average PM10 and annual rainfall in the South Coast Air Basin

Meteorological factors including surface wind speeds, mixed layer height, turbulent velocities in the surface layer, and surface friction velocity influence PM10 emissions and mixing, transport, and dispersion of PM10. However, their influence on PM10 concentrations is complex. Wind speeds are correlated with surface friction velocity and turbulent velocities. Higher surface friction velocity causes increased fugitive dust emissions from surfaces but is associated with increased dispersion which tends to decrease PM10 concentrations. The relationship between these factors and concentrations varies over the South Coast Air Basin. Since these factors do not have a direct relationship with PM10 concentrations that could be applied throughout the South Coast Air Basin, we did not evaluate trends of these meteorological factors. However, a 10-year period is likely to represent most of the variation of these factors and it is unlikely that systematic trends in these factors contributed to lower PM10 concentrations over the 2010 – 2020 period.

The South Coast Air Basin PM10 design value, which represents the maximum design value of all monitors, without removing exceptional events, increased over the 2012 - 2020 period (Figure 2-4). This is because there have been more wind-blown dust and wildfire driven exceedances of the NAAQS in the later years of the 2012 - 2020 period. After removing suspected exceptional events there were two exceedances of the 24-hour PM10 NAAQS over the first maintenance period (11/12/2013 at MLVB and 7/9/2018 at UPLA). However, the three-year 24-hour PM10 design value did not exceed one.

The maximum concentration-based design value after removing suspected exceptional events in the South Coast Air Basin increased from 104 to 127 (22%) over this period. The largest increase was from 2012 to 2013 followed by an inconsistent but decreasing trend. The concentration-based design values after removing suspected exceptional events are below the NAAQS. The slight increase is consistent with the trend of annual average PM10 (Figure 2-3), which increased by 9% from 2010 to 2020.

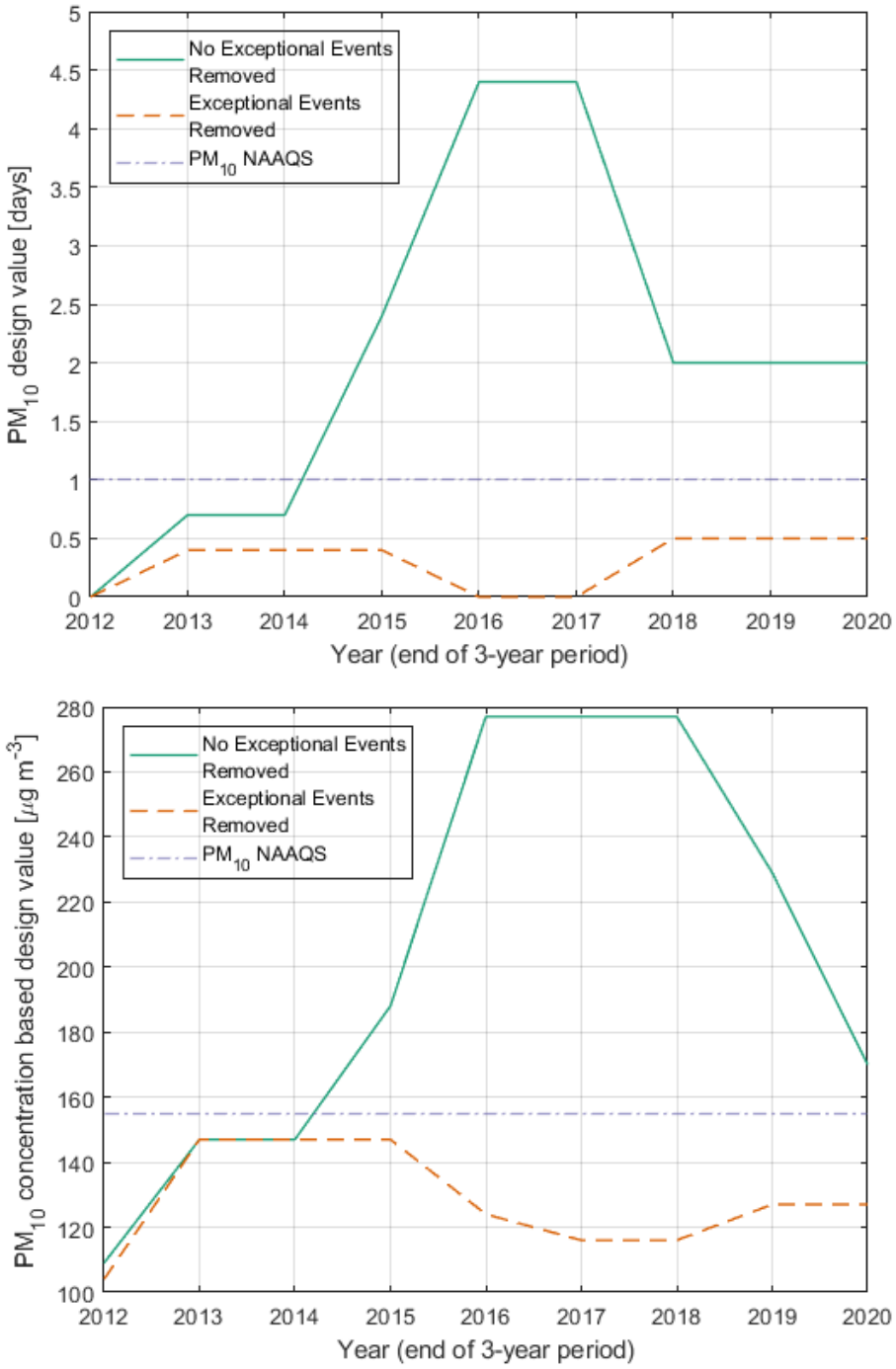


Figure 2-4: Trend of PM10 design values (~~left~~top) and concentration-based design value (~~right~~bottom). The value shown is the maximum of all PM10 monitors in the South Coast Air Basin.

2.5. PM10 Sources and Emission Controls

PM10 is produced by primary PM10 emissions and secondary formation of particulate matter that contributes to PM10. Precursors that contribute to secondary formation of PM10 include NOx, VOC, SOx, and NH3. High wind events typically cause windblown dust or ash and lead to several exceedances

of the 24-hour PM10 NAAQS every year. However, many, if not all, of these high wind events are likely to be considered exceptional events.

The largest sources of primary PM10 in the South Coast Air Basin are "road dust" and "construction and demolition". However, the dominant sources may vary throughout the South Coast Air Basin, and some source categories may cause localized areas with elevated PM10 concentrations relative to the surrounding area or other parts of the South Coast Air Basin. Selected rules for regulating emissions from sources of primary PM10 in the South Coast Air Basin are listed in Table 2-3 along with the emission source categories that are covered by those rules. These rules are described in sections 2.6 through 2.9. These rules may be considered for revision to reduce particulate emissions as part of the contingency plan action described in section 7.2. There are other rules targeting PM sources that also lead to reductions in PM10.

Table 2-3: Selected South Coast AQMD rules that regulate major sources of PM10.

Emission Sources	South Coast AQMD Rule Number
Fugitive Dust and Construction	403
Open Burning	444
Aggregate and Related Operations	1157
Storage, Handling, and Transport of Coke, Coal, and Sulfur	1158
Paved and Unpaved Roads and Livestock Operations	1186

2.6. Rule 403 (Fugitive Dust)[12]

Fugitive dust is a generic term used to describe any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person. Fugitive dust can vary in size and composition, depending on the location, wind direction, time of the day, and the time of season for its source. Rule 403 (Fugitive Dust) was adopted in 1976 and has been amended six times since adoption. The requirements in Rule 403 are applicable to the South Coast Air Basin and to the Coachella Valley portion of the Salton Sea Air Basin. The purpose of Rule 403 is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources. Rule 403 requires implementation of control measures to prevent, reduce, or mitigate fugitive dust emissions and includes a performance standard that prohibits visible emissions from crossing any property line. Under Rule 403, large operations (projects greater than 50 acres and/or more than 5,000 cubic yards of daily earth-movement) are required to notify South Coast AQMD of the project location and implement specific control measures and maintain recordkeeping.

In spite of these requirements throughout the South Coast AQMD jurisdiction, ground disturbances, geological conditions, or meteorological conditions may result in dust generation that constitutes a chronic public nuisance, or would prevent attainment of federal PM10 standards. These limited areas may warrant additional dust control efforts on the part of local governments. A local dust control policy that requires preparation and approval of a dust control plan for all projects seeking a grading permit in such limited areas may be needed to supplement current Rule 403 requirements. Local governments

[12] Rule 403 available at: http://www.aqmd.gov/rules/reg/reg04/r403.pdf. Forms for large operation submittals can be viewed or downloaded at: http://www.aqmd.gov/comply/Forms/403N_8_2004.doc.

may also choose to apply specific control measures crafted to address their chronic public nuisance dust problems or PM10 exceedances.

South Coast AQMD and Coachella Valley local government staff have developed a guidance handbook to assist persons preparing and reviewing dust control plans. This guidance handbook as well as a comprehensive overview of South Coast AQMD dust control requirements and strategies are covered in monthly classes held at South Coast AQMD Headquarters or virtually. "Dust Control in the South Coast Air Basin" is a three-hour training class that provides attendees with a comprehensive overview of South Coast AQMD dust control requirements and current strategies for preventing, mitigating, and controlling the release of airborne particulate matter emissions from earth moving activities undertaken within the South Coast Air Basin.

2.7. Rule 444 (Open Burning) [13]

Rule 444 – Open Burning, was originally adopted in 1976 and revised most recently in 2013. It is intended to reduce visible emissions and minimize public nuisance from smoke emissions. Currently, Rule 444 allows open burning on permissive burn days, provided that a permit and event authorization is obtained, and that such burning events are not prohibited by a fire protection agency. South Coast AQMD declares a permissive burn day when certain meteorological conditions are met in one or more of the defined source/receptor areas. Rule 444 also includes general requirements (i.e., burning time window and ignition device) for open burning, as well as particular requirements, such as moisture level and firing methods for agricultural burning, and a Smoke Management Plan for prescribed burning. In addition, Rule 444 sets Districtwide maximum daily burn acreage for agricultural and prescribed burning with less restrictive requirements for training burns if the duration is less than 30 minutes and clean fuel is utilized.

The 2008 Rule 444 amendments strengthened the rule provisions to be more health protective and update the rule to be based on the Air Quality Index (AQI) for forecasting "marginal", "permissive", and "no burn" days. The 2008 proposal also included several new requirements for agricultural burning and fire prevention/suppression training and prohibited agricultural burns within 1,000 feet of sensitive receptor locations.

2.8. Rule 1157 (PM10 Emission Reductions from Aggregate and Related Operations) [14]

Rule 1157 was adopted in 2005 and amended once in 2006. It is aimed at further reducing PM10 emissions from aggregate and related operations as part of the 2003 AQMP Control Measure BCM-08 – Further Emission Reductions from Aggregate and Cement Manufacturing Operations, which identified aggregate and cement operations as sources of PM10 emissions. Aggregate and related operations are also regulated by Rule 403- Fugitive Dust, however, Rule 403 allows a choice of compliance options for general fugitive dust source categories, while Rule 1157 seeks to further minimize particulate emissions from this industry by establishing source specific performance standards and specifying operational PM10 controls for various types of equipment, processes, storage piles, internal roadways at aggregate and related operations, and track-out of materials onto paved public roads.

[13] Rule 444 available at: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-444.pdf?sfvrsn=4
[14] Rule 1157 available at: http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1157.pdf?sfvrsn=4

Rule 1157 affects approximately 389 aggregate and related operations categorized as follows: 29 aggregate, 100 concrete batching, 152 concrete product, 45 hot-mix asphalt, 25 crushed miscellaneous base for concrete and asphalt recycling, and 38 "other" facilities (i.e., sand and cement blending and bagging, inert landfills handling construction and demolition debris, etc.) These facilities generate PM10 during their mining, processing, and handling (i.e., transporting, loading/unloading, conveying, crushing, screening, mixing, and storing) of the aggregates. Unpaved roads and track-out from these facilities are two other significant sources of PM10 emissions.

2.9. Rule 1158 (Storage, Handling, and Transport of Coke, Coal and Sulfur) [15]

Rule 1158 was adopted in 1983 and was amended in 1999 and 2008. The 1999 rule amendment added coal and sulfur to the rule's provisions and specified requirements to reduce PM emissions. The 1999 amendments mandated all coke piles and new coal and sulfur piles be enclosed (storage, unloading and transfer operations). Furthermore, the rule set a visible dust standard. The road surfaces and vehicle movement areas where material accumulated have to be paved to allow effective cleaning. Trucks and trailers transporting materials have to be covered, be leak resistant, and cleaned before leaving the facility.

2.10. Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations) [16]

Rule 1186 - PM10 Emissions from Paved and Unpaved Roads and Livestock Operations, was adopted in 1997 and was amended several times (December 1998, September 1999, April 2004, and July 2008) to implement the 1994 AQMP control measure BCM-01 (Control Emissions from Paved and Unpaved roads). In general, Rule 1186 applies to the entire South Coast AQMD jurisdiction, with the exception of requirement 5, which addresses unpaved roads in the South Coast Air Basin. One of the Rule 1186 requirements is for governmental agencies to procure and use certified street sweepers for routine street sweeping activities.

The provisions of this rule apply to specified land uses and activities conducted within the South Coast AQMD which result in fugitive dust. South Coast AQMD staff subsequently worked with industry to develop a testing protocol to certify street sweepers both in terms of pick-up efficiency and PM10 entrainment. After the certification testing protocol was approved by the Board, street sweeper manufacturers contracted with independent testing laboratories to certify street sweeping equipment.

The purpose of this rule is to reduce the amount of particulate matter entrained in the ambient air as a result of vehicular travel on paved and unpaved public roads, and at livestock operations. South Coast AQMD rules 1157 and 1158 also require procurement of certified street sweepers to implement specific rule requirements. This list of equipment is updated periodically based on certifications test results and in response to new information.

[15] Rule 1158 available at: http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1158.pdf?sfvrsn=4
[16] Rule 1186 available at: http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1186.pdf?sfvrsn=4

3. Maintenance Demonstration

A State can demonstrate maintenance of the NAAQS by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory, or by modeling to show that the future anticipated mix of sources and emission rates will not cause a violation of the NAAQS. The 2009 PM10 Maintenance Plan relied on emissions inventory and photochemical transport modeling to demonstrate continued maintenance of the 1987 24-hour PM10 NAAQS. However, considering that the Basin has maintained the attainment status since the submittal of the 2009 maintenance plan and that the new emissions inventory for PM10 and its precursors are substantially lower than in the attainment inventory approved by the U.S. EPA, the continued maintenance of the 24-hour PM10 NAAQS is demonstrated only based on the new emissions inventory in this Plan.

This chapter presents detailed emissions of PM10, its precursors and other criteria pollutants in the South Coast Air Basin for base year (2018) and future milestone years (2023, 2031 and 2035). The emissions trend analysis demonstrates continued attainment of the 1987 24-hour PM10 NAAQS for the South Coast Air Basin. The emissions inventory included in the Plan is consistent with the U.S. EPA's guidance, ''PM10 Emissions Inventory Requirements[17]''.

3.1. Base and Future Milestone years

The year 2018 was chosen as the base year for this Plan because it is one of the years in the most recent three-year design value periods (2016–2018, 2017–2019, and 2018–2020) in which attainment of the 1987 24-hour PM10 NAAQS was monitored. The U.S. EPA's 1994 guidance requires that the inventory used in the maintenance demonstration should represent emissions during the time period associated with the monitoring data showing attainment.

CAA section 175A requires the 2nd maintenance horizon year to be after ten years from the effective date of redesignation or beyond. The 1st maintenance plan was approved by the U.S. EPA to become effective through July 26, 2023, which leads to 2033 as the new horizon year for the 2nd maintenance plan. Given the availability of emissions inventory, the new maintenance horizon year was chosen to be 2035 (instead of 2033), adding two extra years beyond the required deadline. Additional interim years of 2023 and 2031 are included as way points to track the maintenance effort.

3.2. Emissions Inventory Methodology

The emissions inventory methodologies used in this Plan are consistent with those used in the 2016 Air Quality Management Plan (AQMP) and the 2020 South Coast PM2.5 Plan for the 2006 24-hour PM2.5 Standard with updates where applicable. While more detailed information regarding the emissions inventory development for the base and future years is available in Chapter 3 and Appendix 3 of the

[17] U.S. EPA, 1994, ''PM10 Emissions Inventory Requirements'' EPA, Office of Air Quality Planning and Standards, EPA–454/R–94–033 (September 1994). Available at http://www.epa.gov/ttn/chief/eidocs/pm10eir.pdf

2016 AQMP[18] and Chapter 3 of the 2020 South Coast PM2.5 Plan[19], a brief description of the four groups of emissions is provided below. The main change to the emissions inventory in this Plan compared to the 2020 PM2.5 Plan is updates to travel activity data. The previous two plans use travel activity data from SCAG's 2016 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS)[20], while this Plan relies on updated estimation from the 2020 RTP/SCS[21].

3.2.1. Point Sources

Point sources generally correspond to permitted facilities with one or more emission sources at an identified location (e.g., power plants, refineries). The larger point source facilities with 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) are required to report their criteria pollutant emissions and selected air toxics pursuant to Rule 301 through the AER Program. These facilities need to report emissions on an annual basis and are subject to emission audits. This Plan uses the 2018 annual reported emissions for 2018, which is consistent with the 2020 PM2.5 Plan.

3.2.2. Area Sources

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 thresholds described in the Point Sources) which are distributed across the region and are not required to individually report their annual emissions. There are about 400 area source categories for which emission estimates are jointly developed by CARB and the South Coast AQMD. The emissions from these sources are estimated using specific 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, Southern California Gas Company for natural gas consumption, paint suppliers under Rule 314 and South Coast AQMD databases). Emission factors are based on rule compliance factors, source tests, manufacturer's product or technical specification data, default factors (mostly from the U.S. EPA's AP-42 published emission factor compilations), or weighted emission factors derived from the point source facilities' annual emissions reports. The overall methodology for area sources is described in Appendix III of the 2016 AQMP. The area source emissions in this Plan, except paved road dust, unpaved road dust and road construction emissions, are the same emissions projected in the 2016

[18] South Coast AQMD (2017), 2016 Air Quality Management Plan, Appendix III, Base and future year emission inventory. Available at http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-iii.pdf?sfvrsn=6

[19] South Coast AQMD (2020), Final South Coast Air Basin Attainment Plan for 2006 24-Hour PM2.5 Standard. Available at http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/2-final-attainment-plan-for-2006-24-hour-pm2-5-standard-for-the-south-coast-air-basin.pdf?sfvrsn=6

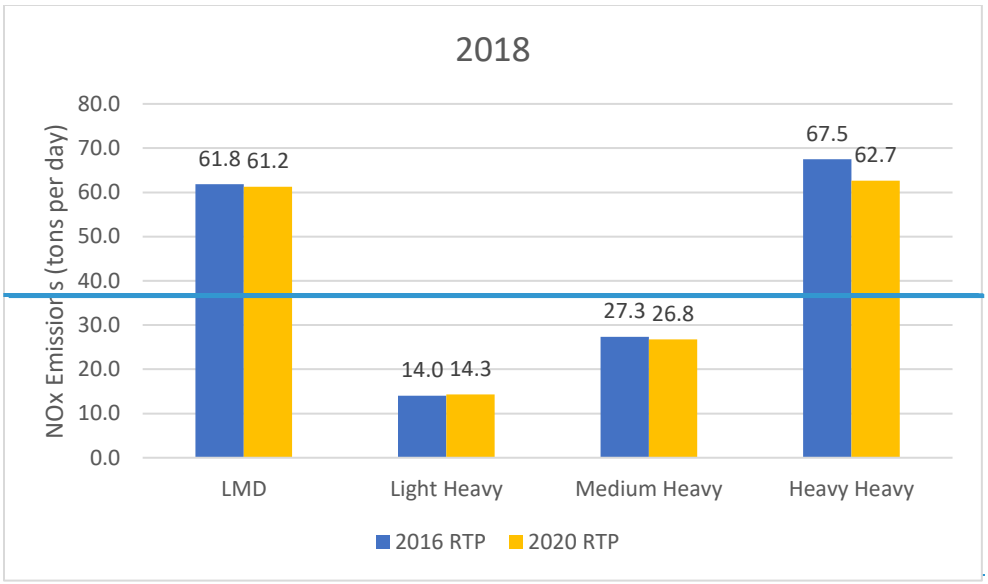
[20] SCAG 2016, The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy: A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life. Available at https://scag.ca.gov/resources-prior-plans

[21] SCAG 2020, The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy: Connect SoCal. Available at https://scag.ca.gov/read-plan-adopted-final-plan

AQMP for 2018 and future milestone years, using growth and control factors derived from regulatory and socio-economic data. The three road dust categories were updated based on the vehicle activity data used to develop on-road mobile source emissions described in the next section.

3.2.3. On-Road Mobile Sources

On-road sources include motor vehicles such as passenger cars and trucks that travel on roads, streets, and highways. Emissions from on-road sources are calculated using travel activity and vehicle-specific emission factors that depend on temperature and relative humidity. This Plan uses the travel activity data from SCAG's 2020 RTP/SCS, while the 2016 AQMP and the 2020 PM2.5 Plan used SCAG's 2016 RTP/SCS. Vehicle emission factors are estimated based on CARB's EMFAC 2017 model, which is consistent with the 2020 PM2.5 Plan. The 2020 RTP estimates the activity of light and medium duty vehicles including passenger cars and light and medium duty trucks to be similar to the 2016 RTP traffic activity. However, mileages traveled by heavy-duty vehicles were projected to be lower than the 2016 RTP estimation. The reduced VMTs are more pronounced in the heavy heavy-duty category, as evident in the NOx emissions shown in Figures 3-1. Given that emissions from heavy-duty vehicles are the largest contributor to on-road mobile NOx emissions, the new on-road mobile emissions using the 2020 RTP data are lower in the future compared to the 2016 RTP data.



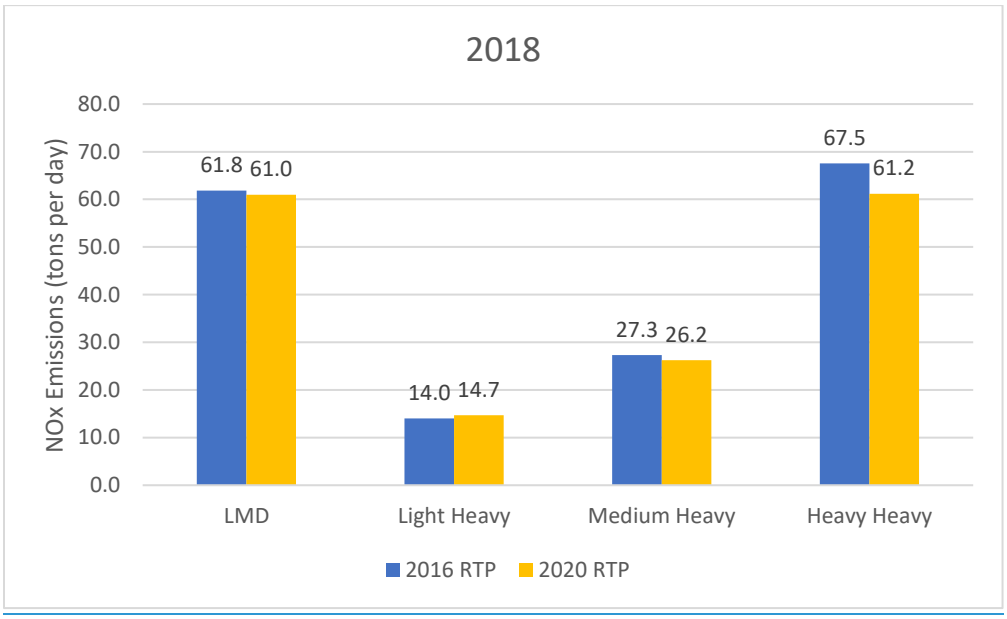


Figure 3-1-A: 2018 NOx emissions estimated with travel activity data from 2016 RTP vs 2020 RTP

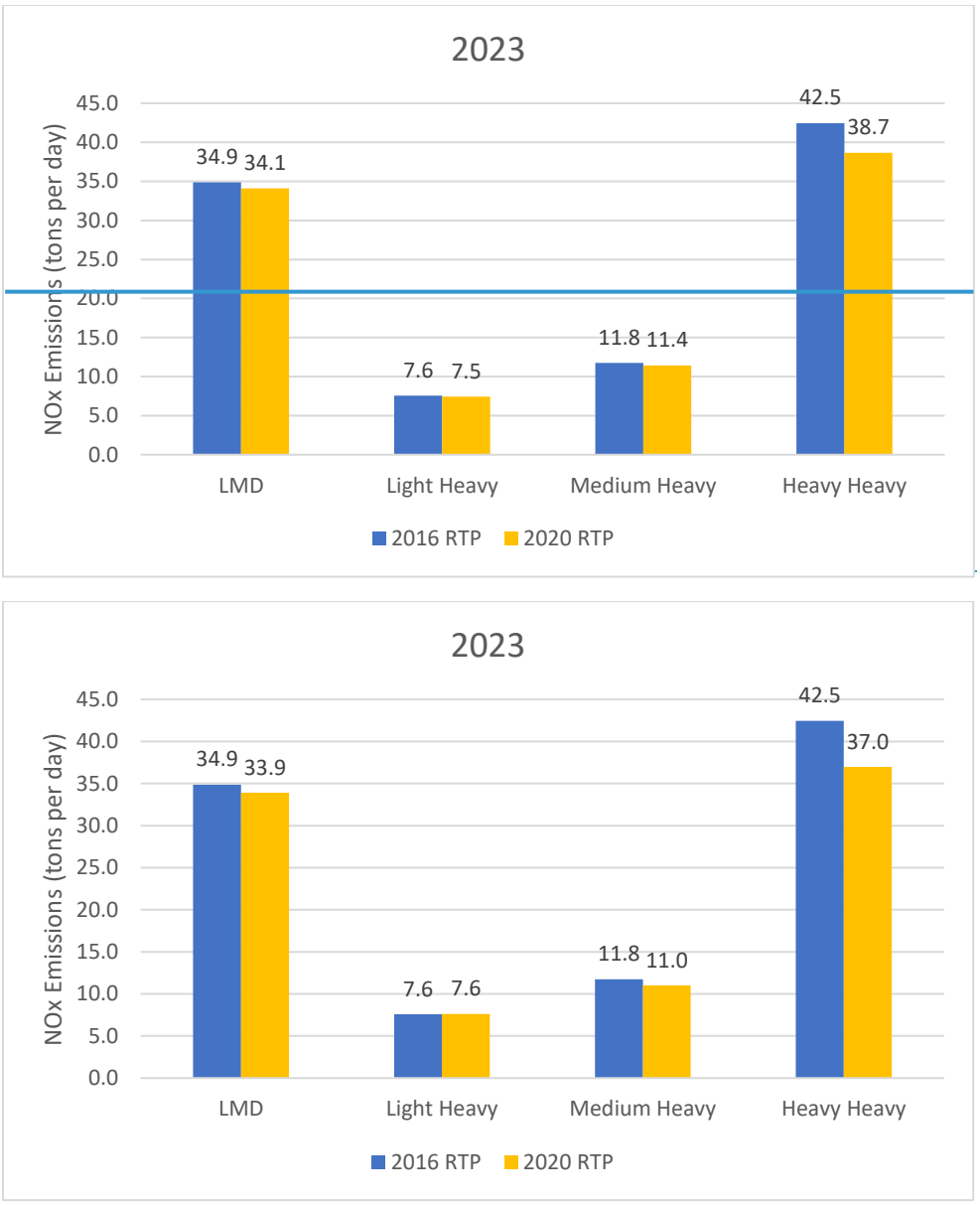


Figure 3-1-B: 2023 NOx emissions estimated with travel activity data from 2016 RTP vs 2020 RTP

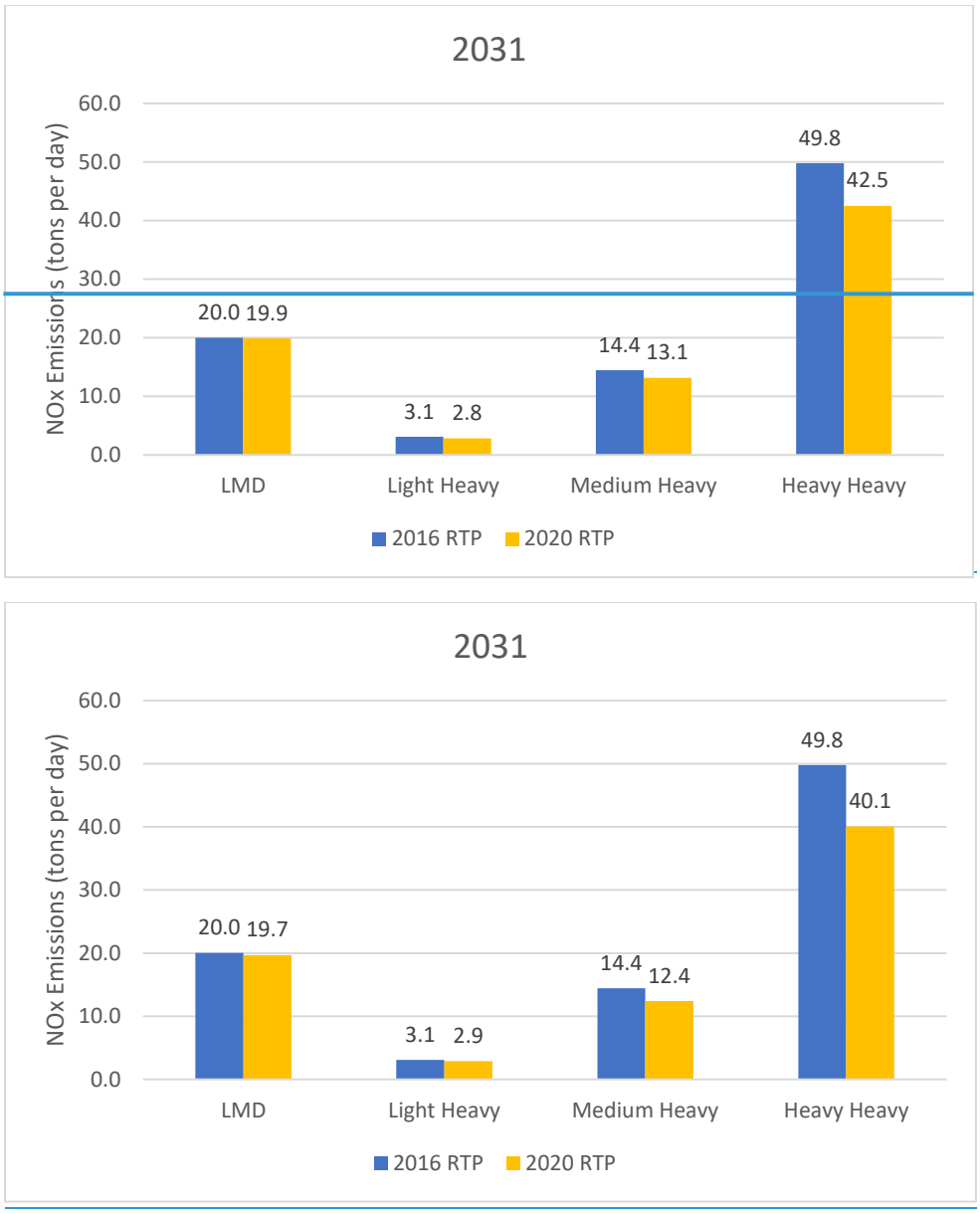


Figure 3-1-C: 2031 NOx emissions estimated with travel activity data from 2016 RTP vs 2020 RTP

3.2.4. 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 several models to estimate emissions for more than 100 off-road equipment categories of different fuel types, engine sizes, and engine types. The models account for the effects of various adopted regulations, technology types, and seasonal effects on emissions. The models combine equipment population, equipment activity, horsepower, load factors, population growth, survival rates, and emission factors to yield the annual emissions by county, air basin, or statewide. The off-road inventory for this Plan is consistent with the 2020 PM2.5 Plan inventory, which contains an update in

ocean going vessels (OGV) category from the 2016 AQMP inventory. See CARB 2018 Updates to the California State Implementation Plan[22] for further details.

3.3. Base Year (2018) Emissions Inventory

Table 3-1 shows the 2018 annual average emissions inventory for the South Coast Air Basin by major source category. While on-road and off-road mobile sources are the largest contributors to the Basin total NOx and CO emissions, stationary sources are the largest contributor to PM10, PM2.5, SOx and NH3 emissions. The largest sources of PM10 emissions in the Basin include paved road dust, construction and demolition, unpaved road dust, cooking and~~,~~ residential fuel combustion ~~and unpaved road dust~~. Light duty vehicles also contribute substantially to PM10 emissions resulting from two mechanisms – exhaust emissions from fuel combustion and non-exhaust emissions from the abrasion and/or corrosion of tires and brakes. While the exhaust emissions are well controlled by regulatory agencies, PM emissions from tire and brake wear are proportional to vehicle miles travelled. Because vehicle miles travelled are expected to grow in future years as a response to population and economy growth, PM10 emissions from tire and brake wear and tear are also expected to grow. The top 9 PM10 sources and their emissions are provided in Figure 3-2.

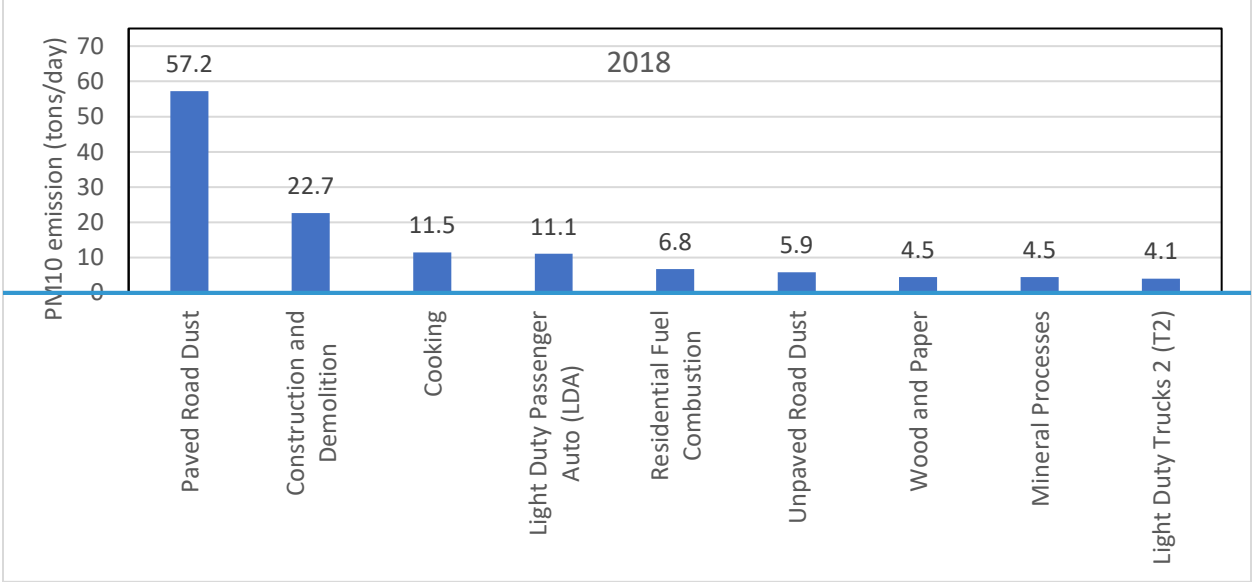
[22] CARB 2018 Updates to the California State Implementation Plan, Available at https://ww3.arb.ca.gov/planning/sip/2018sipupdate/2018update.pdf

Table 3-1: 2018 Average Annual Day Emissions By Major Source Category in the South Coast Air Basin (tpd[1])

SOURCE CATEGORY	Annual Average						
	VOC	NOx	CO	SOx	PM10	PM2.5	NH3
STATIONARY SOURCES							
Fuel Combustion	10.4	23.2	40.4	1.3	4.9	4.8	7.6
Waste Disposal	13.9	1.4	0.7	0.4	0.3	0.3	5.5
Cleaning and Surface Coatings	37.3	0.0	0.1	0.0	1.7	1.6	0.2
Petroleum Production and Marketing	21.0	0.3	2.7	0.3	1.3	0.9	0.1
Industrial Processes							
Mineral Process	0.3	0.0	0.3	0.0	4.5	2.5	0.1
Wood and Paper	0.2	0.0	0.0	0.0	4.5	2.7	0.0
Others	9.8	0.1	0.5	0.1	2.0	1.5	9.3
Solvent Evaporation	101.4	0.0	0.0	0.0	0.0	0.0	1.2
Misc. Processes							
Residential Fuel Combustion	8.4	14.6	46.8	0.5	6.8	6.6	0.1
Construction and Demolition	0.0	0.0	0.0	0.0	22.7	2.3	0.0
Paved Road Dust	0.0	0.0	0.0	0.0	56.47.2	8.56	0.0
Unpaved Road Dust	0.0	0.0	0.0	0.0	16.75.9	1.70.6	0.0
Cooking	1.9	0.0	0.0	0.0	11.5	11.5	0.0
Others	2.1	0.3	9.3	0.1	3.5	1.4	34.5
RECLAIM SOURCES	0.0	17.8	0.0	5.5	0.0	0.0	0.0
Total Stationary Sources	**206.8**	**57.7**	**100.7**	**8.2**	**136.7 45.6.22**	**26.6**	**58.6**
MOBILE SOURCES							
On-Road Vehicles	79.080.4	172.8 170.8	724.352.7	1.7	23.9	11.1	16.32
Off-Road Vehicles	80.8	134.9	691.3	4.1	7.3	6.3	0.2
Total Mobile Sources	**159.861.2**	**307.8 305.8**	**1444.0 1415.6**	**5.8**	**31.2**	**17.3**	**16.34**

TOTAL	**3668.0**	**365.4 3.5**	**1544.6 16.2**	**14.0**	**167.9 57.9**	**62.53.5**	**75.04.9**

[1] Values may not sum due to rounding



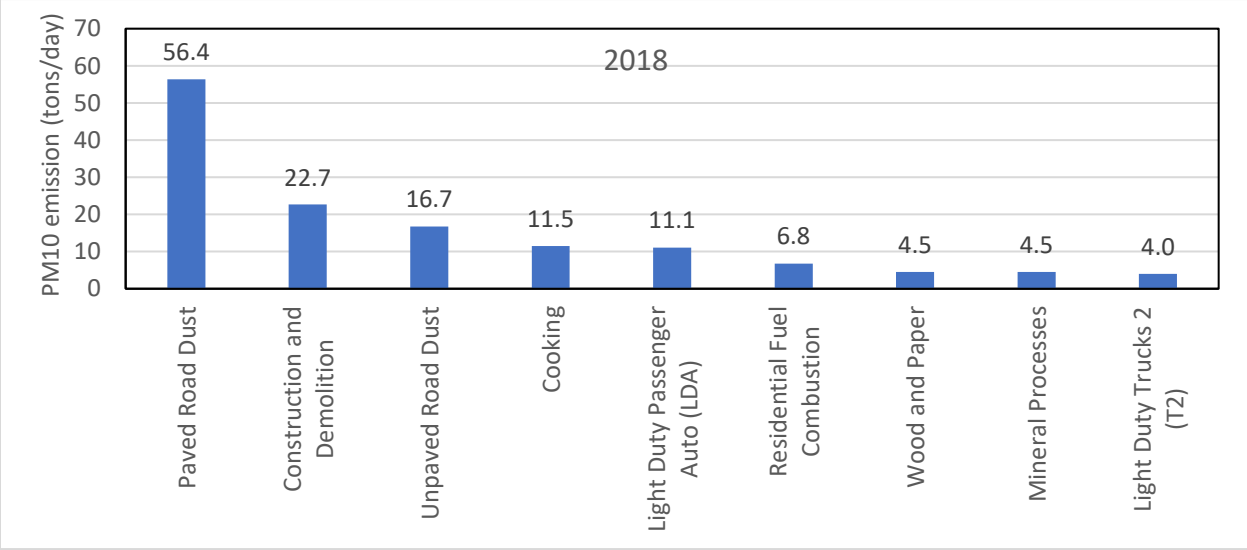


Figure 3-2: Top ~~10~~ 9 PM10 sources in 2018

3.4. Future Years Emissions Inventory

In this Plan, future emissions from stationary and off-road mobile sources, except for OGV, were projected using growth and control factors developed for the 2016 AQMP. OGV emissions were projected using later estimates based on the 2018 updates to the California SIP, to reflect a slower

turnover to cleaner vessels. On-road mobile source emissions were projected using EMFAC 2017 emission factors applied to the future vehicle activity projected in SCAG's 2020 RTP.

Future years' stationary source emissions are divided into RECLAIM and non-RECLAIM point source emissions and area sources. Future NOx and SOx emissions from RECLAIM point sources are estimated based on their allocations as specified by South Coast AQMD Rule 2002 – Allocations for NOx and SOx. The forecasts for area source emissions were derived for the 2016 AQMP using: (1) emissions from the 2012 base year, (2) expected controls based on implementation of South Coast AQMD's rules as reflected in the 2016 AQMP, and (3) activity growth in various source categories between the base and future years. Chapter 3 and Appendix III of the 2016 AQMP provide more information on how the emissions were projected. Non-RECLAIM point sources were derived similarly to area sources, but projections were based on reported 2018 emissions.

Tables 3-2A, B, and C present the annual average emissions for 2023, 2031 and 2035. 2035 is the new maintenance horizon and 2023 and 2031 are interim years added to demonstrate the projected maintenance through 2035. Detailed emissions inventories by major source category can be found in Appendix I.

Table 3-2-A: 2023 Average Annual Day Emissions By Major Source Category in the South Coast Air Basin (tpd[1])

SOURCE CATEGORY	Annual Average						
	VOC	NOx	CO	SOx	PM10	PM2.5	NH3
STATIONARY SOURCES							
Fuel Combustion	10.3	22.4	40.6	1.4	4.9	4.9	7.5
Waste Disposal	15.1	1.5	0.7	0.5	0.3	0.3	5.8
Cleaning and Surface Coatings	41.4	0.0	0.1	0.0	1.8	1.7	0.2
Petroleum Production and Marketing	19.8	0.3	2.7	0.3	1.3	0.9	0.1
Industrial Processes							
Mineral Process	0.3	0.0	0.3	0.0	4.5	2.5	0.1
Wood and Paper	0.2	0.0	0.0	0.0	5.0	3.0	0.0
Others	10.4	0.1	0.5	0.1	2.1	1.5	9.3
Solvent Evaporation	104.6	0.0	0.0	0.0	0.0	0.0	1.1
Misc. Processes							
Residential Fuel Combustion	8.4	12.9	46.4	0.5	6.7	6.5	0.1
Construction and Demolition	0.0	0.0	0.0	0.0	25.75	2.6	0.0
Paved Road Dust	0.0	0.0	0.0	0.0	58.058.9	8.78.8	0.0
Unpaved Road Dust	0.0	0.0	0.0	0.0	16.75.9	0.61.7	0.0
Cooking	2.0	0.0	0.0	0.0	12.1	12.1	0.0
Others	2.0	0.3	9.3	0.1	3.3	1.4	34.2
RECLAIM SOURCES	0.0	14.5	0.0	6.1	0.0	0.0	0.0
Total Stationary Sources	**214.5**	**52.0**	**100.6**	**9.0**	**142.532.2**	**47.86.8**	**58.4**
MOBILE SOURCES							
On-Road Vehicles	55.756.4	93.495.6	501.7520.7	1.51.5	22.722.7	9.69.6	19.619.8
Off-Road Vehicles	72.5	124.2	720.0	4.7	6.4	5.4	0.2
Total Mobile Sources	**128.2128.9**	**217.6219.7**	**1221.61240.7**	**6.16.2**	**29.129.0**	**15.015.0**	**19.820.0**
TOTAL	**342.83.4**	**271.769.6**	**134113 22.3**	**15.1**	**171.5161.2**	**62.91.9**	**78.13**

[1] Values may not sum due to rounding

Table 3-2-B: 2031 Average Annual Day Emissions By Major Source Category in the South Coast Air Basin (tpd[1])

SOURCE CATEGORY	Annual Average						
	VOC	NOx	CO	SOx	PM10	PM2.5	NH3
STATIONARY SOURCES							
Fuel Combustion	10.4	22.4	41.1	1.5	4.9	4.9	7.5
Waste Disposal	16.4	1.6	0.7	0.5	0.3	0.3	6.1
Cleaning and Surface Coatings	45.0	0.0	0.1	0.0	1.9	1.8	0.2
Petroleum Production and Marketing	18.0	0.3	2.7	0.3	1.3	0.9	0.1
Industrial Processes							
Mineral Process	0.3	0.0	0.3	0.0	4.6	2.5	0.1
Wood and Paper	0.2	0.0	0.0	0.0	5.4	3.2	0.0
Others	10.8	0.1	0.5	0.1	2.1	1.6	9.3
Solvent Evaporation	109.4	0.0	0.0	0.0	0.0	0.0	1.1
Misc. Processes							
Residential Fuel Combustion	8.4	10.9	46.2	0.5	6.7	6.5	0.1
Construction and Demolition	0.0	0.0	0.0	0.0	28.41	2.8	0.0
Paved Road Dust	0.0	0.0	0.0	0.0	59.96 0.7	9.01	0.0
Unpaved Road Dust	0.0	0.0	0.0	0.0	16.75. 8	1.70.6	0.0
Cooking	2.2	0.0	0.0	0.0	12.8	12.8	0.0
Others	2.0	0.3	9.3	0.1	3.1	1.4	35.5
RECLAIM SOURCES	0.0	14.5	0.0	6.1	0.0	0.0	0.0
Total Stationary Sources	**223.0**	**50.1**	**101.0**	**9.1**	**148.1 37.7**	**49.48. 4**	**59.9**
MOBILE SOURCES							
On-Road Vehicles	40.841. 4	71.97 4.9	377.43 93.8	1.21.3	22.72 2.8	9.59.5	21.922. 1
Off-Road Vehicles	66.3	118.2	764.6	5.6	5.7	4.9	0.2

Total Mobile Sources	107.11 ~~07.7~~	190.1 ~~193.1~~	1142.1 ~~1158.4~~	6.8~~6.9~~	28.42 ~~8.5~~	14.414 ~~.4~~	22.122. ~~3~~
TOTAL	330.13 ~~30.6~~	240.2 ~~243.2~~	1243.1 ~~1259.4~~	15.915 ~~.9~~	176.5 ~~166.2~~	63.862 ~~.8~~	81.982. ~~1~~

[1] Values may not sum due to rounding

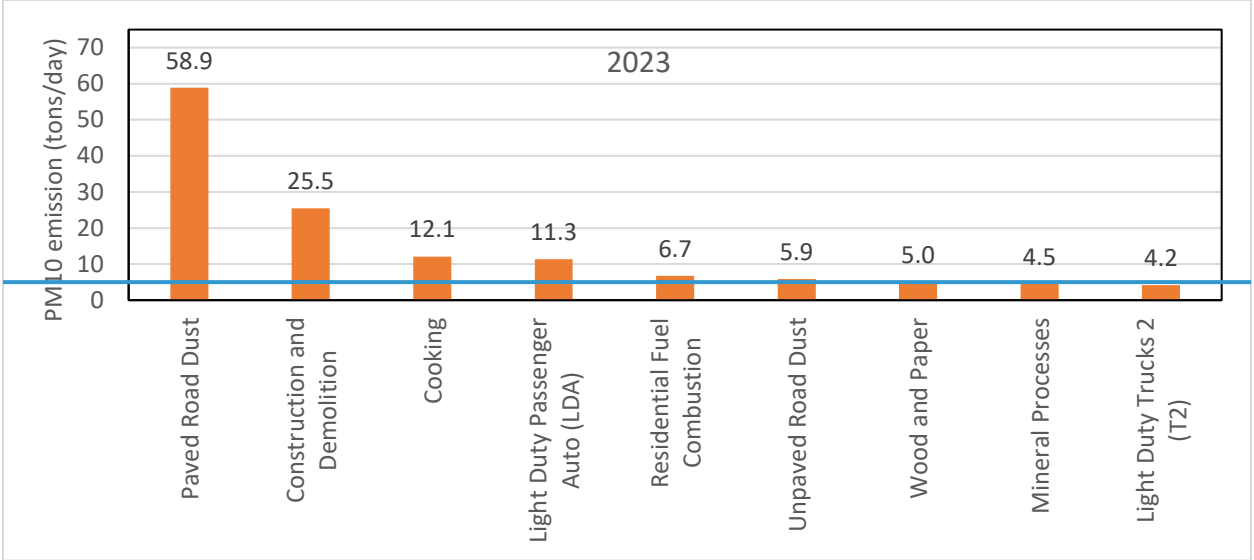
Table 3-2-C: 2035 Average Annual Day Emissions By Major Source Category in the South Coast Air Basin (tpd[1])

SOURCE CATEGORY	Annual Average						
	VOC	NOx	CO	SOx	PM10	PM2.5	NH3
STATIONARY SOURCES							
Fuel Combustion	11.5	35.3	51.2	6.6	5.8	5.7	8.7
Waste Disposal	16.8	2.7	1.3	0.7	0.3	0.3	6.3
Cleaning and Surface Coatings	51.9	0.0	0.1	0.0	2.0	1.9	0.5
Petroleum Production and Marketing	18.4	1.0	5.3	2.1	1.8	1.6	0.2
Industrial Processes							
Mineral Process	0.9	0.3	0.2	0.2	5.3	2.9	0.2
Wood and Paper	0.3	0.0	0.0	0.0	5.6	3.4	0.0
Others	12.6	0.1	0.4	0.1	2.7	1.8	8.7
Solvent Evaporation	111.8	0.0	0.0	0.0	0.0	0.0	1.1
Misc. Processes							
Residential Fuel Combustion	8.4	9.9	46.2	0.5	6.7	6.5	0.1
Construction and Demolition	0.0	0.0	0.0	0.0	29.84	3.02~~.9~~	0.0
Paved Road Dust	0.0	0.0	0.0	0.0	61.19	9.23	0.0
Unpaved Road Dust	0.0	0.0	0.0	0.0	~~5.8~~16.7	~~0.6~~1.7	0.0
Cooking	2.2	0.0	0.0	0.0	13.2	13.2	0.0
Others	2.2	0.3	9.3	0.0	3.3	1.5	36.4
Total Stationary Sources	**237.0**	**49.5**	**114.0**	**10.1**	**154.24 ~~3.8~~**	**52.51~~.5~~**	**62.2**
MOBILE SOURCES							
On-Road Vehicles	36.535 ~~.9~~	66.268 ~~.7~~	359.13 ~~67.9~~	1.21~~.2~~	22.823. ~~0~~	9.59~~.5~~	22.72 ~~2.9~~
Off-Road Vehicles	66.7	115.5	790.3	6.0	5.6	4.7	0.2

Total Mobile Sources	103.21~~02.6~~	181.71~~84.2~~	1149.4~~1158.2~~	7.27~~.2~~	28.4~~28.6~~	14.21~~4.3~~	22.92~~3.1~~
TOTAL	340.23~~39.6~~	231.22~~33.7~~	1263.5~~1272.3~~	17.317~~.3~~	182.61~~72.4~~	66.8~~65.8~~	85.08~~5.3~~

[1] Values may not sum due to rounding

While basin total NOx emissions are expected to decrease dramatically with time, PM10 emissions are projected to increase marginally from 2018 to 2035. Stationary sources continue to be major sources of PM10 emissions in the Basin. The top 9 sources of PM10 emissions remain the same in future years, as shown in Figures 3-3, with paved road dust and construction and demolition driving the overall increases in total PM10 emissions.



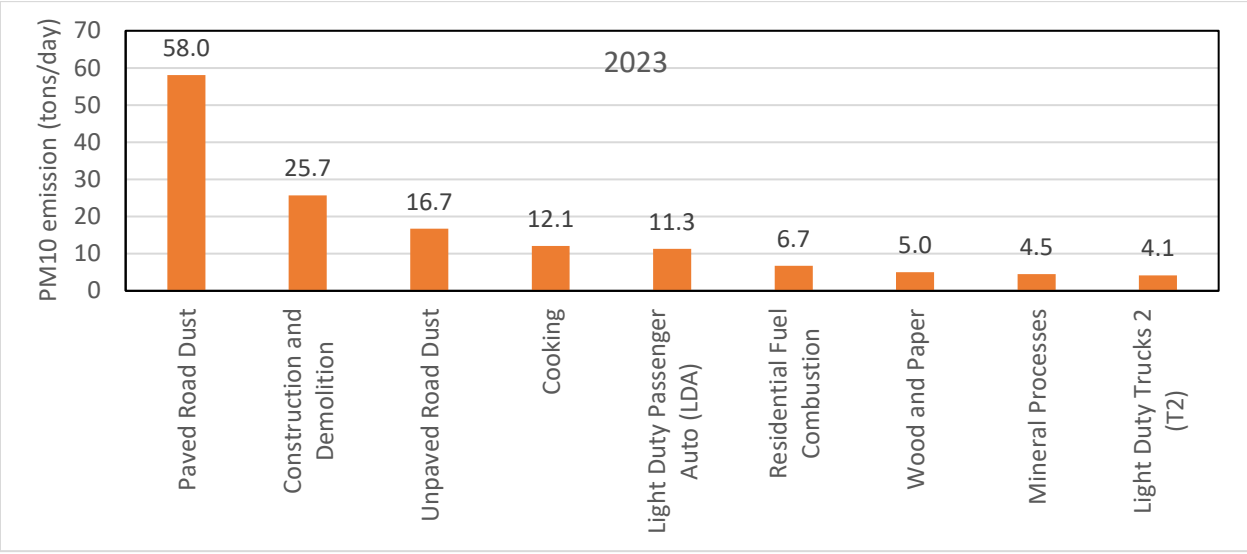
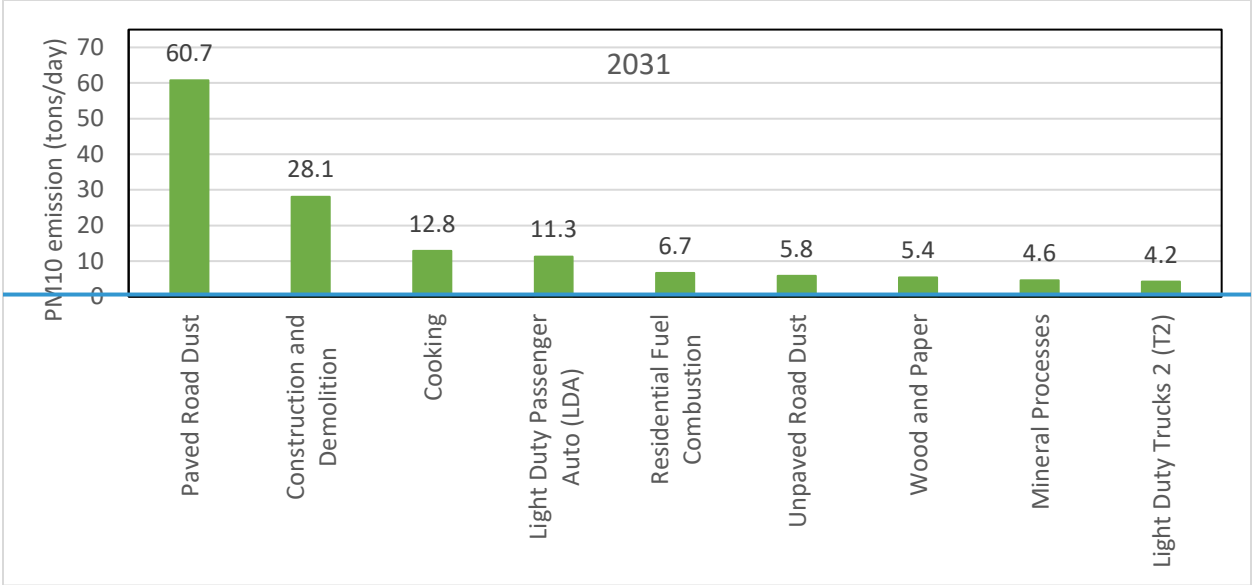


Figure 3-3-A. Top ~~10~~ 9 PM10 sources in 2023



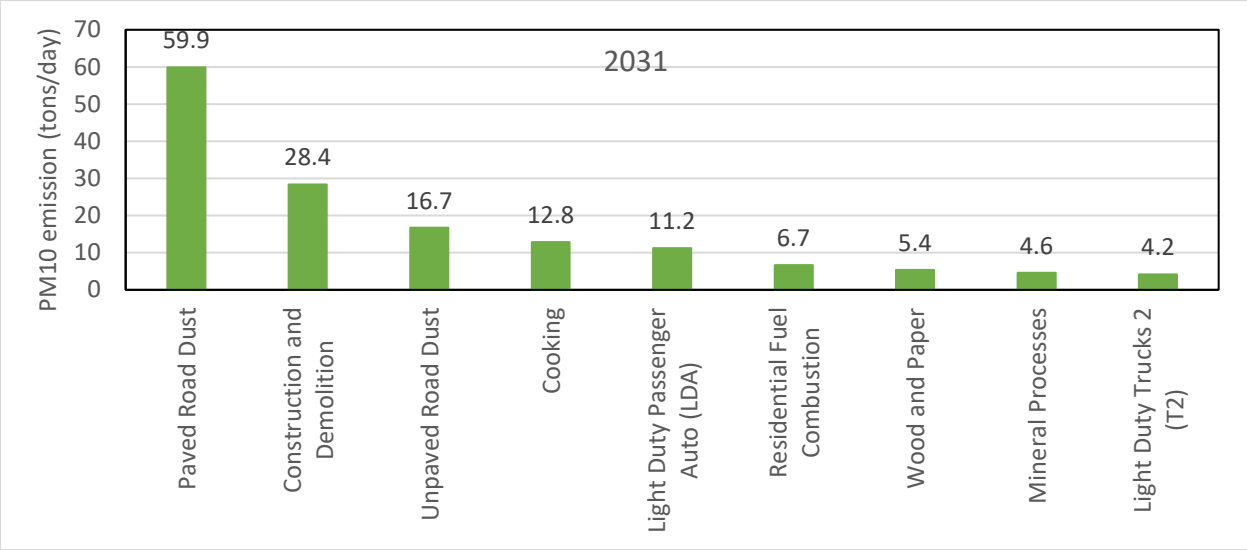


Figure 3-3-B. Top ~~10~~ 9 PM10 sources in 2031

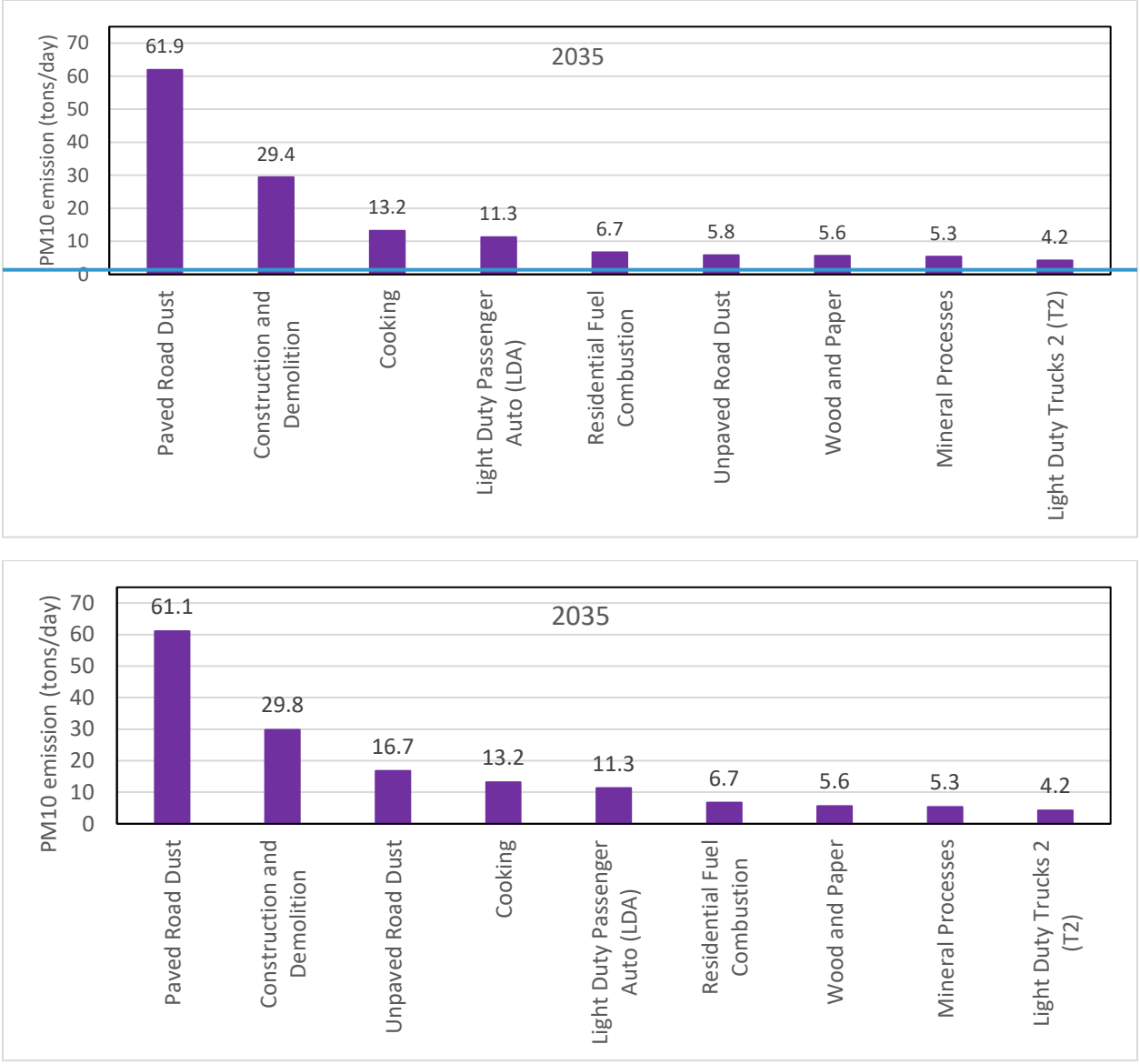


Figure 3-3-C. Top ~~10~~ 9 PM10 sources in ~~2031~~2035

3.5. Maintenance of Attainment of 1987 24-hour PM10 standard through 2035

In this analysis we demonstrate maintenance of attainment status of the 1987 24-hour PM10 standard through 2035 based on emissions inventory. The analysis includes emissions inventory trend and comparison with the attainment inventory approved by the U.S. EPA in 2013.

NOx emissions, which are mostly generated from fuel combustion sources, are expected to decline dramatically in the future due to the impact of existing regulations and programs by South Coast AQMD and CARB. VOC emissions in 2035 are projected to be lower than those in 2018 with activity growth offset by existing regulations. On the other hand, PM emissions are expected to increase slightly in the future, with PM10 projected to increase by less than 10% from 2018 to 2035. This is due to the growth

in population and economic activities outpacing emission reductions from various regulations. However, the projected increase in PM10 emissions is not expected to change the attainment status of the Basin for two key reasons. First, still there are substantial NOx reductions and marginal VOC reductions expected to occur in the future year due to the continued implementation of existing regulations with future reductions. Second, the Basin's PM10 design values (DVs) in the past 9 years (2012 to 2020) were substantially lower than the NAAQS. Excluding days subject to exceptional events, the Basin's DVs are only approximately 50% of the NAAQS. Refer to Chapter 2 for detailed discussions on PM10 design value. Therefore, the small increase in PM10 emissions should not change attainment of the PM10 standard in the Basin. SOx and NH3 emissions increase slightly in the future, however, their overall contribution to ambient PM10 concentration is de minimis, and therefore, those increases are not expected to interfere with the continued attainment of the 1987 24-hour PM10 standard.

Comparing this Plan's emissions inventory with the attainment emissions inventory approved by U.S. EPA effective on July 26, 2013, the current inventory for PM10 and its precursor emissions shows significantly lower emissions. Tables 3-3A and B summarize the emissions inventory developed for this Plan and the attainment inventory included in the 2009 maintenance plan, respectively. According to the U.S. EPA's approval, the emissions of PM10 and its precursors projected to 2030 were sufficient to demonstrate attainment of the PM10 standard to be maintained in the South Coast Air Basin for at least ten years after redesignation, which covers 2013 to 2023 time period. Taking PM10 emissions for 2023 as an example, this Plan shows 171.561.2 tons per day (tpd) compared to 307.8 tpd in the approved attainment inventory. Evidently, regulatory efforts to reduce emissions of PM10 and its precursors has continued since the last maintenance plan and the current emissions inventory presents much lower emissions than those anticipated in 2009, providing further assurance for continued attainment of the PM10 standard.

In all, the annual average day emissions of PM10 and its precursors demonstrate that attainment of the 1987 24-hour PM10 standard will be maintained in the South Coast Air Basin at least through 2035. This attainment is expected to be maintained with baseline emissions, which only reflect already adopted and implemented regulations, and without requiring any additional measures to control emissions beyond the baseline levels.

Table 3-3-A. PM10 and its precursor emissions included in this Plan. Units are tons per day

-	20182018	20232023	20312031	20352035
PM10PM10	167.9157.9	171.5161.2	176.5166.2	182.6172.4
PM25PM2.5	63.562.1	62.961.9	63.862.8	66.865.8
NOXNOx	363.5365.4	269.6271.7	240.2243.2	231.2233.7
VOCVOC	366.6368.0	342.8343.4	330.1330.6	340.2339.6
SOXSOx	13.914.0	15.115.1	15.915.9	17.317.3
NH3NH3	74.975.0	78.178.3	81.982.1	85.085.3

Table 3-3-B. PM10 and its precursor emissions included in the 2009 maintenance plan[23]. Units are tons per day

	2010	2011	2012	2014	2020	2023	2030
PM10	280.9	283	284.8	288.7	300.3	307.8	329.6
PM2.5	101.4	101.5	101.6	101.6	103.2	105.2	113.6
NOX	774.7	742.9	711.6	653.6	525.2	506.4	511.8
VOC	572.4	559.4	547.9	527.7	498.5	496	508.4
SOX	39.2	40.1	40.7	42.8	51.4	55.1	71.7

4. Transportation Conformity

Transportation conformity is required under the CAA section 176(c) to ensure that transportation plans, programs, and projects that obtain federal funds or approvals conform to applicable attainment/maintenance plans and other SIP revisions. A SIP analyzes the region's total emissions inventory from all sources for purposes of demonstrating attainment or maintenance. The portion of the total emissions inventory from the on-road highway and transit vehicles in these analyses becomes the "motor vehicle emissions budget." Currently, the motor vehicle emissions budgets for the PM10 maintenance plan are under development for CY 2023, 2031, and 2035 using the latest activity data (VMT and speed) from the Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan and the EMFAC2017 model. These budgets are currently ~~will~~ undergoing~~go through~~ the interagency consultation process and will be ~~release it as part of the~~ included in the CARB staff report and adoption of the proposed PM10 Maintenance Plan.

5. Future Monitoring Network

U.S. EPA guidance states that once an area has been redesignated, the State should continue to operate an appropriate air quality monitoring network in accordance with 40 CFR Part 58 to verify the attainment status of the area. More specifically, daily PM10 sampling is required in the area reporting the peak PM10 concentration. The South Coast AQMD operates a network of PM10 FRM and FEM monitors to meet this requirement.

We presently operate PM10 FRM monitors at nineteen air quality monitoring stations. The network monitors operate on a one-in-six-day sample schedule with the exception of the Indio and Rubidoux FRM monitors that operate on a one-in-three-day sample schedule to meet minimum sampling frequency requirements. Additionally, quality control collocated monitors are required at fifteen percent of sites and should be deployed at sites within plus or minus twenty percent of NAAQS. To meet this

[23] 40 CFR Parts 52 and 81 [EPA–R09–OAR–2013–0007; FRL–9798–3], Approval and Promulgation of Implementation Plans; Designation of Areas for Air Quality Planning Purposes; State of California; PM10; Redesignation of the South Coast Air Basin to Attainment; Approval of PM10 Redesignation Request and Maintenance Plan for the South Coast Air Basin. Table 5 – South Coast Annual Average Pm10 and PM10 precursor baseline emissions for 2002 through 2030

requirement, the South Coast AQMD operates collocated monitors at Indio, Mira Loma, and Rubidoux monitoring sites.

A network of continuous PM10 FEM BAM and TEOM analyzers are operated at eleven sampling sites to meet daily requirements. These real time analyzers measure hourly particulate concentrations. Real time monitors are clustered in high concentration areas to meet minimum monitoring requirements and disseminate information to the public.

South Coast AQMD exceeds all minimum monitoring requirements for PM10 network design and operation. As described in the July 1, 2020 Five Year Air Monitoring Network Assessment, the District is committed to refinement of the PM10 monitoring network. In consultation with U.S. EPA Region IX, the PM10 FRM monitoring network will selectively transition to PM10 FEM continuous analyzers. This modification will provide better resolution of PM10 data, continue to exceed all minimum monitoring network requirements, and verify attainment status. A transition to more continuous analyzers will also increase the spatial resolution of real-time air quality index values, improve the accuracy of forecasting, and enhance the air quality advisories issued by the South Coast AQMD.

6. Verification of Continued Attainment

The U.S. EPA guidance[24] requires that air districts indicate how they will track the progress of their maintenance plans over time to ensure continued attainment. Two options suggested by the guidance include: 1) periodic updates to the emissions inventory, and 2) periodic review of the inputs and assumptions used for the emission inventory and subsequent updates to the inventory if those inputs or assumptions have significantly changed. This guidance further requires air districts to monitor the indicators, or triggers, which will be used to determine when the implementation of contingency measures are required.

The regulatory emissions inventory is updated periodically. South Coast AQMD maintains reported emissions data from major facilities through the Annual Emissions Reporting program and submits the data to CARB every year. Traffic activity data, which is an essential input to estimate on-road mobile emissions, is updated every 4 years when Southern California Association of Governments (SCAG) develops a new regional transportation plan. On-Road motor vehicle emissions model, EMFAC is updated approximately every 3 years. South Coast AQMD develops and maintains emissions reductions resulting from regulations and programs impacting various stationary point and area sources and mobile sources. In collaboration with CARB and SCAG the methodologies, input data, and assumptions used to develop the emissions inventory are reviewed and updated as new data and/or methods become available. These reviews and updates are conducted regularly. To this extent, South Coast AQMD is committing to the second of the two above options to verify continued attainment. South Coast AQMD will review the inputs and assumptions used for the emission inventory when new information becomes available. If South Coast AQMD finds that these inputs have changed significantly, South Coast AQMD will update the existing inventory in coordination with CARB, evaluate the revised inventory against the inventories presented in this maintenance plan, and evaluate the potential impacts. In addition, on a

[24] United States Environmental Protection Agency. 1992. Procedures for Processing Requests to Redesignate Areas to Attainment. Memorandum from John Calcagni to USEPA Regional Directors. September 4. Available at: https://www.epa.gov/sites/production/files/2016-03/documents/calcagni_memo_-_procedures_for_processing_requests_to_redesignate_areas_to_attainment_090492.pdf.

regular basis, South Coast AQMD will analyze the PM10 ambient air quality data collected from its monitoring network. Specifically, the 24-hour average PM10 concentrations from all monitoring stations will be compared with the 24-hour PM10 NAAQS on a quarterly basis (see chapter 7).

7. Contingency Plan

CAA Section 175A(d) requires maintenance plans to identify contingency provisions to offset any unexpected increases in emissions and ensure maintenance of the standard. A contingency plan should identify control measures that may be implemented as a contingency in the event of emission increases, a schedule and procedure to implement the measures, and a time limit for action by the State. The contingency plan should also identify the indicators or triggers that will determine when contingency measures should be implemented. These elements are discussed next.

7.1. Contingency Plan Trigger

A contingency plan trigger can be based on indicators such as measured concentrations, updates of emissions inventories or modeled concentrations. In the first maintenance plan, a trigger based on measured exceedances of the NAAQS was used, and the same type of trigger is retained for the maintenance plan. The South Coast AQMD commits to the following:

> Establish a trigger to implement a contingency action; whereby; if the number of 24-hour average PM10 exceedances recorded at a monitor averaged over three consecutive years exceeds the level of the 24-hour PM10 NAAQS in the South Coast Air Basin, excluding exceptional events; then, the South Coast AQMD will trigger the contingency actions specified in section 7.2 of this maintenance plan.

In order to provide advance notice of a violation of the PM10 NAAQS, design values will be calculated quarterly. For calculations with data that does not yet include an entire calendar year, South Coast AQMD will assume that the sampling schedule will continue throughout the remainder of the year and no samples will be missed. The measured concentrations are representative of actual emissions conditions and thus capture the effect of any unexpected and expected increases of emissions. If implementation of the contingency measures adequately addresses the cause of the violation of the NAAQS then a SIP revision may not be needed[25].

Exceedances of the 24-hour average PM10 NAAQS occur in the South Coast Air Basin due to exceptional events a few times each year on average, including those caused by wind-blown dust, wildfires, and fireworks. The measurements during exceptional events are removed from design value calculations if the criteria for designation as an exceptional event can be demonstrated. Thus, the South Coast AQMD has developed a weight-of-evidence data analysis methodology to identify exceedances that were not due to exceptional events for the contingency action trigger.

When a potential exceptional event is recorded, South Coast AQMD will first determine whether the exceedance would cause a violation of the standard. Since this evaluation will occur before the entire year's data is available, for the purposes of this calculation, South Coast AQMD will assume that the

[25] United States Environmental Protection Agency. 1992. Procedures for Processing Requests to Redesignate Areas to Attainment. Memorandum from John Calcagni to USEPA Regional Directors. September 4. Available at: https://www.epa.gov/sites/production/files/2016-03/documents/calcagni_memo_-_procedures_for_processing_requests_to_redesignate_areas_to_attainment_090492.pdf

sampling schedule will remain the same throughout the remainder of the year. If inclusion of the event in the design value calculation would cause a violation of the standard, South Coast AQMD staff will provide CARB and U.S. EPA a weight-of-evidence analysis of the exceedance to determine if the event would likely be considered exceptional in the exceptional event demonstration process. If CARB and U.S. EPA agree that the event would likely be considered exceptional, the event would temporarily be excluded from triggering the contingency measures. Further details of this process are in section 7.2. The criteria used for the analysis are similar to those that are used to demonstrate exceptional events. Other types of data and analysis not listed in the sections below may be used depending on the nature of the PM10 exceedance and the available data.

7.1.1. Wind-Blown Dust

Wind-blown dust caused 23 of 26 exceedances of the 24-hour PM10 NAAQS from 2010 - 2020 in the South Coast Air Basin. Thus, these exceptional events are common and are expected to occur within the maintenance period. South Coast AQMD will use a weight of evidence approach to determine if wind-blown dust could have caused a measured exceedance so that the measurements can be excluded from the contingency plan trigger. The analysis will also determine the source of the event and if reasonable emission controls were in place during the event. The criteria to make these determinations will generally include the following:

Analysis/Product	**Criteria**
South Coast AQMD advisories	South Coast AQMD has issued a wind-blown dust and/or ash advisory due to high winds
NWS high wind warning or wind advisory	NWS has issued a high wind warning or wind advisory covering the portion of the South Coast Air Basin with an exceedance
Hourly PM10 measurements and wind speed measurements	Simultaneous increase of hourly PM10 measurements with increases in measured wind speeds
Satellite Imagery (i.e. MODIS, GOES)	Satellite shows presence of dust at monitored area or transport of dust
Webcam Imagery	Webcam video shows presence of dust at monitored area or transport of dust
Back trajectory	Models show transport occurred from undisturbed soils, areas with high soil erodibility potential or areas where ash or dust may be emitted, such as fire burn scars
Wind roses and pollution roses	Measured or modeled wind directions show upwind areas with undisturbed soils, high soil erodibility potential or areas where ash or dust may be emitted, such as fire burn scars
Wind speed forecast or measurements	Hourly average winds exceeding 25 mph will or have occurred near the exceedance or hourly average winds less than 25 mph occurring in areas with high soil erodibility potential or areas where ash or dust may be emitted, such as fire burn scars
Emission and transport/dispersion modeling	Modeled concentrations exceed level of the NAAQS. Uncertainty of model and data inputs are taken into account to determine a range of model estimates.

Analysis/Product	Criteria
Social Media	Monitoring for reports of windblown dust and/or ash through social media accounts such as from the National Weather Service, US Forest Service, Caltrans, etc.

7.1.2. Wildfires

Wildfires have caused exceedances of the 24-hour PM10 standard in the South Coast Air Basin. South Coast AQMD will use a weight of evidence approach to determine if wildfires could have caused a measured exceedance so that the measurements can be excluded from the contingency plan trigger. In general, South Coast AQMD will use the following criteria to determine if wildfires could have caused the exceedance:

Analysis/Product	Criteria
South Coast AQMD advisories	South Coast AQMD has issued a smoke or ash advisory due to wildfire
Hourly PM2.5 measurements	Simultaneous increase of PM2.5 with the hourly PM10 measurements
Low-Cost sensor measurements such as PurpleAir	Increase of PM2.5 measured at low-cost sensors nearby the PM10 monitor and consistent with the wildfire location and pollutant transport
Fire reports such as https://inciweb.nwcg.gov/	Fires reported that may influence the monitor
Operational smoke models such as BlueSky and HRRR-Smoke	Models show transport of smoke from fire to the monitor
Hourly or 24-hour PM2.5 and PM10 measurements	Simultaneous increase of hourly or 24-hour $PM_{2.5}$ measurements with the beginning of the fire and with PM10 measurements
Satellite Imagery (i.e. MODIS, GOES)	Satellite shows presence of smoke at monitored area or transport of smoke
Webcam Imagery	Webcam video shows presence of smoke at monitored area or transport of smoke
Back trajectory	Models show transport occurred from wildfire
Wind roses and pollution roses	Measured or modeled wind directions show upwind area at the wildfire
Emission and transport/dispersion modeling	Modeled concentrations in models that take into account wildfire emissions exceed level of the NAAQS. Uncertainty of model and data inputs are taken into account to determine a range of model estimates.
Social Media	Monitoring for reports of windblown dust and/or ash through social media accounts such as from the National Weather Service, US Forest Service, Caltrans, etc.

7.1.3. Fireworks

Exceedances of the 24-hour PM10 NAAQS can occur on July 4th or 5th because of smoke emissions from fireworks. Exceedances are also possible in select areas on January 1st due to fireworks on New Year's

Eve. If the measured PM10 exceedance occurs on January 1st, July 4th or July 5th then South Coast AQMD will conduct investigation to determine if fireworks emissions could have caused the exceedance. South Coast AQMD will analyze the hourly PM2.5 and PM10 measurements to determine if there is a simultaneous increase of measured PM2.5 with the measured hourly PM10. Since fireworks smoke is expected to cause high PM2.5 concentrations, the simultaneous increase of PM2.5 with PM10 is an indicator that fireworks could have caused the exceedance. If co-located measurements are not available, then nearby PM2.5 monitors or low-cost sensor measurements of PM2.5 may be used for this evaluation.

7.2. Contingency Action

South Coast AQMD will review available data to determine the causes of the 24-hour PM10 exceedance. Causes of the exceedance may include local and regional primary PM10 emission sources and regional sources such as secondary particulate matter formation. If the causes of the exceedance can be determined, the South Coast AQMD will use this information when evaluating potential actions to target emission reductions for the emission sources that caused the exceedance.

South Coast AQMD will take the following actions in the order listed to reduce emissions. South Coast AQMD will consider the emission sources that may have contributed to the exceedance when evaluating whether these actions will effectively mitigate the cause of the exceedance:

1. Consult with the regulated industry to determine if voluntary or incentive-based control measures could reduce emissions, if feasible.
2. Evaluate whether improved education and training for mitigating fugitive dust emissions could reduce emissions. [26]
3. Evaluate whether changes to enforcement of existing rules could reduce emissions.
4. Evaluate amending Rules 403, 444, 1157, 1158 and 1186 to further strengthen prohibitions on particulate emissions (Table 7-1).
5. Propose new rules to reduce particulate emissions.

Table 7-1: Potential rules to be evaluated as part of Contingency Plan

Rule Name	South Coast AQMD Rule
Fugitive Dust	403
Open Burning	444
PM10 Emission Reductions from Aggregate and Related Operations	1157
Storage, Handling, and Transport of Coke, Coal, and Sulfur	1158
PM10 Emissions from Paved and Unpaved Roads and Livestock Operations	1186

[26] Training to mitigate fugitive dust emissions is implemented as part of South Coast AQMD rule 403. Information about this training is available at https://www.aqmd.gov/home/programs/business/training-403-403-1-fugitive-dust

7.3. Schedule for Implementation

The contingency plan trigger and schedule for implementation is illustrated in Figure 7-1.

After an exceedance is recorded in the South Coast Air Basin, the South Coast AQMD will calculate the three-year design value as the number of 24-hour average PM10 exceedances recorded at a monitor averaged over three consecutive years, using the most recent three years data including the year that the exceedance was recorded. For the purposes of this calculation, South Coast AQMD will assume that the sampling schedule will continue throughout the remainder of the year and no samples will be missed.

South Coast AQMD will evaluate the criteria to exclude measurements that would result in a violation of the NAAQS from the contingency trigger. If evidence indicates that the exceedance is not likely an exceptional event, the contingency action will be triggered within the data exploration timeline. The data exploration timeline is the period from the exceedance until one month following the end of the quarter after the quarter the exceedance was recorded[27]. This allows for the collection, analysis, and validation of any FRM data, which is typically not completed until several months after the end of the quarter that the data was recorded. On the other hand, if evidence indicates that the exceedance is likely an exceptional event, the South Coast AQMD will conduct the following tasks during the data exploration timeline:

1. South Coast AQMD will provide a summary of the event to CARB and U.S. EPA focusing on the criteria established in section 7.1.
2. South Coast AQMD will initiate the formal exceptional event process for the event in question or any other events affecting the violation of the NAAQS

At this point, the contingency actions will not be triggered until one of the following conditions are met:

1. At any time, if the U.S. EPA does not agree that the exceedance is likely an exceptional event based on the evidence established in section 7.1 provided by the South Coast AQMD
2. U.S. EPA does not concur with the exceptional event demonstration of the event or events cause a violation of the NAAQS

South Coast AQMD will also recalculate the design values within one month after the final data is available for the entire year to ensure that any missed samples recorded after the last exceedance do not result in a change in the design value. If it is determined that the design value does not violate the standard due to a change in sampling schedule or unforeseen circumstances, any pending contingency actions for the specific violation will be abandoned. On the other hand, if a recalculated design value at year end results in a violation of the NAAQS that was not previously evident, the South Coast AQMD will initiate the process outlined above and in Figure 7-1 for any exceedances leading to a violation of the NAAQS.

Once contingency actions are triggered, the South Coast AQMD will further evaluate the cause of exceedances and take appropriate action to address the nature of the exceedance within 18 months.

[27] For example, if an exceedance was recorded on November 15th, the South Coast AQMD will complete the evaluate of the exceedance by May 1st. This allows for approximately one month of analysis time after the data is finalized.

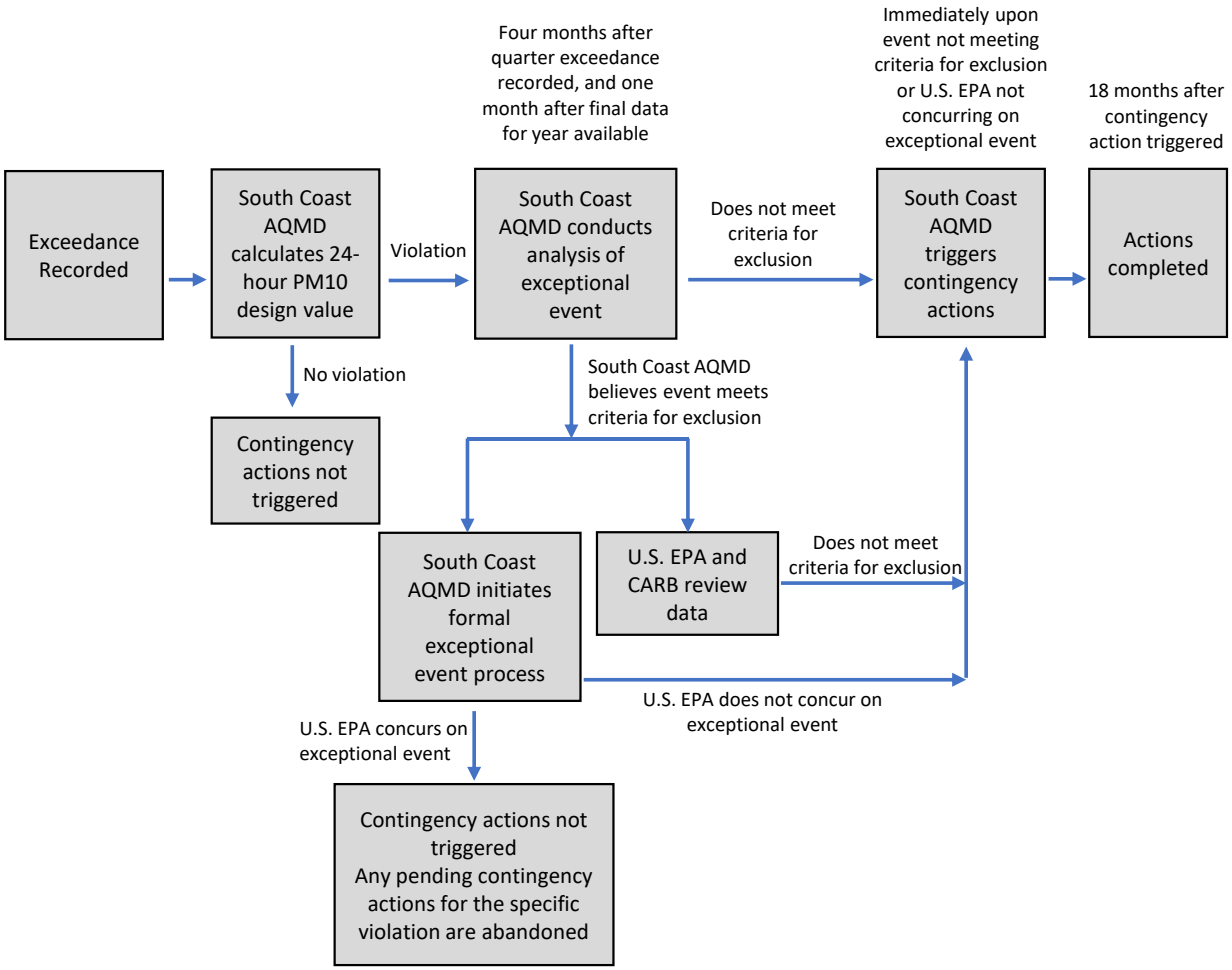


Figure 7-1: Contingency plan trigger and schedule for implementation

7.4. Authority

The CARB has the authority to set vehicle emissions standards and fuel formulation for California.

The South Coast AQMD has the authority and is the agency responsible for developing and enforcing air pollution control rules in the South Coast Air Basin for stationary and areawide sources.

8. Summary Checklist

As described in section 2, PM10 design values in the South Coast Air Basin have not exceeded the NAAQS during the first maintenance plan period (2010 – 2020). Almost all of the PM10 concentration measurements that exceeded the level of the NAAQS were caused by suspected exceptional events, and South Coast AQMD is preparing exceptional event demonstrations for those exceedances that are regulatory significant.

Table 8-1 summarizes the status of the elements that need to be satisfied in order to meet CAA requirements as well as conform to the guidance documents prepared by the U.S. EPA. Section 3 demonstrates continued attainment of the PM10 NAAQS through 2035. Section 5 commits South Coast AQMD to maintain a future PM10 monitoring network. Section 6 commits South Coast AQMD to verify continued attainment of the PM10 NAAQS by reviewing inputs and assumptions used for the emission inventory when new information becomes available. If South Coast AQMD finds that these inputs have changed significantly, South Coast AQMD will update the existing inventory in coordination with CARB, evaluate the revised inventory against the inventories presented in this maintenance plan, and evaluate the potential impacts. Section 7 commits to establish a contingency plan that is triggered by a measured violation of the PM10 NAAQS.

Table 8-1: Summary Checklist of Document References

CAA/U.S. EPA Requirements	Status	Document Reference
Attainment inventory	Conditions met	Section 3.1
Maintenance demonstration	Conditions met	Section 3.2
Monitoring network	Commitment established	Section 5
Verification of continued attainment	Commitment established	Section 6
Contingency Plan	Commitment established	Section 7

9. California Environmental Quality Act

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project is exempt from CEQA pursuant to CEQA Guidelines Sections 15061(b)(3) and 15308. Further, there is no substantial evidence indicating that any of the exceptions in CEQA Guidelines

Section 15300.2 to the categorical exemption apply to the proposed project. A Notice of Exemption will be prepared pursuant to CEQA Guidelines Section 15062. If the proposed project is approved, the Notice of Exemption will be electronically filed with the State Clearinghouse of the Governor's Office of Planning and Research to be posted on their CEQAnet Web Portal, which may be accessed via the following weblink: https://ceqanet.opr.ca.gov/search/recent. In addition, the Notice of Exemption will be electronically posted on the South Coast AQMD's webpage which can be accessed via the following weblink: http://www.aqmd.gov/nav/about/publicnotices/ceqa-notices/notices-of-exemption/noe---year-2021. The electronic filing and posting of the Notice of Exemption is being implemented in accordance with Governor Newsom's Executive Orders N-54-20 and N-80-20 issued on April 22, 2020 and September 23, 2020, respectively, for the State of Emergency in California as a result of the threat of COVID-19.

Appendix I

Annual Average Emissions by Major Source Category

2018

2023

2031

2035

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
Fuel Combustion										
10	Electric Utilities	2.69	0.31	0.59	4.25	0.22	0.51	0.51	0.51	0.68
20	Cogeneration	0.05	0.02	0.02	0.12	0.00	0.02	0.02	0.01	0.18
30	Oil and Gas Production (combustion)	1.11	0.12	0.71	0.61	0.01	0.10	0.09	0.09	0.22
40	Petroleum Refining (Combustion)	6.48	1.33	0.00	4.87	0.01	1.78	1.77	1.77	1.50
50	Manufacturing and Industrial	25.94	4.19	10.01	15.30	0.21	1.25	1.16	1.12	2.26
52	Food and Agricultural Processing	0.07	0.03	0.11	0.34	0.00	0.03	0.03	0.03	0.04
60	Service and Commercial	10.64	4.16	9.25	13.58	0.79	1.16	1.16	1.16	2.70
99	Other (Fuel Combustion)	0.58	0.27	2.54	1.31	0.07	0.18	0.16	0.15	0.05
Total Fuel Combustion		**47.56**	**10.43**	**23.23**	**40.38**	**1.31**	**5.03**	**4.90**	**4.84**	**7.63**
Waste Disposal										
110	Sewage Treatment	0.37	0.27	0.00	0.00	0.00	0.02	0.00	0.00	0.23
120	Landfills	640.10	8.88	0.45	0.39	0.37	0.20	0.20	0.20	3.97
130	Incineration	0.19	0.04	0.98	0.25	0.07	0.12	0.06	0.05	0.22
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	57.94	4.67	0.01	0.01	0.00	0.00	0.00	0.00	1.08
Total Waste Disposal		**698.60**	**13.86**	**1.44**	**0.65**	**0.44**	**0.34**	**0.26**	**0.25**	**5.50**
Cleaning and Surface Coatings										
210	Laundering	3.41	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	66.07	12.12	0.00	0.00	0.00	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	19.08	18.57	0.00	0.00	0.00	1.67	1.60	1.54	0.09
240	Printing	1.17	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	4.82	4.21	0.00	0.00	0.00	0.02	0.02	0.02	0.00
299	Other (Cleaning and Surface Coatings)	1.42	1.08	0.01	0.11	0.00	0.02	0.02	0.02	0.00
Total Cleaning and Surface Coatings		**95.97**	**37.29**	**0.01**	**0.11**	**0.00**	**1.73**	**1.66**	**1.60**	**0.16**
Petroleum Production and Marketing										
310	Oil and Gas Production	4.86	2.18	0.01	0.02	0.06	0.04	0.03	0.02	0.00
320	Petroleum Refining	6.35	4.43	0.23	2.39	0.24	1.87	1.25	0.88	0.07
330	Petroleum Marketing	54.79	13.80	0.00	0.23	0.00	0.01	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.60	0.58	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**66.60**	**20.99**	**0.25**	**2.65**	**0.30**	**1.92**	**1.28**	**0.90**	**0.07**
Industrial Processes										
410	Chemical	5.20	3.88	0.03	0.12	0.05	0.59	0.49	0.44	0.01
420	Food and Agriculture	0.58	0.56	0.00	0.01	0.00	0.16	0.07	0.03	0.00
430	Mineral Processes	0.35	0.31	0.02	0.29	0.04	8.22	4.49	2.51	0.08
440	Metal Processes	0.11	0.09	0.04	0.25	0.03	0.38	0.30	0.22	0.00
450	Wood and Paper	0.19	0.19	0.00	0.00	0.00	6.43	4.50	2.70	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
470	Electronics	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
499	Other (Industrial Processes)	7.01	5.30	0.05	0.13	0.00	1.81	1.12	0.80	9.29
Total Industrial Processes		**13.45**	**10.34**	**0.14**	**0.80**	**0.12**	**17.60**	**10.97**	**6.70**	**9.38**
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 Process										
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	25.38	1.43	0.00	0.00	0.00	1.60	0.78	0.16	8.52
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	123.36	56.40	8.46	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	28.17	16.74	1.67	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.20	1.62	0.23	0.00
660	Fires	0.34	0.23	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	2.76	1.93	0.00	0.00	0.01	11.46	11.46	11.46	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			17.77		5.47				
Total Miscellaneous Processes		**48.58**	**12.49**	**32.60**	**56.08**	**6.01**	**222.43**	**117.58**	**31.90**	**34.64**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	30.97	28.03	22.90	290.19	0.70	11.33	11.10	4.66	7.18
722	Light Duty Trucks 1 (T1)	6.79	6.19	4.91	48.11	0.07	0.96	0.94	0.41	0.86
723	Light Duty Trucks 2 (T2)	17.33	15.71	16.77	149.95	0.33	4.12	4.03	1.70	2.43
724	Medium Duty Trucks (T3)	14.09	12.72	13.97	121.44	0.26	2.64	2.59	1.10	1.72
732	Light Heavy Duty Gas Trucks 1 (T4)	2.23	2.10	1.93	8.20	0.03	0.31	0.31	0.13	0.23
733	Light Heavy Duty Gas Trucks 2 (T5)	0.46	0.44	0.43	1.51	0.01	0.08	0.08	0.03	0.04
734	Medium Heavy Duty Gas Trucks (T6)	0.46	0.40	0.79	4.53	0.01	0.12	0.12	0.05	0.04
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.20	0.16	0.67	4.77	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.33	0.29	8.92	1.91	0.01	0.33	0.32	0.17	0.41
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.13	0.12	3.38	0.74	0.01	0.16	0.16	0.08	0.17
744	Medium Heavy Duty Diesel Truck (T6)	1.38	1.21	25.43	4.47	0.06	1.70	1.68	1.14	0.80
746	Heavy Heavy Duty Diesel Trucks (HHD)	3.45	2.27	60.49	12.81	0.16	1.96	1.94	1.28	1.53
750	Motorcycles (MCY)	9.88	8.70	2.43	47.12	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	5.12	0.25	2.02	24.41	0.00	0.07	0.07	0.03	0.60
762	Gas Urban Buses (UB)	0.02	0.02	0.09	0.19	0.01	0.04	0.04	0.01	0.00
771	Gas School Buses (SB)	0.05	0.04	0.05	0.42	0.00	0.06	0.06	0.03	0.00
772	Diesel School Buses (SB)	0.04	0.03	2.21	0.12	0.00	0.18	0.18	0.08	0.02
777	Gas Other Buses (OB)	0.16	0.14	0.34	1.67	0.01	0.06	0.06	0.02	0.01
778	Motor Coaches	0.07	0.06	1.11	0.25	0.00	0.05	0.04	0.03	0.02
779	Diesel Other Buses (OB)	0.09	0.08	1.39	0.26	0.00	0.08	0.08	0.06	0.03
780	Motor Homes (MH)	0.08	0.07	0.62	1.22	0.01	0.08	0.07	0.04	0.03
Total On-Road Motor Vehicles		**93.34**	**79.03**	**170.85**	**724.31**	**1.68**	**24.37**	**23.91**	**11.06**	**16.15**
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	2.61	2.18	33.35	3.45	2.21	0.69	0.69	0.64	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 Recreational 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		**91.10**	**80.75**	**134.94**	**691.25**	**4.09**	**7.68**	**7.33**	**6.25**	**0.16**
Total Stationary and Area Sources		1090.71	206.82	57.67	100.67	8.18	249.08	136.67	46.21	58.58
Total On-Road Vehicles		93.34	79.03	170.85	724.31	1.68	24.37	23.91	11.06	16.15
Total Other Mobile		91.10	80.75	134.94	691.25	4.09	7.68	7.33	6.25	0.16
Total		**1275.15**	**366.60**	**363.46**	**1516.23**	**13.95**	**281.13**	**167.91**	**63.52**	**74.89**

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
Fuel Combustion										
10	Electric Utilities	2.90	0.33	0.63	4.55	0.24	0.55	0.55	0.55	0.73
20	Cogeneration	0.05	0.02	0.02	0.13	0.00	0.02	0.02	0.01	0.20
30	Oil and Gas Production (combustion)	1.15	0.12	0.73	0.62	0.01	0.10	0.10	0.10	0.22
40	Petroleum Refining (Combustion)	6.48	1.33	0.00	4.87	0.01	1.78	1.77	1.77	1.50
50	Manufacturing and Industrial	24.36	4.20	9.69	15.53	0.23	1.22	1.14	1.09	2.21
52	Food and Agricultural Processing	0.08	0.03	0.11	0.35	0.00	0.04	0.04	0.04	0.04
60	Service and Commercial	10.44	4.05	9.04	13.35	0.87	1.16	1.15	1.15	2.58
99	Other (Fuel Combustion)	0.55	0.24	2.15	1.21	0.08	0.17	0.15	0.14	0.05
Total Fuel Combustion		**46.01**	**10.32**	**22.37**	**40.61**	**1.44**	**5.04**	**4.92**	**4.85**	**7.53**
Waste Disposal										
110	Sewage Treatment	0.39	0.28	0.00	0.00	0.00	0.02	0.00	0.00	0.24
120	Landfills	662.26	9.20	0.47	0.41	0.39	0.21	0.21	0.21	4.09
130	Incineration	0.20	0.04	1.03	0.26	0.08	0.12	0.06	0.05	0.24
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	69.63	5.61	0.01	0.01	0.00	0.00	0.00	0.00	1.22
Total Waste Disposal		**732.48**	**15.13**	**1.51**	**0.68**	**0.47**	**0.35**	**0.27**	**0.26**	**5.79**
Cleaning and Surface Coatings										
210	Laundering	3.60	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	76.05	13.77	0.00	0.00	0.00	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	20.82	20.26	0.00	0.00	0.00	1.80	1.73	1.67	0.10
240	Printing	1.22	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	5.56	4.85	0.00	0.00	0.00	0.02	0.02	0.02	0.00
299	Other (Cleaning and Surface Coatings)	1.51	1.17	0.01	0.12	0.00	0.02	0.02	0.02	0.00
Total Cleaning and Surface Coatings		**108.76**	**41.42**	**0.01**	**0.12**	**0.00**	**1.86**	**1.79**	**1.73**	**0.17**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.01	2.25	0.01	0.02	0.06	0.04	0.03	0.02	0.00
320	Petroleum Refining	6.35	4.43	0.23	2.39	0.24	1.87	1.25	0.88	0.07
330	Petroleum Marketing	51.31	12.55	0.00	0.23	0.00	0.01	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.60	0.58	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**63.27**	**19.81**	**0.25**	**2.65**	**0.30**	**1.92**	**1.28**	**0.90**	**0.07**
Industrial Processes										
410	Chemical	5.67	4.21	0.03	0.12	0.05	0.64	0.53	0.47	0.01
420	Food and Agriculture	0.62	0.60	0.00	0.01	0.00	0.16	0.07	0.03	0.00
430	Mineral Processes	0.35	0.31	0.02	0.31	0.04	8.30	4.53	2.53	0.09
440	Metal Processes	0.11	0.09	0.04	0.26	0.03	0.40	0.32	0.23	0.00
450	Wood and Paper	0.19	0.19	0.00	0.00	0.00	7.19	5.03	3.02	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
470	Electronics	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
499	Other (Industrial Processes)	7.17	5.45	0.05	0.13	0.00	1.84	1.14	0.81	9.29
Total Industrial Processes		**14.12**	**10.86**	**0.14**	**0.83**	**0.12**	**18.54**	**11.62**	**7.09**	**9.39**
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 Process										
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	21.57	1.27	0.00	0.00	0.00	1.43	0.70	0.15	7.31
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	52.46	25.66	2.57	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	126.94	58.04	8.71	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	28.16	16.74	1.67	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	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	2.91	2.03	0.00	0.00	0.01	12.08	12.08	12.08	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			14.52		6.08				
Total Miscellaneous Processes		**44.82**	**12.38**	**27.70**	**55.73**	**6.62**	**232.19**	**122.54**	**32.96**	**34.27**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	21.01	19.51	13.11	204.46	0.62	11.53	11.30	4.70	8.35
722	Light Duty Trucks 1 (T1)	4.04	3.75	2.44	27.02	0.06	0.91	0.89	0.38	0.99
723	Light Duty Trucks 2 (T2)	12.84	11.92	9.03	103.23	0.29	4.23	4.14	1.72	2.81
724	Medium Duty Trucks (T3)	9.19	8.49	6.80	69.75	0.21	2.45	2.40	1.00	1.84
732	Light Heavy Duty Gas Trucks 1 (T4)	1.26	1.20	1.00	3.90	0.02	0.22	0.22	0.09	0.21
733	Light Heavy Duty Gas Trucks 2 (T5)	0.31	0.30	0.28	0.90	0.01	0.07	0.07	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.29	0.26	0.39	2.42	0.01	0.12	0.11	0.05	0.04
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.07	0.05	0.38	2.78	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.23	0.20	4.51	1.22	0.01	0.31	0.31	0.15	0.67
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.10	0.09	1.84	0.52	0.01	0.17	0.17	0.08	0.27
744	Medium Heavy Duty Diesel Truck (T6)	0.07	0.06	10.62	0.74	0.06	1.09	1.07	0.48	1.34
746	Heavy Heavy Duty Diesel Trucks (HHD)	1.90	0.74	36.60	11.75	0.16	1.47	1.45	0.70	2.26
750	Motorcycles (MCY)	10.14	8.83	2.55	45.90	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	3.22	0.05	0.22	24.53	0.00	0.05	0.05	0.02	0.62
762	Gas Urban Buses (UB)	0.02	0.02	0.07	0.19	0.01	0.04	0.04	0.02	0.00
771	Gas School Buses (SB)	0.06	0.04	0.05	0.42	0.00	0.08	0.08	0.03	0.00
772	Diesel School Buses (SB)	0.03	0.03	1.85	0.12	0.00	0.18	0.17	0.08	0.03
777	Gas Other Buses (OB)	0.16	0.15	0.25	1.30	0.01	0.06	0.06	0.03	0.01
778	Motor Coaches	0.01	0.01	0.47	0.11	0.00	0.03	0.03	0.01	0.03
779	Diesel Other Buses (OB)	0.00	0.00	0.57	0.04	0.00	0.05	0.05	0.02	0.05
780	Motor Homes (MH)	0.04	0.03	0.40	0.41	0.01	0.06	0.06	0.03	0.04
Total On-Road Motor Vehicles		**65.00**	**55.74**	**93.43**	**501.69**	**1.49**	**23.15**	**22.71**	**9.64**	**19.60**
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	3.05	2.55	37.11	4.02	2.50	0.80	0.80	0.73	0.03
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 Recreational 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		**81.76**	**72.49**	**124.15**	**719.95**	**4.65**	**6.68**	**6.35**	**5.40**	**0.17**
Total Stationary and Area Sources		1133.12	214.53	51.98	100.62	8.95	259.93	142.45	47.82	58.35
Total On-Road Vehicles		65.00	55.74	93.43	501.69	1.49	23.15	22.71	9.64	19.60
Total Other Mobile		81.76	72.49	124.15	719.95	4.65	6.68	6.35	5.40	0.17
Total		**1279.88**	**342.76**	**269.56**	**1322.26**	**15.09**	**289.77**	**171.51**	**62.86**	**78.12**

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
Fuel Combustion										
10	Electric Utilities	2.96	0.34	0.64	4.63	0.24	0.56	0.56	0.56	0.75
20	Cogeneration	0.05	0.02	0.03	0.13	0.00	0.02	0.02	0.01	0.20
30	Oil and Gas Production (combustion)	1.16	0.12	0.74	0.63	0.01	0.10	0.10	0.10	0.23
40	Petroleum Refining (Combustion)	6.48	1.33	0.00	4.87	0.01	1.78	1.77	1.77	1.50
50	Manufacturing and Industrial	23.35	4.23	9.62	15.82	0.24	1.21	1.12	1.08	2.13
52	Food and Agricultural Processing	0.08	0.03	0.11	0.35	0.00	0.04	0.04	0.04	0.04
60	Service and Commercial	10.49	4.05	9.14	13.44	0.95	1.17	1.17	1.17	2.56
99	Other (Fuel Combustion)	0.56	0.24	2.15	1.21	0.08	0.17	0.16	0.14	0.05
Total Fuel Combustion		**45.13**	**10.36**	**22.43**	**41.08**	**1.53**	**5.05**	**4.94**	**4.87**	**7.46**
Waste Disposal										
110	Sewage Treatment	0.41	0.30	0.00	0.00	0.00	0.02	0.00	0.00	0.25
120	Landfills	695.92	9.67	0.50	0.44	0.41	0.23	0.22	0.22	4.27
130	Incineration	0.21	0.04	1.10	0.27	0.08	0.13	0.06	0.05	0.26
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	79.49	6.39	0.01	0.01	0.00	0.00	0.00	0.00	1.34
Total Waste Disposal		**776.03**	**16.40**	**1.61**	**0.72**	**0.49**	**0.38**	**0.28**	**0.27**	**6.12**
Cleaning and Surface Coatings										
210	Laundering	3.84	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	84.25	15.14	0.00	0.00	0.00	0.02	0.02	0.02	0.01
230	Coatings and Related Processes	22.39	21.78	0.00	0.00	0.00	1.89	1.82	1.75	0.11
240	Printing	1.25	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	6.18	5.39	0.00	0.00	0.00	0.02	0.02	0.02	0.00
299	Other (Cleaning and Surface Coatings)	1.59	1.24	0.01	0.12	0.00	0.02	0.02	0.02	0.00
Total Cleaning and Surface Coatings		**119.50**	**44.96**	**0.01**	**0.12**	**0.00**	**1.95**	**1.88**	**1.81**	**0.18**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.04	2.26	0.01	0.02	0.06	0.04	0.03	0.02	0.00
320	Petroleum Refining	6.35	4.43	0.23	2.39	0.24	1.87	1.25	0.88	0.07
330	Petroleum Marketing	48.28	10.74	0.00	0.23	0.00	0.01	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.60	0.58	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Total Petroleum Production and Marketing		**60.27**	**18.01**	**0.25**	**2.65**	**0.30**	**1.92**	**1.28**	**0.90**	**0.07**
Industrial Processes										
410	Chemical	5.96	4.42	0.03	0.12	0.05	0.67	0.56	0.49	0.01
420	Food and Agriculture	0.64	0.62	0.00	0.01	0.00	0.16	0.07	0.03	0.00
430	Mineral Processes	0.36	0.32	0.02	0.32	0.04	8.36	4.56	2.54	0.09
440	Metal Processes	0.11	0.10	0.04	0.28	0.03	0.43	0.34	0.25	0.00
450	Wood and Paper	0.19	0.19	0.00	0.00	0.00	7.66	5.36	3.22	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
470	Electronics	0.02	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00
499	Other (Industrial Processes)	7.35	5.62	0.05	0.13	0.00	1.85	1.15	0.82	9.29
Total Industrial Processes		**14.63**	**11.28**	**0.14**	**0.86**	**0.12**	**19.14**	**12.05**	**7.35**	**9.39**
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 Process										
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	21.57	1.27	0.00	0.00	0.00	1.35	0.66	0.14	7.31
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	58.05	28.39	2.84	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	130.96	59.88	8.98	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	28.16	16.73	1.67	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	2.49	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	3.09	2.16	0.00	0.00	0.01	12.83	12.83	12.83	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			14.52		6.08				
Total Miscellaneous Processes		**44.97**	**12.50**	**25.66**	**55.57**	**6.62**	**242.06**	**127.62**	**34.20**	**35.60**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	14.31	13.60	8.43	153.58	0.51	11.45	11.23	4.59	9.19
722	Light Duty Trucks 1 (T1)	2.09	1.99	1.04	15.11	0.05	0.86	0.84	0.35	1.09
723	Light Duty Trucks 2 (T2)	9.11	8.65	4.84	77.27	0.23	4.27	4.19	1.72	3.17
724	Medium Duty Trucks (T3)	5.71	5.42	2.90	42.86	0.15	2.29	2.25	0.92	1.95
732	Light Heavy Duty Gas Trucks 1 (T4)	0.66	0.64	0.41	1.73	0.01	0.15	0.14	0.06	0.19
733	Light Heavy Duty Gas Trucks 2 (T5)	0.18	0.18	0.16	0.61	0.01	0.06	0.06	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.21	0.19	0.19	1.55	0.01	0.11	0.11	0.05	0.04
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.05	0.03	0.27	2.72	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.15	0.13	1.53	0.74	0.01	0.29	0.29	0.13	0.90
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.08	0.07	0.75	0.37	0.01	0.17	0.17	0.08	0.35
744	Medium Heavy Duty Diesel Truck (T6)	0.08	0.07	10.84	0.88	0.06	1.17	1.15	0.52	1.49
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.10	0.78	35.32	14.30	0.16	1.68	1.66	0.80	2.58
750	Motorcycles (MCY)	10.15	8.80	2.58	44.59	0.00	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.50	0.04	0.10	19.06	0.00	0.04	0.04	0.02	0.65
762	Gas Urban Buses (UB)	0.02	0.02	0.05	0.22	0.01	0.04	0.04	0.02	0.00
771	Gas School Buses (SB)	0.07	0.05	0.04	0.45	0.00	0.09	0.09	0.04	0.00
772	Diesel School Buses (SB)	0.02	0.02	1.03	0.11	0.00	0.17	0.16	0.07	0.04
777	Gas Other Buses (OB)	0.16	0.15	0.15	0.99	0.01	0.06	0.06	0.03	0.01
778	Motor Coaches	0.01	0.01	0.48	0.14	0.00	0.03	0.03	0.01	0.03
779	Diesel Other Buses (OB)	0.00	0.00	0.60	0.05	0.00	0.06	0.06	0.02	0.06
780	Motor Homes (MH)	0.01	0.01	0.23	0.10	0.00	0.06	0.05	0.02	0.04
Total On-Road Motor Vehicles		**47.67**	**40.84**	**71.94**	**377.44**	**1.24**	**23.11**	**22.69**	**9.50**	**21.86**
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	3.96	3.32	43.39	5.20	3.05	1.01	1.01	0.93	0.04
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 Recreational 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		**75.98**	**66.30**	**118.17**	**764.63**	**5.61**	**6.02**	**5.72**	**4.86**	**0.19**
Total Stationary and Area Sources		1189.80	222.95	50.10	101.00	9.06	270.53	148.08	49.43	59.89
Total On-Road Vehicles		47.67	40.84	71.94	377.44	1.24	23.11	22.69	9.50	21.86
Total Other Mobile		75.98	66.30	118.17	764.63	5.61	6.02	5.72	4.86	0.19
Total		**1313.45**	**330.09**	**240.21**	**1243.07**	**15.91**	**299.66**	**176.49**	**63.79**	**81.94**

2035 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
Fuel Combustion										
10	Electric Utilities	5.94	0.94	3.25	7.26	0.31	1.07	1.07	1.07	1.76
20	Cogeneration	0.99	0.11	0.27	0.75	0.09	0.17	0.17	0.16	0.33
30	Oil and Gas Production (combustion)	0.94	0.12	1.09	0.81	0.04	0.11	0.11	0.11	0.24
40	Petroleum Refining (Combustion)	3.36	1.01	5.09	4.95	2.76	1.56	1.51	1.49	0.91
50	Manufacturing and Industrial	23.59	4.38	12.49	17.28	1.56	1.20	1.19	1.18	2.31
52	Food and Agricultural Processing	0.10	0.04	0.18	0.34	0.00	0.04	0.04	0.04	0.05
60	Service and Commercial	14.89	4.64	10.29	17.00	1.56	1.52	1.51	1.51	3.04
99	Other (Fuel Combustion)	1.59	0.25	2.62	2.82	0.28	0.32	0.24	0.17	0.02
Total Fuel Combustion		**51.40**	**11.49**	**35.29**	**51.20**	**6.61**	**6.00**	**5.83**	**5.72**	**8.65**
Waste Disposal										
110	Sewage Treatment	0.87	0.49	0.01	0.01	0.04	0.01	0.01	0.01	0.27
120	Landfills	695.19	9.64	0.75	0.60	0.40	0.18	0.17	0.17	4.30
130	Incineration	0.50	0.10	1.96	0.68	0.22	0.23	0.11	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 (Waste Disposal)	81.60	6.53	0.00	0.00	0.00	0.00	0.00	0.00	1.34
Total Waste Disposal		**778.16**	**16.76**	**2.71**	**1.29**	**0.66**	**0.42**	**0.29**	**0.27**	**6.34**
Cleaning and Surface Coatings										
210	Laundering	3.96	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	90.19	16.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	27.20	26.26	0.02	0.01	0.00	1.98	1.90	1.83	0.17
240	Printing	2.09	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.06
250	Adhesives and Sealants	6.50	5.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	1.10	1.10	0.03	0.08	0.00	0.06	0.06	0.05	0.30
Total Cleaning and Surface Coatings		**131.05**	**51.95**	**0.05**	**0.09**	**0.00**	**2.04**	**1.96**	**1.89**	**0.52**
Petroleum Production and Marketing										
310	Oil and Gas Production	5.50	2.54	0.05	0.02	0.07	0.01	0.01	0.00	0.00
320	Petroleum Refining	7.14	4.59	0.90	5.30	1.99	2.68	1.75	1.54	0.24
330	Petroleum Marketing	48.33	11.11	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		**61.11**	**18.37**	**0.95**	**5.32**	**2.06**	**2.70**	**1.77**	**1.55**	**0.24**
Industrial Processes										
410	Chemical	9.12	7.29	0.01	0.04	0.01	1.01	0.78	0.62	0.03
420	Food and Agriculture	1.49	1.45	0.00	0.00	0.01	0.49	0.28	0.13	0.02
430	Mineral Processes	1.11	0.92	0.25	0.19	0.15	8.14	5.33	2.90	0.16
440	Metal Processes	0.22	0.17	0.05	0.22	0.12	0.67	0.43	0.28	0.01
450	Wood and Paper	0.32	0.32	0.00	0.00	0.00	8.03	5.62	3.41	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.16	0.15	0.14	0.00
470	Electronics	0.04	0.04	0.00	0.00	0.00	0.04	0.03	0.02	0.00
499	Other (Industrial Processes)	4.10	3.67	0.03	0.16	0.00	1.50	1.01	0.59	8.59
Total Industrial Processes		**16.40**	**13.86**	**0.34**	**0.62**	**0.28**	**20.03**	**13.63**	**8.10**	**8.81**
Solvent Evaporation										
510	Consumer Products	115.36	96.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	13.78	13.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.43	1.43	0.00	0.00	0.00	0.00	0.00	0.00	1.05
540	Asphalt Paving/Roofing	1.43	1.31	0.00	0.00	0.00	0.03	0.03	0.03	0.00
Total Solvent Evaporation		**132.00**	**111.79**	**0.00**	**0.00**	**0.00**	**0.03**	**0.03**	**0.03**	**1.05**

(Continued)

2035 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 Process										
610	Residential Fuel Combustion	19.13	8.36	9.89	46.18	0.49	7.04	6.68	6.49	0.11
620	Farming Operations	18.67	1.53	0.00	0.00	0.00	1.68	0.89	0.27	7.59
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	60.83	29.76	2.98	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	133.53	61.05	9.16	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	28.15	16.73	1.67	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	0.45	0.19	6.32	0.05	0.72	0.70	0.64	0.03
690	Cooking	3.15	2.20	0.00	0.00	0.00	13.16	13.16	13.16	0.00
699	Other (Miscellaneous Processes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.80
Total Miscellaneous Processes		**42.10**	**12.77**	**10.16**	**55.52**	**0.53**	**248.06**	**130.71**	**34.97**	**36.54**
On-Road Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	12.50	11.95	7.91	145.59	0.48	11.51	11.30	4.59	9.42
722	Light Duty Trucks 1 (T1)	1.58	1.51	0.80	12.87	0.04	0.86	0.84	0.34	1.14
723	Light Duty Trucks 2 (T2)	7.65	7.29	4.03	72.12	0.22	4.29	4.21	1.72	3.28
724	Medium Duty Trucks (T3)	4.86	4.64	2.37	39.34	0.14	2.30	2.26	0.92	2.01
732	Light Heavy Duty Gas Trucks 1 (T4)	0.37	0.35	0.31	1.49	0.01	0.13	0.13	0.05	0.19
733	Light Heavy Duty Gas Trucks 2 (T5)	0.14	0.14	0.13	0.59	0.01	0.06	0.06	0.03	0.03
734	Medium Heavy Duty Gas Trucks (T6)	0.20	0.18	0.16	1.50	0.01	0.11	0.11	0.05	0.04
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.05	0.03	0.26	2.89	0.00	0.01	0.01	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.13	0.12	0.92	0.66	0.01	0.29	0.28	0.13	0.99
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.07	0.06	0.51	0.35	0.01	0.17	0.17	0.08	0.39
744	Medium Heavy Duty Diesel Truck (T6)	0.08	0.07	10.45	0.93	0.06	1.18	1.16	0.52	1.56
746	Heavy Heavy Duty Diesel Trucks (HHD)	2.11	0.78	33.55	15.26	0.16	1.75	1.73	0.82	2.75
750	Motorcycles (MCY)	10.51	9.12	2.65	45.50	0.01	0.04	0.04	0.02	0.02
760	Diesel Urban Buses (UB)	2.37	0.03	0.04	18.04	0.00	0.04	0.04	0.01	0.67
762	Gas Urban Buses (UB)	0.03	0.02	0.02	0.23	0.01	0.04	0.04	0.02	0.00
771	Gas School Buses (SB)	0.07	0.05	0.03	0.44	0.00	0.10	0.09	0.04	0.01
772	Diesel School Buses (SB)	0.01	0.01	0.71	0.11	0.00	0.16	0.16	0.07	0.05
777	Gas Other Buses (OB)	0.16	0.15	0.12	0.94	0.01	0.06	0.06	0.03	0.01
778	Motor Coaches	0.01	0.01	0.46	0.14	0.00	0.03	0.03	0.01	0.04
779	Diesel Other Buses (OB)	0.00	0.00	0.59	0.05	0.00	0.06	0.06	0.03	0.06
780	Motor Homes (MH)	0.01	0.01	0.19	0.08	0.00	0.05	0.05	0.02	0.04
Total On-Road Motor Vehicles		**42.89**	**36.52**	**66.23**	**359.12**	**1.19**	**23.24**	**22.83**	**9.50**	**22.70**
Other Mobile Sources										
810	Aircraft	4.62	4.56	20.77	47.42	2.52	0.79	0.77	0.70	0.00
820	Trains	0.67	0.56	10.65	4.76	0.02	0.20	0.20	0.18	0.01
833	Ocean Going Vessels	4.43	3.71	41.65	5.81	3.33	1.12	1.12	1.03	0.05
835	Commercial Harbor Crafts	1.14	0.95	8.84	6.91	0.00	0.35	0.35	0.32	0.00
840	Recreational Boats	11.03	9.67	3.74	77.09	0.01	0.67	0.61	0.46	0.01
850	Off-Road Recreational Vehicles	2.19	2.10	0.11	4.87	0.00	0.01	0.01	0.01	0.00
860	Off-Road Equipment	48.24	42.23	28.86	638.25	0.10	2.66	2.46	1.97	0.13
870	Farm Equipment	0.30	0.26	0.89	5.18	0.00	0.06	0.06	0.05	0.00
890	Fuel Storage and Handling	3.81	2.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Other Mobile Sources		**76.42**	**66.70**	**115.51**	**790.30**	**5.97**	**5.87**	**5.57**	**4.72**	**0.20**
Total Stationary and Area Sources		1212.22	236.98	49.50	114.05	10.15	279.28	154.23	52.53	62.15
Total On-Road Vehicles		42.89	36.52	66.23	359.12	1.19	23.24	22.83	9.50	22.70
Total Other Mobile		76.42	66.70	115.51	790.30	5.97	5.87	5.57	4.72	0.20
Total		**1331.53**	**340.20**	**231.23**	**1263.47**	**17.31**	**308.39**	**182.63**	**66.76**	**85.05**